

DE GRUYTER
MOUTON

Klaus P. Schneider, Elly Ifantidou (Eds.)

DEVELOPMENTAL AND CLINICAL PRAGMATICS

Copyright 2019, De Gruyter Mouton. All rights reserved. May not be reproduced in any form without permission from the publisher, except fair uses permitted under U.S. or applicable copyright law.

EBSCO Publishing : eBook Collection (EBSCOhost) - printed on
2/9/2023 10:52 PM via

AN: 179095 ; Klaus P. Schneider, Elly Ifantidou.; Developmental and

Clinical Pragmatics

Accession #: ns335141

DE
G

Developmental and Clinical Pragmatics
HoPs 13

Handbooks of Pragmatics

Editors

Wolfram Bublitz

Andreas H. Jucker

Klaus P. Schneider

Volume 13

De Gruyter Mouton

Developmental and Clinical Pragmatics

Edited by

Klaus P. Schneider

Elly Ifantidou

De Gruyter Mouton

ISBN 978-3-11-043971-7
e-ISBN (PDF) 978-3-11-043105-6
e-ISBN (EPUB) 978-3-11-043113-1

Library of Congress Control Number: 2020933709

Bibliographic information published by the Deutsche Nationalbibliothek
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie;
detailed bibliographic data are available on the Internet at <http://dnb.dnb.de>.

© 2020 Walter de Gruyter GmbH, Berlin/Boston
Cover image: Getty Images / iStock / zokov
Typesetting: Dörlemann Satz GmbH & Co. KG, Lemförde
Printing and binding: CPI books GmbH, Leck

www.degruyter.com

Preface to the handbook series

Wolfram Bublitz, Andreas H. Jucker and Klaus P. Schneider

The series *Handbooks of Pragmatics*, which comprises thirteen self-contained volumes, provides a comprehensive overview of the entire field of pragmatics. It is meant to reflect the substantial and wide-ranging significance of pragmatics as a genuinely multi- and transdisciplinary field for nearly all areas of language description, and also to account for its remarkable and continuously rising popularity in linguistics and adjoining disciplines.

All thirteen handbooks share the same wide understanding of pragmatics as the scientific study of all aspects of linguistic behaviour. Its purview includes patterns of linguistic actions, language functions, types of inferences, principles of communication, frames of knowledge, attitude and belief, as well as organisational principles of text and discourse. Pragmatics deals with meaning-in-context, which for analytical purposes can be viewed from different perspectives (that of the speaker, the recipient, the analyst, etc.). It bridges the gap between the system side of language and the use side, and relates both of them at the same time. Unlike syntax, semantics, sociolinguistics and other linguistic disciplines, pragmatics is defined by its *point of view* more than by its objects of investigation. The former precedes (actually creates) the latter. Researchers in pragmatics work in all areas of linguistics (and beyond), but from a distinctive perspective that makes their work *pragmatic* and leads to new findings and to reinterpretations of old findings. The focal point of pragmatics (from the Greek *pragma* 'act') is linguistic action (and inter-action): it is the hub around which all accounts in these handbooks revolve. Despite its roots in philosophy, classical rhetorical tradition and stylistics, pragmatics is a relatively recent discipline within linguistics. C.S. Peirce and C. Morris introduced pragmatics into semiotics early in the twentieth century. But it was not until the late 1960s and early 1970s that linguists took note of the term and began referring to performance phenomena and, subsequently, to ideas developed and advanced by Wittgenstein, Ryle, Austin and other ordinary language philosophers. Since the ensuing *pragmatic turn*, pragmatics has developed more rapidly and diversely than any other linguistic discipline.

The series is characterised by two general objectives. Firstly, it sets out to reflect the field by presenting in-depth articles covering the central and multifarious theories and methodological approaches as well as core concepts and topics characteristic of pragmatics as the analysis of language use in social contexts. All articles are written specifically for this handbook series. They are both state of the art reviews and critical evaluations of their topic in the light of recent developments. Secondly, while we accept its extraordinary complexity and diversity

<https://doi.org/10.1515/9783110431056-201>

(which we consider a decided asset), we suggest a definite structure, which gives coherence to the entire field of pragmatics and provides orientation to the user of these handbooks. The series specifically pursues the following aims:

- it operates with a wide conception of pragmatics, dealing with approaches that are traditional and contemporary, linguistic and philosophical, social and cultural, text- and context-based, as well as diachronic and synchronic;
- it views pragmatics from both theoretical and applied perspectives;
- it reflects the state of the art in a comprehensive and coherent way, providing a systematic overview of past, present and possible future developments;
- it describes theoretical paradigms, methodological accounts and a large number and variety of topical areas comprehensively yet concisely;
- it is organised in a principled fashion reflecting our understanding of the structure of the field, with entries appearing in conceptually related groups;
- it serves as a comprehensive, reliable, authoritative guide to the central issues in pragmatics;
- it is internationally oriented, meeting the needs of the international pragmatic community;
- it is interdisciplinary, including pragmatically relevant entries from adjacent fields such as philosophy, anthropology and sociology, neuroscience and psychology, semantics, grammar, discourse and media analysis as well as literary studies;
- it provides reliable orientational overviews useful both to students and more advanced scholars and teachers.

The thirteen volumes are arranged according to the following principles. The first three volumes are dedicated to the foundations of pragmatics with a focus on micro and macro units: *Foundations* must be at the beginning (volume 1), followed by the core concepts in pragmatics, *speech actions* (micro level in volume 2) and *discourse* (macro level in volume 3). The following six volumes provide *cognitive* (volume 4), *societal* (volume 5) and *interactional* (volume 6) perspectives and discuss *variability* from a *cultural and contrastive* (volume 7), a *diachronic* (volume 8) and a *medial* (volume 9) viewpoint. The remaining four volumes address *methodological* (volume 10), *sociomedial* (volume 11), *fictional* (volume 12), and *developmental and clinical* (volume 13) aspects of pragmatics:

1. Foundations of pragmatics

Wolfram Bublitz and Neal Norrick

2. Pragmatics of speech actions

Marina Sbisá and Ken Turner

3. Pragmatics of discourse

Klaus P. Schneider and Anne Barron

4. Cognitive pragmatics

Hans-Jörg Schmid

5. Pragmatics of society

Gisle Andersen and Karin Aijmer

6. Interpersonal pragmatics

Miriam Locher and Sage Graham

7. Pragmatics across languages and cultures

Anna Trosborg

8. Historical pragmatics

Andreas H. Jucker and Irma Taavitsainen

9. Pragmatics of computer-mediated communication

Susan Herring, Dieter Stein and Tuija Virtanen

10. Methods in pragmatics

Andreas H. Jucker, Klaus P. Schneider and Wolfram Bublitz

11. Pragmatics of social media

Christian R. Hoffmann and Wolfram Bublitz

12. Pragmatics of fiction

Miriam A. Locher and Andreas H. Jucker

13. Developmental and clinical pragmatics

Klaus P. Schneider and Elly Ifantidou

Preface

This handbook of *Developmental and Clinical Pragmatics* deals with the acquisition of pragmatics in native and non-native languages, and in typical as well as atypical processes and developments. The basic idea behind this volume was to bring together experts from around the globe working on these topics with various disciplinary backgrounds (e.g. linguistics, psychology, brain science) and in a variety of research traditions, subscribing to different theoretical frameworks and adopting diverse methodologies. This overall conception emphasizes the general claim for the broad diversity of objectives, theories and methods within pragmatics made in the handbook series the present volume appears in. At the same time, we hope that students and scholars interested in essentially the same topic areas, and addressing similar or related issues, appreciate the value of complementary perspectives and alternative approaches, and experience these as enriching and inspiring.

Given the huge scope of the combined research field covered in this book, it goes without saying that the chapters in a single volume cannot possibly cover this field exhaustively. The present contributions thus highlight only a selection of representative aspects in the development of pragmatic competence in first and second languages, and in typical maturation processes and language disorders, illustrating the wide range of work carried out on these and similar phenomena. These contributions are supplemented by three overview chapters providing a more comprehensive picture which makes it possible to situate the individual topics examined in the other chapters in a broader context. There can be no doubt, however, that each of the three interrelated areas – L1 pragmatic development, L2 pragmatic development, and clinical pragmatics – deserves, in fact, a handbook volume in its own right.

The present volume would not have been possible without the help of a large number of individuals, to whom we owe a great debt of gratitude. First and foremost, we would like to express our sincere thanks to our contributors for their expertise, their co-operation and their patience. Further, we would like to warmly thank our many reviewers for their generosity and their valuable feedback. We also thank Stefanie Pohle, Katrin Renkwitz, Friederike Sell, Hanna Bruns and Sophie Decher for their assistance in the editing process. And finally, we are very grateful to the De Gruyter Mouton team, specifically to Barbara Karlson for her excellent professional support and guidance, to Birgit Sievert, the Editorial Director, and to Lukas Lehmann for his technical advice in the production of this book.

Bonn and Athens, April 2020

Table of contents

Preface to the handbook series	v
Preface to <i>Developmental and Clinical Pragmatics</i>	ix
1. Pragmatic competence: Development and impairment <i>Elly Ifantidou and Klaus P. Schneider</i>	1
I. Pragmatic development in a first language	
2. Pragmatic development in a first language: An overview <i>Sandrine Zufferey</i>	33
3. Communicative act development <i>Marisa Casillas and Elma Hilbrink</i>	61
4. Acquisition of epistemic and evidential expressions <i>Tomoko Matsui</i>	89
5. Acquiring implicatures <i>Elsbeth Wilson and Napoleon Katsos</i>	119
6. Acquiring irony <i>Deirdre Wilson</i>	149
7. Acquiring prosody <i>Tim Wharton</i>	177
8. Pragmatic development in the (middle and) later stages of life <i>Annette Gerstenberg</i>	209
II. Pragmatic development in a second language	
9. Pragmatic development in L2: An overview <i>Marta González-Lloret</i>	237
10. Teaching speech acts in a second language <i>Alicia Martínez-Flor and Esther Usó-Juan</i>	269

xii	Table of contents	
11.	Learning how to interpret indirectness in an L2 <i>Helen Woodfield</i>	301
12.	Comprehension of implicatures and humor in a second language <i>Naoko Taguchi and Nancy D. Bell</i>	331
13.	Pragmatic transfer <i>J. César Félix-Brasdefer</i>	361
14.	Developing pragmatic awareness <i>Troy McConachy and Helen Spencer-Oatey</i>	393
15.	Developing pragmatic competence in a study abroad context <i>Anne Barron</i>	429
16.	Testing pragmatic competence in a second language <i>Carsten Roever and Naoki Ikeda</i>	475
 III. Pragmatic disorders		
17.	Pragmatic disorders: An overview <i>Louise Cummings</i>	499
18.	Pragmatic competence in autism spectrum disorders <i>Livia Colle</i>	523
19.	Pragmatic competence in Down syndrome <i>Susan H. Foster-Cohen and Anne K. van Bysterveldt</i>	545
20.	Pragmatic competence in aphasia <i>Gloria Streit Olness and Hanna K. Ulatowska</i>	581
21.	Pragmatics and dementia <i>Heidi E. Hamilton</i>	611
22.	Assessing pragmatic competence in developmental disorders <i>Jenny Louise Gibson and Michelle C. St Clair</i>	647
	Contributors	681
	Name Index	691
	Subject Index	711

1. Pragmatic competence: Development and impairment

Elly Ifantidou and Klaus P. Schneider

Abstract: The contributions to the present volume are written from three different perspectives, respectively examining pragmatic development in a first language, in a second language, and under clinical conditions. In general, they are thus all focused on pragmatic competence, while in particular they deal with a variety of aspects of how pragmatic competence is acquired, learnt and taught, and how it may be impaired, assessed or tested. This introductory chapter begins with a discussion of competing conceptualizations of pragmatic competence, before the contributions to this volume are briefly summarized. It emerges that in each of the research communities represented in this handbook there seems to be a dominant paradigm, involving a relatively specific notion of pragmatic competence and a distinctive methodological approach, based on a particular theoretical tradition. Research on pragmatic acquisition in a native language seems predominantly interested in implicatures and comprehension from an essentially Gricean point of view, whereas research on pragmatic development in a second language seems to concentrate overwhelmingly on speech acts and production in an applied speech act-analytic tradition. Research in clinical pragmatics, on the other hand, appears to be more varied in the approaches adopted, which include Gricean as well as speech act-theoretic approaches and also different traditions of discourse analysis as well as conversation analysis.

1. On pragmatic competence

This handbook on developmental and clinical pragmatics is volume 13 in the handbook series *Handbooks of Pragmatics*. All contributions to this volume center around the notion of pragmatic competence, which is examined from different angles. There are three major perspectives: First, the development of pragmatic competence in a native language, and second, the development of pragmatic competence in a non-native language. In these two perspectives, the focus is on typical development in healthy individuals. The third perspective, on the other hand, is focused on atypical conditions and clinical contexts, specifically the impairment of pragmatic competence in individuals with some kind of language and communication disorder or a disease such as dementia.

To date, there is no definition of pragmatic competence which is generally accepted. Pragmatic competence can be and has been defined in broad and narrow

<https://doi.org/10.1515/9783110431056-001>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 1–29. Berlin/Boston: De Gruyter Mouton.

terms. How it is defined crucially depends, of course, on how the field of pragmatics is conceptualized. This field has been conceptualized as, e. g., “the study of language use, meaning in context, communicative functions of utterances, speaker intentions, hearer interpretations, participant practices, talk-in-interaction, relational work, displays of identity, and so on” (Schneider 2017: 316), and this list is not nearly exhaustive (cf. Bublitz and Norrick 2011).

In this handbook series *Handbooks of Pragmatics*, a wide understanding of pragmatics is adopted, conceptualizing this field of inquiry as “the scientific study of all aspects of linguistic behaviour” (cf. the “Preface to the handbook series” at the beginning of this book). These aspects of linguistic behaviour include “patterns of linguistic actions, language functions, types of inferences, principles of communication, frames of knowledge, attitude and belief, as well as organisational principles of text and discourse.” This ‘maximalist’ conceptualization roughly corresponds to, or even goes beyond, what Huang (2010) calls the Continental European tradition, which contrasts with what he calls the Anglo-American tradition, in which the focus of analysis is prototypically on individual utterances and, in a Gricean fashion, a hearer perspective rather than, as in speech act theory, a speaker perspective. Huang’s geographical labels may, to a certain extent, be correlated with the terminological distinction between micro- and macro-pragmatics, with the former pertaining to the utterance level and the latter to the discourse level (cf. Barron and Schneider 2014, also Cap 2011) which includes as a unit of analysis not only discourse as an entire communicative event, but also, in a wider sense, the discourse domain, for instance the domain of legal discourse or the domain of academic discourse (cf. Jucker 2018: 10–11).

It emerges from the contributions to this volume that each of the three research communities respectively working on L1 pragmatic development, L2 pragmatic development and pragmatic impairment has its own distinct research tradition, including a broad or a narrow notion of pragmatics and thus pragmatic competence, and adopting a specific framework, e. g. the Gricean paradigm, speech act theory or discourse analysis. Needless to say, this does not mean that all researchers working on the same perspective subscribe, without exception, to a particular notion of pragmatic competence and a particular approach to investigating it, yet there are distinct preferences regarding the theoretical underpinnings and methodological choices (cf. below).

An early, and still popular, definition of pragmatic competence, referred to in several chapters of this volume, especially in Part II, was provided by Thomas (1983), who conceptualizes pragmatic competence as the counterpart of grammatical competence and, thus, as one of two complementary components of language competence. She writes (1983: 92):

A speaker’s ‘linguistic competence’ would be made up of grammatical competence (‘abstract’ or decontextualized knowledge of intonation, phonology, syntax, semantics, etc.)

and pragmatic competence (the ability to use language effectively in order to achieve a specific purpose and to understand language in context).

In this understanding, the notion of grammar is not narrowly reduced to morpho-syntax, but also encompasses e. g. phonology and semantics. Here, grammar is, in other words, a synonym for the language system with its various levels of analysis. This wide understanding of grammatical competence approximately corresponds to Chomsky's idea of competence, although at its inception Chomsky's notion was more or less reduced to syntactic competence, rather than encompassing further levels of the language system (Chomsky 1965). With reference to Chomsky, it has also been argued that pragmatic competence may be equated with his notion of performance (for discussion, see Ifantidou 2014: 1–5). Yet, pragmatic competence is more similar to de Saussure's *parole* (de Saussure 1916) in that it is more conventionalized and norm-governed than what Chomsky has in mind when he talks about performance, mentioning such accidental phenomena as lapses in memory, tiredness and distraction.

Within pragmatic competence, Thomas (1983) distinguishes between pragma-linguistic competence and sociopragmatic competence. According to Leech (1983: 10–11), who adopted Thomas' distinction, pragmalinguistics and sociopragmatics can be understood as interfaces. In this view, pragmalinguistics is the interface with the language system, which means that pragmalinguistic competence is language-specific. It involves knowledge (not usually explicit, declarative and conscious) of the specific resources in a given language e. g. for realizing a particular speech act, for instance for paying a compliment (i. e. choice of adjectives, syntactic constructions, intensifiers, etc.; cf. e. g. Manes and Wolfson 1981). Sociopragmatics, on the other hand, is conceptualized as the interface of pragmatics with sociology. Hence sociopragmatic competence is not language-, but culture-specific and involves knowledge of the relevant behavioural norms and social conventions e. g. for performing a particular speech act, including what is generally considered polite, rude or appropriate in a given situation, for instance when and whom to pay a compliment in a given language community (influenced by such factors as circumstances, gender, power and distance, etc.; cf. e. g. Holmes 1995) (for an extensive discussion, see Marmaridou 2011).

This popular and much quoted definition of pragmatic competence pertains only to the micro-pragmatic level, i. e. the level of utterances and more frequently the level of speech acts with its focus on language production. A definition by Fraser, on the other hand, adds to pragmatic production the dimension of pragmatic comprehension (2010: 15): "Pragmatic competence is the ability to communicate your intended message with all its nuances in any socio-cultural context and to interpret the message of your interlocutor as it was intended." Yet Fraser's definition also seems to concentrate on the micro-pragmatic level alone. A more comprehensive notion is referred to by Johnstone, who writes (2008: 7):

[...] knowing a language means not just knowing its grammar and vocabulary but also knowing how to structure paragraphs and arguments and participate in conversations the way speakers of the language do, and it means understanding which sentence types can accomplish which purposes in social interaction: what might work as an apology, for example, or how to decline an invitation.

In addition to the reference to speech acts, participation in conversation is mentioned, thus including the macro-pragmatic level of spoken dialogical discourse (with “the way speakers of the language do” indicating non-native competence). Further, referring to the structuring of arguments and, more specifically, paragraphs introduces the dimension of written communication to the discussion of pragmatic competence otherwise usually restricted to the analysis of oral communication.

Finally, Gabbatore et al. (2019), writing about an assessment battery for communication, highlight the general centrality of pragmatic competence, referring to interpersonal and interactional aspects and the situatedness of communication. They say (Gabbatore et al. 2019: 28):

Pragmatic ability is crucial in everyday life since it is necessary for interpersonal interactions. It affects the way people communicate and behave in social situations just as such behavior affects the way the communicative partners respond and then react.

They also refer to non-verbal communicative behaviour as a further relevant parameter, underscoring that linguistic as well as extra- and paralinguistic resources play a crucial role in pragmatic production and comprehension (Gabbatore et al. 2019: 28).

pragmatic ability focuses on how people use context in both comprehension and production and how contextual factors interact with the linguistic meaning of an utterance [...] or other expressive means, i. e. non-verbal/extralinguistic and paralinguistic.

This selection of general definitions serves to illustrate that a comprehensive conceptualization of pragmatic competence (also referred to as pragmatic ability or knowledge) minimally needs to include the following parameters (cf. Schneider 2017: 317):

Micropragmatics and macropragmatics
Production and comprehension
Spoken discourse and written discourse
Verbal communication and non-verbal communication

Based on these distinctions, pragmatic competence may be correlated with some competing concepts (which also have been defined in various ways). For instance, communicative competence (cf., e. g., Hymes 1972) can be thought of as a cover term for verbal communication and non-verbal communication. Discourse competence (cf., e. g., Timpe 2014) can be considered a synonymous expression for mac-

ropragmatic competence, pertaining to both spoken and written discourse, whereas interactional competence (cf., e. g., Kasper and Ross 2013) relates specifically to spoken dialogic discourse such as conversation, interviews, debates, negotiations, etc. Lastly, the notion of sociolinguistic competence (cf., e. g., Regan, Howard and Lemée 2009) more or less covers the area of sociopragmatic competence. It is worth noting that the correspondences suggested here do not necessarily reflect the understanding of the respective terms and concepts in the publications referred to. The sources given do however include relevant discussions. Further relevant discussions of these and additional terms and concepts are included in the chapters of this handbook.

The chapters in the present volume are based on different conceptualizations of pragmatic competence. Many authors take a specific angle, concentrating on particular aspects of pragmatic competence. Across contributions in each part of the book, the aspects dealt with are often remarkably similar, and so are the respective theoretical underpinnings and the methodological choices connected to these. Across the three parts, however, a general picture emerges which can be loosely characterized as follows: Most work is concerned with micropragmatic aspects, spoken language has been the focus almost exclusively, and non-verbal communication has been relatively neglected. Likewise, the socio-cognitive synergic approach to second language pragmatics by Kecskes (2010, 2014) and the relevance-theoretic inferential approach to pragmatic competence by Ifantidou (2014, 2019) remain largely outside the scope of the current volume. Work carried out on pragmatic development in a first language is predominantly concerned with the interpretation of utterances in an essentially Gricean tradition, whereas work on pragmatic development in a second language is overwhelmingly focused on speech act production, while there are, needless to say, exceptions in either case. The picture seems less homogeneous in work on pragmatic impairment, where also more comprehensive concepts of pragmatics and pragmatic competence are referred to.

2. The overall organization of this volume

This international handbook on developmental and clinical pragmatics includes 22 chapters, all exclusively written for the present volume by a total of 32 authors, working in 12 different countries. The 21 chapters following this introduction appear in three parts. Part I is focused on pragmatic development in a first language, Part II on pragmatic development in a second language, and Part III deals with pragmatic disorders. The basic idea was to bring together experts from three different research strands, with their specific backgrounds, traditions, approaches and methods, yet all focused, one way or another, on issues concerning pragmatic competence. The contributors are working in such disciplines as linguistics, psychology and education, specifically in applied linguistics, sociolinguistics, psy-

chollinguistics, neurolinguistics and clinical linguistics, and in audiology, brain science, language therapy and health service research, and this list is not even complete (cf. the bio notes of the contributors in the back of this book).

Part I includes seven, Part II eight, and Part III six chapters. Given the combination of three distinct research perspectives, the coverage in each part cannot be exhaustive, but has to be selective. For this reason, each part opens with a chapter providing an overview for the reader's orientation in the respective field (chapters 2, 9 and 17), while the remaining chapters each deal with a particular topic typically studied in that field.

The chapters in Part I deal with the development of communicative acts (chapter 3) and with the acquisition of epistemic and evidential expressions, of implicatures, of irony, and of prosody (chapters 4, 5, 6, and 7). While research on pragmatic competence in a native language overwhelmingly concentrates on the development in children, the last chapter in this part (chapter 8) deals with the specific pragmatic developments in the middle and especially the later stages of life.

The chapters in Part II examine facets of the development of pragmatic competence in a foreign rather than a second language, i. e. the focus is on non-native languages learned by instruction and in classrooms, and in contexts in which a majority speaks the learners' native and not their target language. In this part of the volume, the chapters deal with issues of teaching, learning and testing L2 pragmatic competence, and the topics covered include speech acts, the interpretation of indirectness, and the comprehension of implicatures and humor (chapters 10, 11, and 12), these topics echoing some of the topics examined in Part I. Further phenomena dealt with in Part II are pragmatic transfer (typically) from L1 to L2, the development of pragmatic awareness in an L2, and the development of L2 pragmatic competence during a study abroad sojourn (chapters 13, 14, and 15). The last chapter in this part of the handbook is dedicated to the assessment of L2 pragmatic competence (chapter 16).

In Part III on pragmatic impairment, four of the five chapters following the overview chapter are focused on specific disorders. These are autism spectrum disorders (ASD), Down syndrome, aphasia, and dementia (chapters 18, 19, 20, and 21). Further disorders and how they affect pragmatic competence and pragmatic development are briefly discussed in the overview chapter. The final chapter deals with the assessment of impaired pragmatic competence, here specifically with the assessment of pragmatic competence in developmental disorders (chapter 22).

3. The contributions

In the present section, the chapters are briefly summarized. As a rule, the nature and development of the respective phenomena under inspection are addressed, and the frameworks adopted and the methods chosen are specified.

3.1. Part I: Pragmatic development in a first language

In the opening chapter of Part I (chapter 2), Sandrine Zufferey presents an overview of how children acquire in their L1 the abilities necessary to produce language appropriately relative to social situations and to understand the explicit and implicit meanings of their interlocutors' utterances. The acquisition of these abilities starts with birth, before language emerges, and develops over a longer period of time than phonological or syntactic competence. At what age which pragmatic competence is actually acquired is a controversial issue. Diverging opinions can be attributed to different methodological choices. Traditional developmental studies involved experimental tasks requiring explicit explanations. More recent studies examined implicit pragmatic comprehension, e. g. by tracing eye-movements. Findings from these more recent studies suggest that some pragmatic phenomena develop in fact in an earlier period than traditionally assumed. The timeline for the acquisition process that the author provides is based on these more recent findings. In this process, three stages are distinguished: the pre- and early verbal period (from birth to age 3), the preschool years (from 3 to 6 years), and the primary school years (later childhood). Even in the earliest stage infants are able to use common ground in their referential communication and to distinguish between knowing and ignorant conversational partners. They furthermore master frequent indirect speech acts such as requests and can vary their level of politeness depending on who they talk to. In the second stage of the acquisition process, children are aware of common ground and can quickly process referential expressions. At this stage, they start developing competencies to use discourse markers such as *well* and *now* in a context-sensitive way and begin to understand metaphors and scalar implicatures. In the third stage, many pragmatic abilities develop to an adult-like level. This applies, for instance, to the comprehension of scalar implicatures. Children are able to produce, understand and appropriately react to a range of different speech acts including complex acts like promises, and they develop the abilities necessary to understand verbal irony. The three stages in the acquisition process can be explained with reference to the cognitive, social and linguistic resources respectively required, providing an answer to the question why some pragmatic phenomena emerge later than others. For example, a sufficient amount of world knowledge has to be acquired before metaphors can be adequately processed. In early research on the development of pragmatic competence it was generally assumed that pragmatic abilities emerge late in childhood. More recent research provides a more differentiated picture. The discrepancies can be attributed to different methodological choices. For instance, using online or offline measures of comprehension leads to different results, and in many tasks the degree of linguistic complexity plays a crucial role.

In "Communicative act development" (chapter 3), Marisa Casillas and Elma Hilbrink report on the process of acquiring the comprehension and production of communicative intentions in linguistic utterances and address the cognitive and

social foundations of this process. Initially the authors present a theory of communicative acts. They prefer the term ‘communicative act’ over the traditional but more limiting term ‘speech act’ to underscore the multimodality of communication and permit the inclusion of signed and non-verbal actions. The authors position their chapter theoretically by correlating foundational insights mainly from speech act theory, Gricean theory and conversation analysis, with a clear emphasis on the latter, highlighting the importance of co-text and context and how the participants in an interaction jointly construct coherent sequences of actions. The abilities required for meaningful communication and the production and comprehension of communicative acts start developing early in life, long before language emerges. Before realizing the communicative significance of their behaviour, infants produce vocalizations and facial expressions to which caregivers respond. Infants thus acquire basic physical and social foundations of communication. Intentional communication precedes productive language use. First communicative acts occur in gestural behaviour. At the age of around ten months, so-called proto-declaratives (e. g. showing a toy) and proto-imperatives (e. g. looking at an adult while reaching for a toy) emerge as pre-linguistic versions of intentionally produced communicative acts. Early in infancy children also begin participating in playful communication, learning to take turns and change roles in non-verbal or vocal interactions. Familiar routines help them to test and develop their communicative skills. Routine interactions therefore play a crucial role in pragmatic development. Non-verbal behaviour develops into the use of symbolic gestures, which in turn develop into productive language use. Gestures not only precede but also support early one- and two-word utterances. The development of communicative acts correlates with productive language use. Repeating utterances, answering wh-questions and requesting are among the first verbally performed acts. Understanding other speakers’ goals and intentions also develops at an early stage, before children produce their first words. This ability is connected with joint attention capacities, specifically with sharing attention about e. g. an object (triadic interaction). Cues such as eye contact help children to infer other people’s intentions. Essentially similar patterns occur in communicative act development in signed languages. Significant differences occur, however, in the pragmatic development of deaf children with deaf parents who are able to sign and deaf children with hearing parents who find it difficult to use sign language. This finding highlights the importance of input quality and the role of the interlocutor. The authors close with remarks about the evolutionary origins of language, cross-cultural differences, and individual variation.

In chapter 4, Tomoko Matsui writes about the acquisition of epistemic and evidential expressions. In this, she draws on a variety of typologically unrelated languages including English, Greek, Japanese, Korean, Quechua and Turkish. Epistemic and evidential expressions help hearers to judge the trustworthiness of their interlocutors’ utterances, which presupposes two types of pragmatic compe-

tencies. One type are cognitive capacities involving mindreading abilities (Theory of Mind) and abilities to judge the reliability of information sources. The other type are linguistic competencies, specifically being able to use and understand linguistic expressions conveying how information was obtained (evidentials) and how true (the speaker thinks) it is (epistemics). Across languages, evidentiality and certainty are expressed lexically or grammatically. Which of these options is relevant seems to have an impact on the acquisition process. Acquiring the abilities needed to assess trustworthiness takes time. The development of understanding expressions of evidentiality and certainty is closely related to the development of theory of mind capacities. The development of producing these expressions involves a number of significant patterns which emerge from studies of naturally occurring data. For instance, children are able to use certainty markers before they can use uncertainty markers, and they use markers of direct evidence before they can produce markers of indirect evidence. Crucial factors impacting the development of using evidentials include frequency of input, conceptual complexity and functional multiplicity of expressions. Similar developmental patterns are revealed in experimental work on children's comprehension of evidentials and certainty markers. For example, grammaticalized markers of direct evidence are understood before markers of indirect evidence. More research is, however, needed to shed more light on the development and the actual duration of the acquisition process. Currently it seems that an adult-like mastery of the linguistic system of evidentiality is achieved only in adolescence. Some cross-lingual comparison suggests that the type of language facilitates children's socio-cognitive development, specifically that the exposure to grammaticalized evidentials advances the comprehension of the knowledge states of the interlocutors. Yet there is also evidence to suggest an opposite direction of influence, e. g. that abilities pertaining to conceptual metarepresentations advances the comprehension of the linguistic system of evidentiality. This relationship requires further clarification, while more evidence is available on the relations between the development of theory of mind and the acquisition of epistemic expressions.

Elsbeth Wilson and Napoleon Katsos review the research literature on the acquisition of implicatures and focus on three types: quantity, relevance and manner implicatures (chapter 5). Most research has, however, been carried out on one particular type of quantity implicatures, namely scalar implicatures. The authors concentrate on the development of implicature comprehension, since little work has been done on production. They consider which kinds of knowledge and cognitive capacities are required to understand implicatures and how this knowledge and these capacities are integrated in the developmental process. In this context, the authors address the question how it can be explained that children apparently learn pragmatic inferencing and implicature comprehension later than other pragmatic abilities. They remind us that theoretical and empirical work on implicature is based on Grice's four conversational maxims and briefly outline how hearers

arrive at their interlocutors' intended meaning in cases where more than the literal meaning of the utterance is communicated. More is known about the development of quantity implicatures than about other types, given the large number of studies covering a broad age range and a variety of languages, and using several different experimental tasks and methods. Scalar implicatures – the focus of most investigations – involving scales such as <all, most, many, some> seem not to be acquired before the age of 4, whereas ad-hoc inferences can be derived earlier. Deriving relevance implicatures appears to start at 3 years; more complex inferences can be understood at a later age, depending on the necessary background knowledge. Comparatively little is known about manner implicatures, which are sometimes not easily distinguished from quantity implicatures. Comprehension of manner implicatures is easier the higher the degree of conventionalisation; it is more difficult in context-dependent cases. The authors argue that an explanation for the relatively late acquisition of implicatures and the fact that some types of implicatures are acquired before others are found in the development of specific types of knowledge and further necessary abilities. One prerequisite for interpreting implicatures is the acquisition of knowledge about communication, world knowledge and linguistic knowledge. For example, children need to know that communication partners are essentially informative, relevant, etc. A sensitivity to these issues emerges early from participation in joint attention and develops gradually for about three to four years, starting at approximately 9 months. As world knowledge develops across the lifespan, children are increasingly able to understand a growing number of implicatures of different complexities. Finally, since implicatures are essentially verbal, children's ability to derive and understand them increases with their knowledge of vocabulary and grammar. Furthermore, the inferencing process itself has to be acquired, and the development of social cognition, e. g. mindreading capacities, also plays an important role. Most crucially, however, all of these knowledge types and abilities need to be integrated in an interacting bottom-up (starting with the literal meaning) and top-down way (drawing on the long-term, the short-term and the working memory) when deriving implicatures.

How are the abilities acquired that are necessary to understand irony? This is the question Deirdre Wilson addresses in chapter 6. Traditionally irony is defined as saying the opposite of what you mean. In classical rhetoric, both irony and metaphor are classified as tropes, in which figurative meaning is substituted for literal meaning, albeit in two different ways: by way of contradiction and by way of comparison respectively. In Grice's account, on the other hand, irony and metaphor are conceptualized as conversational implicatures resulting from a violation of his Quality maxim. Neither approach can, however, explain why irony and metaphor exist in the first place. Explanations are, however, offered in more recent theories, building on echoic theory. According to this theory, irony is not saying the opposite of what is meant, but echoing a thought attributed to someone who may or may not have verbalized it and expressing a negative attitude towards this thought.

Among variations of this theory, the most notable one seems to be pretence theory. In this case, an ironical utterance is not a speech act seriously performed; rather, the speaker only pretends to perform it and expects the interlocutor to notice this and the negative attitude communicated at the same time. In either theory, the attitude expressed is dismissive, mocking or contemptuous. In so-called “no theory” accounts, by contrast, irony is defined in much broader terms and used as a cover term for a variety of different loosely related phenomena such as sarcasm, hyperbole, understatement and rhetorical questions. While this broader interpretation seems to be popular in current developmental and clinical research, it is not clear why these phenomena should be lumped together, given that it cannot be assumed that they require the same abilities and function in the same way. In order to distinguish verbal irony in the narrow sense from irony in the broad sense, the author posits three criteria: ironical attitude, normative bias and ironical tone of voice. Concerning the first criterion, developmental studies have shown that children acquire irony comprehension later than metaphor comprehension (namely, approximately at the age of 5 or 6), because it involves more complex mindreading abilities. It was further found that children are able to better understand an ironical utterance if the thought it refers to according to echoic theory has been explicitly uttered before. According to the second criterion, ironical utterances implicitly refer to a socially shared norm and echo an expectation based on this norm which should have been, but is not, met. There is a bias towards positive ironical utterances, which seems to emerge as soon as children begin to understand verbal irony. The third criterion, a characteristic ironical tone of voice, seems to have a supportive function and facilitate children’s comprehension of ironical utterances. Echoic theory explains the more typical ‘deadpan’ tone, pretence theory a more exaggerated tone of voice. The author then turns to a range of phenomena subsumed under the broader definition of irony. Developmental research shows that some of these are acquired earlier than others. For instance, children can understand hyperbole and rhetorical questions at the age of 4, i. e. one to two years before they are able to understand typical cases of verbal irony. In the light of these and similar findings, the author concludes that it is not productive to adopt a broad interpretation of irony and thus ignore significant differences which emerge in the process of acquisition and pragmatic development.

Tim Wharton examines the acquisition of prosody by combining phonological and pragmatic perspectives (chapter 7). To date, most work on prosodic acquisition and also on the contribution of prosody to meaning-making has been carried out in the field of phonology, but there is also research on the role of prosody in inferencing carried out in cognitive approaches to pragmatics. The author first outlines the basic categories of prosodic analysis and provides an overview of the acquisition process, in which these categories play a crucial role. At least for English, the central prosodic parameters are tonality (formation of intonation phrases), tonicity (placement of pitch accent), and tone (contour on accent). It is not clear, however,

to what extent prosodic features are language-specific or universal. The process of prosodic development is segmented into three stages: (a) the first two years, (b) age 2 to 5, and (c) age 5 to puberty. The ability to distinguish phonemes and react to prosodic cues can be observed within the first months, if not days, after birth, and an awareness of tonality is acquired within the first half year. Prosodic production develops through the preverbal stages of cooing and babbling, although it is not clear whether prosody is already used to communicate intentions. Equally unclear is the status of prosody in the early stage of verbal development, where it seems to shift from an expression of emotions to intentional linguistic use. In the second stage, children start managing accent, and at approximately 18–12 months they can use it for contrastive stress. By age 5, children are able to employ tonicity, tonality and tone for more sophisticated communicative purposes, such as highlighting salient points in their utterances and expressing attitudes towards propositions. The use of prosody appears to develop until the age of 13; essentially intonation patterns become increasingly complex. The author argues that progress can only be made in interdisciplinary work integrating the phonological description of prosodic acquisition in a pragmatic framework and clarifying the question what prosodic meaning actually is and how it relates to intentional communication. For this purpose, he adopts a Gricean and relevance-theoretic framework. A first distinction is drawn between (non-intentional) prosodic signs and (intentional) signals, a further distinction between showing and (higher order) non-natural meaning. These distinctions are then related to the inferencing process. In short, divergence from neutral prosody in an utterance would trigger inferences in the hearer. Against this background, a pragmatic account of prosodic acquisition is suggested, specifically taking into account the development of inferential abilities.

While all other chapters in the first part of this volume deal with pragmatic acquisition and the development of pragmatic competence in childhood, Annette Gerstenberg's chapter deals with pragmatic competence across the life span, concentrating in particular on the later stages in life and old age (chapter 8). Initially, the author challenges the notion of "normal" language users generally referred to in many studies and criticizes the apparently ageless model adult who serves as a target not only for children's acquisition, but also in assessments of competencies in the elderly and old people. Next, relevant theories and methodologies are surveyed and how they contribute to aging research in linguistics and pragmatics. In the context of such frameworks as accommodation theory, disengagement theory and variational pragmatics, central concepts are discussed, including more general topics as e. g. language change, age grading and intergenerational variation and more specific topics as e. g. painful self-disclosure, patronizing speech addressed to older people, and 'elder-speak' in care institutions. Shifts in research orientation are also mentioned, e. g. from deficits and decline in aging individuals to successful aging, social engagement and the enhancement of quality of life and of communication. Corpus pragmatics and Critical Discourse Analysis are advocated as

approaches for studying age-specific language use (e. g. the deployment of hedges or discourse markers) and the linguistic representation of the elderly in discourse. In a programmatic outline of lifespan pragmatics as a novel discipline, social roles, identities and conceptualizations of old age are addressed. In the course of a lifetime, social roles, e. g. in families, institutions, and workplaces, undergo changes. Age may be associated with powerful positions, e. g. in multi-generational families, or with loss of influence, e. g. after retirement. Such changes are reflected in how language is used in interaction, e. g. in the use of honorifics or in conflict management. Identity construction is equally subject to change across a lifetime. Processes of age categorization, the negotiation of age in discourse, practices of ‘doing being old’ and the construction of elderliness in intergenerational conversations are important issues in this regard. The analysis of narrations and particularly autobiographical narratives are an important tool to reveal discursive practices of positioning and further aspects of identity construction. While it is not clear when old age begins in terms of chronological age, several processes of cognitive aging have been identified, of which pragmatic development is one aspect. There is, however, a high degree of inter-individual variation due to biographical factors. Discourse coherence, for instance, may be affected as well as turn-taking, and disfluencies may occur, e. g. repetition or the use of fillers, yet it is difficult to decide what is normal, what typical of old age, or what is pathological. Attention to style and ability to appropriately use and understand speech acts are retained until very old age, but the communicative goals may differ. Finally, the author refers to compensation theory which explains how decline is compensated in old age, e. g. through the activation of additional brain regions. Longer pauses, repetition and prosodic features are among pragmatic compensation strategies. These and similar results should inform the training of e. g. care givers in nursing homes.

3.2. Part II: Pragmatic development in a second language

Marta González-Lloret’s overview of research on L2 pragmatic development (chapter 9) comes in three parts. She first considers key concepts in pragmatics, then surveys methods of data collection commonly employed in L2 pragmatics and also what insights different data types can provide, and finally discusses L2 pragmatic development by looking into a range of different contexts in which an L2 can be learned and used. Her presentation of key concepts starts with two notions immediately relevant to language learning and L2 pragmatics. One is the commonly made distinction between language-specific pragmalinguistic knowledge and culture-specific sociopragmatic knowledge as complementary components of pragmatic competence (cf. section 1 above). The other notion is pragmatic transfer, i. e. carrying over into the L2 ways of speaking and communicative behaviour from the native language and the native culture (cf. chapter 13). She then moves on to three further concepts representing major traditions in pragmatics. These three

concepts are speech acts, implicatures, and politeness. Each of the five concepts is initially briefly defined and illustrated, then critically discussed. Concerning pragmalinguistic and sociopragmatic knowledge, it is not clear whether these two types can actually be properly distinguished and, should this be possible, which is acquired first. A further open question is whether pragmatic competence is acquired before grammatical competence. Apparently the learning context plays a decisive role. Regarding transfer, the author highlights the fact that negative transfer may be a conscious choice of learners not wishing to conform to target language and cultural norms. Moreover, she points out that with increasing global multilingualism and resulting multicompetence the original concept of transfer seems outdated. The author furthermore notes that the concept of speech acts has undergone changes. Speech acts are no longer analyzed as units in isolation, but rather as co-constructed elements in interaction. Studying speech acts still constitutes the largest area of L2 pragmatics research, yet only a small number of acts have been examined in detail, most prominently requests (cf. chapter 10). Turning to implicatures, it is observed that these are particularly difficult to process in an L2, depending however on the type of implicature (cf. chapter 12). The original Gricean notion of implicatures, limited to isolated utterances, has recently been challenged from a conversation-analytic perspective. First generation politeness theories, and notably Brown and Levinson's theory with its Western bias (1987), have been criticized since indirectness does not constitute the polite norm universally. The respective target norms learners can approximate in interaction. In her discussion of methods, the author specifically addresses a range of instruments for eliciting experimental data commonly employed in L2 pragmatics research. Primarily she discusses judgement tasks, discourse completion tasks and role play, and also mentions interviews, retrospective verbal reports and elicited conversation; she further includes naturally occurring data. Choice of method follows the changes in the historical research process evolving from cognitive, experimental studies employing DCTs and judgement tasks to more social and interactional studies using role plays as well as elicited and naturally occurring conversation. The author reminds us that insights into developmental processes can actually only be obtained in longitudinal studies. In the third part of her overview, the author examines L2 pragmatic development in a selection of diverse contexts. In classroom settings, explicit instruction seems to have the most positive and lasting effects, especially raising awareness about pragmalinguistic and sociopragmatic norms, yet pragmatics is still underrepresented in teaching materials. In a study abroad environment, the amount and more particularly the quality of target language interaction is crucial (cf. chapter 15). A central point about lingua franca communication is that interactive norms can be negotiated and jointly constructed as there is no target model. Migrant workers, on the other hand, need to acquire target norms to avoid negative consequences in the workplace and beyond, e. g. in medical care. Technology-based communication may occur in all aforementioned

contexts and has been found beneficial to the development of L2 pragmatic competence for teaching purposes as well as in real-world situations. The author notes that in an increasingly multilingual world the distinction between acquisition as a natural process and learning as an instructed process seems anachronistic.

Alicia Martínez-Flor and Esther Usó-Juan offer a critical approach to existing theories of teaching speech acts in a second language, favouring a discursive account in the framework of Conversational Analysis (chapter 10). The authors take the example of requesting to demonstrate how L2 speech acts can be taught and learned most effectively. Their choice is motivated by the nature of requests as intrinsically face-threatening acts easily causing offense if not performed appropriately. Also requests have received more attention in research than any other speech act. A total of nineteen studies on the effects of pragmatic intervention, published between 2001 and 2019, is thoroughly reviewed and all relevant parameters are detailed, e. g. experimental design, first language of the participants and the level of proficiency in their second language, treatment type, frequency of data collection, and so on. In all studies, English is the target language and in most cases the participants' foreign language. In some cases, however, English is a second language in the narrow terminological sense. Three of the interventional studies are teachability studies, addressing the question whether requests can actually be taught in a classroom setting. Another five studies compare the effects of instructional treatment and simple exposure on the development of requests, and the remaining eleven examine the effectiveness of different teaching methods. The methods considered are exposure to relevant input, opportunities for practicing, and giving corrective feedback. The overall findings suggest that L2 requests can effectively be taught and learned in classroom environments. Simple exposure to the target language, however, appears to be insufficient at least for developing this particular speech act. Pragmatic intervention, on the other hand, can noticeably improve the learners' awareness and confidence as well as their request production and negotiation. Concerning different types of instructional treatment, explicit approaches, involving e. g. consciousness-raising tasks and metapragmatic explanations, seem to be superior to implicit approaches, where the learners have to discover pragmatic norms on their own; moreover, implicit instruction requires more time in order to be effective. The authors refer to recent theoretical frameworks to overcome the simplistic dichotomy of implicit versus explicit instruction, specifically to genre-based and task-based approaches. They furthermore refer to approaches for teaching L2 pragmatics at the discourse level, focusing not only on the speech act alone, but also on the surrounding acts and the sequential organization of longer discourse stretches. Moreover, pragmatic instruction can be effectively supported and enhanced by technological applications such as tools for computer-mediated communication or computer-assisted language learning programmes, offering a variety of authentic contexts and activities. Finally, strategy-oriented approaches may help L2 learners to become more autonomous and to further develop their

pragmatic competence themselves. Based on these research findings the authors offer recommendations for practitioners, as pragmatics is still largely neglected in teacher education, teaching materials and L2 classrooms.

Helen Woodfield adopts a speech act perspective on indirectness and reviews extensive research on the realization and modification of requests cross-culturally and within-culture, specifically in regional pragmatic variation, by focusing on degrees of indirectness employed by language users (chapter 11). While indirectness and the processes of indirect production and comprehension seem to be universal, how degrees of indirectness are interpreted in terms of politeness differs across cultures. Diverging perceptions of what counts as appropriate verbal behaviour and transferring strategies from L1 to L2 may result in sociopragmatic failure. Requests as intrinsically face-threatening acts, asking the hearer to perform an action to the benefit of the speaker, are a particularly sensitive case, in the realization of which indirectness plays a central role. Referring to taxonomies distinguishing direct, conventionally indirect and non-conventionally indirect realization strategies, it has been claimed in the light of native speaker data that conventional indirectness provides the best compromise between pragmatic clarity, reducing the processing costs, and politeness, in terms of face-threat minimization. Yet this does not seem to apply across cultures, as research findings from cross-cultural and variational pragmatics demonstrate. In interlanguage pragmatics, a main preoccupation of researchers has been the fact that direct requests are more frequently produced by beginners whereas conventionally indirect requests are more frequently observed in proficient L2 users. A related issue is the linguistic complexity of requests. For example, *por favor* ('please') is overused in direct requests due to lack of grammatical competence in beginner learners of Spanish. Also, 'false stereotyping' (the belief that direct requests are appropriate in any situation) and formal classroom learning may result in preference for direct requests by Japanese ESL learners as opposed to German ESL learners and British English native speakers. However, internal modification devices, such as negation (*I don't suppose you could pick them up, could you?*), modal forms, tenses and conditional forms are scarce or missing in graduate learners' requests due to structural difficulties. These findings are mostly based on empirical studies employing written discourse completion tasks (DCTs) and further instruments eliciting what learners think they should do rather than what they would actually do in real-life contexts. To prime natural speech act performance, refined computer-based DCTs and elicitation tasks prompt respondents with audiovisual contextual cues, whereas verbal reports provide metapragmatic knowledge on how learners retrieve and plan their speech act utterances. It has been observed that advanced learners think more frequently about pragmatics rather than linguistic planning compared to the intermediate group, suggesting an increased sensitivity to the importance of pragmatics.

Naoko Taguchi and Nancy Bell trace the paths along which implicatures and humour develop in a second language, specifically implicature and humour com-

prehension (chapter 12). Both types of indirect meaning appear to be universal, yet L2 proficiency and knowledge of norms and conventions of the target culture are necessary for adequate understanding. The examination of implicature comprehension is based on the one hand on Grice's account and Relevance Theory, and on the other hand on Kecskes' socio-cognitive approach. Inferencing is thus conceptualized as a complex, non-linear and dynamic process involving all available cues, not just the literal meaning of an utterance, and in which speaker and hearer co-construct meaning. Understanding implicatures in an L2 is crucially influenced by the type of implicature and by learner characteristics. Different types of implicatures require different amounts of processing effort. Conventional implicatures, involving frequent and predictable discourse patterns, are more easily understood in an L2 than non-conventional implicatures, particularly in cases in which there are shared conventions in L1 and L2. For example, the abilities to interpret L2 relevance implicatures develops faster than for Pope questions as learners are used to refer to the relevance maxim in their L1. Similarly, it takes longer to process common patterns of indirect refusals, i. e. giving reasons, than less predictable expressions of indirect opinions. Additionally, implicature comprehension depends, first and foremost, on the learners' language proficiency in the L2, which seems to affect comprehension accuracy more immediately than processing speed. Among the cognitive capacities required, lexical access skills play a more decisive role than working memory factors. Exposure to the L2 in a target culture context is a further important influence. The most positive effect occurs with non-conventional implicatures and routines, showing that there is no uniform effect across types of implicatures. In general, increase in comprehension speed correlates with length of stay abroad. The amount of listening practice has a positive effect, but there is also individual variation. Future research on L2 implicature comprehension should move away from decontextualized tasks and use instead authentic test items from interactional contexts with multimodal cues. Less is known to date about L2 humour comprehension. Understanding humour crucially includes understanding the unexpected element involved. According to Giora, incongruity with the expected generates marked informativeness, which can, alternatively be explained in terms of frame-shifting. It is hypothesized that the interpretative procedures may be the same in L1 and L2, yet studies have demonstrated that the perception and appreciation of humour differs depending on the language chosen, and jokes in the dominant language are considered funnier. While proficiency and exposure influence the development of humour comprehension, even beginners can participate in L2 humour, especially when interacting with supportive communication partners, who frequently make adjustments regarding types, topics and the presentation of humour, showing an awareness of the challenges of humour for foreign language learners and L2 users.

In chapter 13, J. César Félix-Brasdefer revisits pragmatic transfer from the scope of pragmalinguistic and sociopragmatic transfer of structural and non-struc-

tural factors which may be transferred from L1 to L2, or any other language learned prior to the L2. At the pragmatic level, transfer is discussed in terms of appropriate and inappropriate behaviour by selection and perception of speech acts (e. g. im/polite behaviour, forms of address) and at the discourse level in terms of focus and new/old information. Studies reviewed on structural features as conditioning factors of pragmatic transfer include syntactic and lexical problems with intensifiers, tense, word order and prepositions in apologies, requests and refusals. Studies reviewed on non-structural features as conditioning factors on pragmatic transfer include the learning context and proficiency level. Mixed evidence shows that low-proficiency learners are prone to less transfer, whereas higher proficiency learners transfer more (positive correlation hypothesis), or that pragmatic transfer decreases with proficiency (negative correlation hypothesis). A number of studies suggest that other factors, namely degree of imposition, familiarity with the situation, length of stay and modality (oral versus written DCT situations) influence pragmatic transfer. For example, learners with longer periods of stay abroad transferred less and approximated native speaker norms of the target culture. The author provides an overview of 42 studies on pragmatic transfer published between 1981 and 2018, detailing the pragmatic target, the data collection method, the native speaker and the learner group, and the main results. Most studies are focused on individual speech acts, predominantly on refusals, which are investigated in one third of all studies, and on requests, apologies, compliment responses and complaints as further frequently studied acts. Transfer at the discourse level, on the other hand, has been largely neglected, with only two studies examining transfer of conversational features (topic selection, interruption, back channels and repetition). The data collection instruments employed include a wide range of instruments, e. g. production questionnaires, role plays, interviews, verbal reports and judgement tasks, yet overwhelmingly written DCTs were used. In most cases the target language was English, whereas the learners' native languages were more varied, including several typologically unrelated languages or national varieties thereof (e. g. Jordanian and Iraqi Arabic). In approximately one third of the studies reviewed, data from different sources were triangulated. Most studies concentrated on negative transfer, and more specifically on pragmalinguistic negative transfer.

The development of pragmatic awareness in a second language is the topic of chapter 14 by Troy McConachy and Helen Spencer-Oatey, who concentrate primarily on classroom contexts. Within pragmatic awareness a distinction is made between pragmalinguistic and sociopragmatic awareness, where the former pertains to an awareness of the relationship between linguistic forms and the communicative functions they may have, while the latter pertains to linguistic choices relative to communication situations and the sociocultural context. Pragmatic awareness overlaps with metapragmatic awareness, which is sometimes correlated with sociopragmatic awareness, but most often used for an explicit interpretation of language use with reference to the interplay of forms, functions, contexts

and relationships. The authors provide a critical discussion of (meta)pragmatic awareness in three approaches: the interlanguage paradigm, sociocultural theory and intercultural language learning, and survey relevant empirical research. The authors focus on interlanguage studies which explored learners' awareness while identifying pragmatic infelicities and understanding that forms are used in relation to contextual features, such as social status of interlocutors, age, gender, distance and level of formality. This type of awareness grows relative to the time spent in L2 countries but does not necessarily incur production abiding by L2 norms and conventions. Rather, learners are made aware of the L2 norms, how they differ from L1 norms and what the consequences might be if they are not adhered to. The authors raise three important weaknesses in existing accounts. Firstly, that pragmatic awareness is restricted to noticing differences between the pragmatics of L1 and L2 in order to minimize transfer. Secondly, that pragmatic awareness is restricted to a highly normative approach to language use and a limited range of pragmatic conventions ignoring the more complex options available during interaction. Thirdly, that pragmatic awareness is restricted to research settings rather than developed in classrooms which tap into metapragmatic reflection, too. The authors show that sociocultural theory has addressed these needs within the last decade. For example, an innovative highly interactive and reflective method is to engage students in real situations where individual limitations become manifest in actual instances of pragmatic use. L2 pragmatic norms (honorifics, expressing thanks, obligatory humble language in the workplace) remain crucial features of pragmatic awareness development. The fact that these are not necessarily universal calls for the need to unify L1 and L2 beliefs and values drawn from both cultures and pay more attention to those "unique synergies and emergent properties in the mind of each individual accompanied by increased metalinguistic and metapragmatic awareness".

In chapter 15, Anne Barron examines the development of pragmatic competence in a foreign language under the conditions of a longer stay in a target language culture. In her introduction she points out that for a long time it has been a commonly held belief that foreign language learners profit immensely from a sojourn in a country in which their foreign language is spoken natively, especially regarding their pragmatic competence, as they are given the opportunity to experience language use in natural situations on a day-to-day basis. Yet at the same time no empirical research substantiating this belief was available until recently. Now the situation has changed and study abroad research has developed into a field of inquiry in its own right in the context of the internationalisation of education world-wide. The core of Barron's chapter is a systematic overview of the research literature in this field. Initially Barron discusses study abroad and pragmatic competence as the two notions central to her concern. In her discussion she mentions that L2 pragmatic competence has predominantly been restricted to the production of individual speech acts. Increasingly however the focus is shifting to speech acts

in context and the co-construction of linguistic action in interaction, including such aspects as turn-taking and repair. In order to arrive at a more detailed and systematic picture Barron adopts the analytical framework of variational pragmatics specifying six levels of analysis. These are (with phenomena typically examined): the formal level (e. g. discourse markers), actional level (e. g. speech acts), interactional level (e. g. adjacency pairs and longer sequences), topic level (e. g. macro-propositions), organisational level (e. g. interruptions), and stylistic level (e. g. degree of formality). Reference to these six levels structures Barron's meta-analysis of the research literature on L2 pragmatic competence in a study abroad context. This meta-analysis covers a total of 49 publications (including four monographs) which appeared between 1995 and 2015 (with a clear majority published in the years between 2011 and 2015), which are empirical and longitudinal, specifically focusing on institutional student mobility in third-level or high-school contexts. The analysis considers the research design of the studies, the research focus on production, comprehension and meta-pragmatic awareness, and the phenomena examined on each of the six levels of analysis, e. g. which speech acts have been studied on the actional level (e. g. apologies, complaints, compliments, offers). It further takes into account the learner characteristics age and native language, and specifically the impact of proficiency, motivation, gender, length and context of stay, and of further parameters on the development of L2 pragmatic competence. Studies vary highly in number of informants (ranging from one to 97), are homogeneous in age (mean 22 years) and learner proficiency (intermediate to higher), and focus on a particular L1 culture, with English the target L2 predominantly studied. Equivocal results are reported with a positive trend in relation to the effect of study abroad on the development of pragmatic competence, lack of development or non-linear development, i. e. regress relative to the L2 norm and developing towards the norm again at the end of the stay. The author also discusses circumstances which lead to or hinder L2 pragmatic development, such as interactional opportunities, instruction, and learners' desired identity (e. g. rejecting L2 norms). In the concluding section, Barron addresses issues dealt with in more recent studies, published after 2015, and identifies gaps which still exist in the research literature. Research on comprehension, for instance, has so far played only a marginal role.

In chapter 16, Roever and Ikeda show how testing L2 pragmatic competence has developed over the last three decades in terms of instrument design, the pragmatic target construct put into the test, the effect of certain variables on performance and the use of innovative methods in implementing tests. They identify three stages in this evolutionary process. Early testing was carried out in the speech act tradition with a focus on the production and also the recognition of individual acts such as requests, apologies and refusals. At this stage, preferred test instruments included oral and written discourse completion tasks (DCTs), role-plays and test takers' self-assessments of their task performance, often combined in one test battery. The

second stage was based on a more complex notion of pragmatic competence as further facets were integrated, most notably implicature, routine formulae, and style. These phenomena were tested by specifically developed multiple-choice tasks. Additionally, initial steps were taken towards testing learners' abilities to participate in longer stretches of discourse, without however assessing online discourse performance and interactional competencies. One study included appropriateness judgements (on a five-point Likert scale), appropriateness corrections (providing a more suitable speech act realization in a given context), extended DCTs (filling gaps in extended discourse), and a comparison of dialogues (giving reasons for the preferred version). Validation of such tests should address the following issues: whether they are relevant to the target domain of use, reflective of real-life circumstances, generalizable, and useful for pedagogical purposes. While the first two stages in the development of pragmatic L2 testing were essentially focused on micropragmatic phenomena, the third stage went clearly beyond these, adopting a macropragmatic approach and centrally embracing extended stretches of discourse and interactional aspects. In some approaches, role-plays were used for test purposes that simulated real-world contexts. In other approaches, assessment was informed by insights from conversation analysis (CA). For instance, in one type of discourse task, when learners were engaged in a discussion of a particular topic with a native speaker (i. e. tester), the tester inserted a particular speech act or pre-sequence to elicit a learner response. In all stages, only spoken communication and oral abilities were tested. Overall, testees with a range of L1 backgrounds and a variance of proficiency levels were involved. A number of previously held assumptions have been confirmed, namely the effect of proficiency level and length of exposure to the target language in L2 settings. A number of inadequacies are also raised, namely the predominantly English-as-L2-driven research and the university-student participants informing existing research. Practicality of test delivery remains an issue of concern, slowing down the process of integrating pragmatics measures into operational test batteries. Of all the test formats that have been developed for the assessment of second language pragmatics, none is as yet actually in use in educational contexts.

3.3. Part III: Pragmatic disorders

In chapter 17, opening the last part of this handbook, Louise Cummings surveys pragmatic disorders as a result of pathological development or impairment of pragmatic competence in children and adults. Pragmatic competence is explicitly defined as a capacity which is partially based on, but goes well beyond, language competence and requires not only linguistic, but also cognitive abilities and sensorimotor skills as a prerequisite for effective communication. The rational and normative nature of pragmatic competence, guiding speakers and hearers, is emphasized in particular. The author concentrates on four clinical conditions: autism

spectrum disorders, traumatic brain injury, right-hemisphere damage, and dementias (two of these, namely autism spectrum disorders and dementias, are examined in more detail in chapters 18 and 21). She outlines and illustrates clinically relevant features of the four disorders and identifies the points in the 'communication cycle' (a psycholinguistic model of encoding and decoding) at which pragmatic impairments occur. Yet in all conditions, there are also intact pragmatic skills. About 50% of persons with autism are able to communicate verbally, yet aspects of their production and comprehension are impaired. They have, for instance, difficulty in making use of context when interpreting utterances. They may, however, be aware e. g. of the structure of adjacency pairs. In individuals with traumatic brain injury, pragmatic deficits co-occur with cognitive deficits. Some individuals are, for instance, unable to produce coherent narratives, but may manage the use of personal pronouns. In cases of right-hemisphere brain damage, one problem seems to be the literal interpretation of indirect speech acts, while turn-taking may be intact. In dementias, pragmatic competence and pragmatic impairment seems to be as varied as the many different types of these neurodegenerative disorders. The author concludes her chapter by highlighting the crucial role of Theory of Mind (ToM) for understanding pragmatic competence and pragmatic impairment and critically reviews three theoretical approaches to ToM developed in different disciplines. The most important of these is relevance theory, which has made a valuable contribution to clinical work. In this framework ToM is conceptualized as a component of a more general mind-reading module which is needed for the most cost-effective interpretation of utterances. Two further relevant approaches are 'theory' theory and simulation theory advanced in developmental psychology and philosophy of mind. The former postulates that children develop the psychological competence to predict the behaviour of other people in a similar way that scientists construct theories. Simulation theorists, on the other hand, claim that interactants possess the ability to simulate their interlocutors' mental activities in their own mind.

Communicative difficulties are generally recognized as a prominent feature in autism spectrum disorders (ASD). In her chapter on pragmatic competence in ASD (chapter 18), Livia Colle provides a close look at a wide range of communicative phenomena and how they are affected by ASD. She considers not only pragmatic impairment but also preserved pragmatic skills available to individuals with autism. The author's survey is based on a wide understanding of pragmatics, emphasizing the role of context and the importance of both verbal and non-verbal means of communication. In her discussion of impairments in non-verbal communication she examines joint attention, understanding emotions, and gestures, then turns to impairments in verbal communication, specifically difficulties with deixis, turn-taking and topic management, prosody, inferencing meaning, irony and humour, and metaphors. Autistic children have difficulty acquiring joint attention, i. e. splitting attention between interlocutor and an entity talked about. This

leads to a delay of other capacities. Reduced eye contact may be an early sign of this difficulty. Persons with ASD have further difficulties recognizing the emotions of their communicative partners, e. g. interpreting their facial expressions. The use of gestures is also impaired. For instance, infants with autism use pointing less frequently than typically developing children. Deictic expressions of space and time are another problem, and turn-taking and topic management are also compromised. Conversations with autistic persons frequently resemble a monologue, because they talk about special interest topics with great intensity. In general, they have difficulty selecting topics appropriate to the situation and their conversational partners. Pauses between turns are often either too long or too short. Prosodic deficits include problems with tone of voice, e. g. volume control. Further prosodic deficits occur in the production and comprehension of intonation. More fundamental problems concern more complex pragmatic phenomena, in particular the interpretation of non-literal expressions. Autistic individuals have significant difficulties inferring what is meant from what is said, especially when irony or metaphor are used. To what extent all these verbal and non-verbal phenomena are impaired crucially depends on two variables, namely (a) the severity of the disorder, and (b) the stage the disorder has progressed to. For instance, individuals with high-functioning autism are able to produce and understand simple and direct utterances, but have difficulties in accommodating to the situation and in selecting appropriate topics for conversation. Most difficulties occur, however, in understanding indirect communications such as implicatures, humour, and figurative language, and also in producing indirect utterances. The author calls for longitudinal studies, which make it possible to distinguish which features are permanently impaired and which are simply delayed.

Down syndrome (DS) is a very complex and highly variable condition involving a range of interacting sensorimotor, cognitive, linguistic and social characteristics which impact communicative behaviour. In their chapter of pragmatic competence in DS (chapter 19), Susan Foster-Cohen and Anne van Bysterveldt concentrate primarily on the pragmatic development in young children with DS, but also refer to older children and adults, as some developments are delayed or continue in later years, and an early onset of Alzheimer's Disease is disproportionately frequent among individuals with DS. The authors' account is based on research literature and their own research and clinical work, covering a large variety of topics, including e. g. the development of speech sounds, topic management in conversation, narrative abilities, and the emergence of literacy. Such variety is indicative of the broad understanding of pragmatics which pertains to a wide range of behaviours, competencies and knowledge, including not only language production and comprehension, but also social knowledge and world knowledge, sensory perception and emotion reading, among others. Against this background, the authors separately consider the different types of characteristics. Specific sensorimotor features, for example, include impaired hearing and delayed motor development leading respec-

tively to deficits in discriminating speech sounds and delayed responses which may have a negative effect on turn-taking. On the other hand, there are relative strengths e. g. in visual processing and in producing gestures. In other areas, further strengths include employing visual support for comprehension, abilities for emotion reading and a high degree of sociability; children as well as adults with DS are perceived as exceptionally friendly. So while reduced resources in several areas impact the communication of people with DS and pose specific challenges affecting a wide range of phenomena from phonetic processing to macro-discourse units, there are also particular relative strengths. The authors furthermore strongly emphasize the role that interlocutors can play. If they are able to compensate for some pragmatic difficulties, they may help to avoid frustration. How they respond to children with DS influences the pragmatic development of these children. The general picture is that their development is not disordered but delayed. Ultimately, however, and despite all strengths and possible success, the delays cannot be balanced out in the long run altogether, and the impact of the syndrome is strong and felt life-long.

In their chapter on pragmatic competence in aphasia (chapter 20), Gloria Streit Olness and Hanna K. Ulatowska adopt a macropragmatic perspective and survey the effects of this acquired language disorder on both spoken and written communication. They discuss what aphasics can achieve in communication by drawing on preserved linguistic abilities and other semiotic resources as well as interlocutor input. They also address the challenges posed by post-stroke trauma or by misconceptions of the disorder in society. The authors adopt a discourse analytic approach, demonstrating that even linguistically defective utterances may be meaningful and accomplish communicative goals in the context of discourse. Their approach is grounded in Bühler's functional model and Jakobson's expanded version of this model, specifying a total of six language functions, termed referential, emotive, conative, poetic, phatic and metalingual functions. Traditional models of aphasia typology, on the other hand, concentrate on the referential function almost exclusively. Furthermore, those models of aphasia are based on language samples elicited experimentally in clinical settings, e. g. by employing picture tasks, which are not ecologically valid. By contrast, the authors use samples of naturally occurring discourse in English and in Polish, exemplifying a variety of different functions. It appears that each context examined in this chapter involves specific constraints and offers specific possibilities. Four different contexts are considered to illustrate this, presenting persons aware and unaware of their linguistic errors, and engaged in conversational narrative or in written communication. Taking into account the limitations and affordances of the respective context, the persons with aphasia always pursued their communicative goals, employing preserved linguistic and paralinguistic resources and relying on shared knowledge and interlocutor input. The communication partners collaborated in meaning making, drawing on inferencing and theory of mind. The discourse samples presented exemplify the expression of the referential, emotive, phatic, and metalingual functions in spoken

and written discourse. By comparison, the referential function poses more challenges than the emotive function, yet irrespective of such challenges the persons with aphasia displayed metapragmatic awareness of the joint goals and discourse coherence. The complex interplay of linguistic and further semiotic resources in discourse, their cognitive underpinnings and the dynamic cooperation of communication partners towards a mutual goal is analysed with more examples and in more detail in three typical life contexts of individuals with aphasia: the trauma they have experienced (characteristically through a stroke), the re-emerging expression of their identity, and their social and societal engagement.

Heidi E. Hamilton explores the interrelationships of pragmatics and dementia (chapter 21). In this undertaking, she concentrates on Alzheimer's Disease. The author starts with a brief overview of research on language, communication and dementia since 1980, outlining in particular the shift away from the dominant clinical paradigm, with its focus on language data elicited from patients in experiments, to sociolinguistic and discourse-analytic work on social interaction in naturally occurring conversation. The aim of these latter investigations was to establish not only the communicative deficits, but also the communicative abilities of speakers with Alzheimer's Disease, and especially to examine the role of the interlocutors and the impact of their behaviour on communication. Research findings have been applied to help people with dementia and their caregivers, e. g. to enhance their communication, provide them with effective coping strategies and more generally promote their health and well-being. The author then turns to public discourse about dementia. Representations of dementia e. g. in the media influence the way people think about and how they communicate with individuals with dementia. Ideologies prevalent especially in Western cultures assign more value to cognition, intellect and reasoning than to emotions, relationships and spirituality. Against this background, people with dementia are seen as patients, not as persons, which has a negative effect on their self-esteem and on communication. The author frames spoken communication as talk-in-interaction, and separately deals, on the one hand, with interactional contexts, specifically the activity in which the talk is embedded, and the physical environment, and on the other hand, with the talk, including both verbal and non-verbal aspects. The nature of activities plays a crucial role. While clinical interviews, memory games, and sometimes even conversations with relatives or friends can be intimidating, face-threatening or frustrating, meaningful alternatives, free from judgemental reactions, can be found in voluntary social activities, such as participating in a religious or a political group. The physical environment also impacts communicative behaviour. In buildings such as nursing homes which appear less institutional allowing for privacy and personalization, persons with dementia behave more sociably and initiate more interactions. Items of personal memory such as photos or greeting cards support communication participation. When focusing on verbal communication in dementia, the author employs four metaphorical expressions, each representing a specific

analytical approach: 'prism', 'soliloquy', 'couch', and 'dance'. The approach characterized as prism concentrates on isolated linguistic and communicative features such as word-finding difficulties. In the soliloquy approach individual linguistic and communicative features are examined in how they combine and contribute to discourse. Researchers with a couch perspective are interested in communicative meaning construction and linguistic displays of identity. Finally, work in the dance paradigm deals with the linguistic and social interaction between persons with dementia and their conversational partners. In her discussion of nonverbal communication, the author highlights the positive role that habits and automated behaviours such as laughter or gestures can play as interactional strategies, particularly as the verbal abilities are declining. More research is needed on a greater variety of languages and cultures and on the impact of such factors as sex, ethnicity and education on communication.

Jenny Louise Gibson and Michelle C. St Clair discuss approaches to the clinical assessment of pragmatic competence in childhood developmental disorders. In their review they focus on neurodevelopmental disorders such as autism spectrum disorders (ASD) and Attention Deficit Hyperactivity Disorder (ADHD). Assessing pragmatic competence in these disorders is a central concern as successful participation in conversation contributes significantly to quality of life. In clinical settings a broad definition of pragmatics is adopted. Pragmatic competence is considered a higher-level language skill involving linguistic, paralinguistic and social interactional abilities. Pragmatic impairments of linguistic aspects include the use of neologism, problems with deixis, difficulties in producing coherent discourse and understanding implicatures, sarcasm and jokes. Impairments of paralinguistic phenomena concern prosody, rhythm and accent. Problems with interactional competence show most clearly in everyday conversations, for instance in inappropriate register choices, verbosity, disrupted turn-taking and deficits regarding the needs of interlocutors. If different pragmatic profiles could be correlated with different developmental disorders, this would be helpful for differential diagnosis and intervention. However, some profiles considered by the authors display substantial variety and overlap, posing considerable challenges for assessment. The overall purpose of pragmatic assessment is to identify a child's strengths and deficits and to select suitable intervention. More specific reasons include e. g. questions about poor academic performance or unusual behaviour. Clinical assessment of pragmatic competence must be based on theoretical foundations. Health and disability research provide the most significant framework, further relevant frameworks are found in developmental and cognitive psychology and in linguistics, among them speech act theory, Relevance theory and research on Theory of Mind. At the beginning of the assessment process, the goals and purposes of the assessment need to be clarified and appropriate instruments chosen. An instrument available for indirect assessment is the informal interview not with the child, but the parents or other key informants, who may be asked, for example,

“Does your child give too much information in response to a question?” (based on Grice’s Maxim of quantity) or “Does your child greet older adults appropriately?” (referring to sociopragmatic norms). Alternatively, standardized questionnaires can be used to indirectly assess a child’s pragmatic competence. Tools for direct assessment, i. e. involving the child directly, include structured observation and informal tasks as well as standardized test batteries, which are usually sold by specialized publishing companies. The authors critically review a number of standardized questionnaires and test batteries available on the market and discuss their respective advantages and disadvantages. They call for closer cooperation between clinicians and researchers in the assessment of pragmatic competence of children with developmental disorders.

4. Concluding remarks

The contributions to this volume demonstrate that pragmatics and pragmatic competence can be conceptualized in several different ways. Chapters in which a range of different pragmatic phenomena are considered, e. g. discourse markers, implicatures, speech acts and turn-taking, illustrate that no coherent framework exists to date for integrating the plethora of pragmatic phenomena and related competencies. All there is, as some authors in this volume also bemoan, is a collection of only loosely connected pragmatic features, each representing a particular approach or research tradition (cf. Grabowski 2016: 165). Perhaps a more holistic approach emerges from clinical work, which necessarily has to take into consideration as many pragmatic features as possible and, more importantly, examine pragmatic competence in association with further capacities, abilities and skills, i. e. linguistic and social as well as cognitive and emotional. In effect, the full range of our working ‘pragmatic’ abilities in real life online communication is yet to be explored.

Several contributors to this volume emphasize that much more is known about the pragmatics of language use than about pragmatic development. They identify a range of research gaps in the areas of their respective expertise and suggest strategies and methods to close the gaps identified. It is hoped that in this way the present volume helps to further our understanding of the acquisition of pragmatic competence in first and additional languages and its development across the lifespan under typical and atypical conditions. Facilitating cross-fertilization and cooperation across the perspectives addressed in the three parts of this volume and the research communities involved is the ultimate aim in putting together this handbook of developmental and clinical pragmatics.

References

- Barron, Anne and Klaus P. Schneider
2014 Discourse pragmatics: Signposting a vast field. In: Klaus P. Schneider and Anne Barron (eds.), *Pragmatics of Discourse*, 1–33. Berlin/Boston: De Gruyter Mouton.
- Brown, Penelope and Stephen C. Levinson
1987 *Politeness: Some Universals in Language Usage*. Cambridge: Cambridge University Press.
- Bublitz, Wolfram and Neal R. Norrick (eds.)
2011 *Foundations of Pragmatics*. Berlin/Boston: De Gruyter Mouton.
- Cap, Piotr
2011 Micropragmatics and macropragmatics. In: Wolfram Bublitz and Neal R. Norrick (eds.), *Foundations of Pragmatics*, 51–75. Berlin/Boston: De Gruyter Mouton
- Chomsky, Noam
1965 *Aspects of the Theory of Syntax*. Cambridge, Mass.: MIT Press.
- de Saussure, Ferdinand
1916 *Cours de Linguistique Générale*. Paris: Payot.
- Fraser, Bruce
2010 Pragmatic competence: The case of hedging. In: Gunther Kaltenböck, Wiltrud Mihatsch and Stefan Schneider (eds.), *New Approaches to Hedging*, 15–34. Bingley: Emerald.
- Gabbatore, Ilaria, Francesca M. Bosco, Leena Mäkinen, Hanna Ebeling, Tuula Hurtig and Soile Loukusa
2019 Investigating pragmatic abilities in young Finnish adults using the Assessment Battery for Communication. *Intercultural Pragmatics* 16(1): 27–56.
- Grabowski, Kirby C.
2016 Assessing pragmatic competence. In: Dina Tsagari and Jayanti Banerjee (eds.), *Handbook of Second Language Assessment*, 165–180. Boston/Berlin: De Gruyter Mouton.
- Holmes, Janet
1995 *Women, Men and Politeness*. London: Longman
- Huang, Yan
2010 Pragmatics. In: Louise Cummings (ed.), *The Pragmatics Encyclopedia*, 341–345. Abingdon: Routledge.
- Hymes, Dell H.
1972 On communicative competence. In: John B. Pride and Janet Holmes (eds.), *Sociolinguistics*, 269–293. Harmondsworth: Penguin.
- Ifantidou, Elly
2014 *Pragmatic Competence and Relevance*. Amsterdam: Benjamins.
- Ifantidou, Elly
2019 Relevance and metaphor understanding in a second language. In: Kate Scott, Billy Clark and Robyn Carston (eds.), *Relevance: Pragmatics and Interpretation*, 218–230. Cambridge: Cambridge University Press.

- Johnstone, Barbara
2008 *Discourse Analysis*. (Second edition.) Malden, MA: Blackwell.
- Jucker, Andreas
2018 Data in pragmatic research. In: Andreas H. Jucker, Klaus P. Schneider and Wolfram Bublitz (eds.), *Methods in Pragmatics*, 3–36. Berlin/Boston: De Gruyter Mouton.
- Kasper, Gabriele and Steven J. Ross
2013 Assessing second language pragmatics: An overview and introductions. In: Steven J. Ross and Gabriele Kasper (eds.), *Assessing Second Language Pragmatics*, 1–40. Basingstoke: Palgrave Macmillan.
- Kecskes, Istvan
2010 Dual and multilanguage systems. *International Journal of Multilingualism* 7(2): 91–109.
- Kecskes, Istvan
2014 *Intercultural Pragmatics*. New York: Oxford University Press.
- Leech, Geoffrey
1983 *Principles of Pragmatics*. London/New York: Longman.
- Manes, Nessa and Joan Wolfson
1981 The compliment formula. In: Florian Coulmas (ed.), *Conversational Routine*, 115–132. The Hague: Mouton.
- Marmaridou, Sofia
2011 Pragmalinguistics and sociopragmatics. In: Wolfram Bublitz and Neal R. Norrick (eds.), *Foundations of Pragmatics*, 77–106. Berlin/Boston: De Gruyter Mouton.
- Regan, Vera, Martin Howard and Isabelle Lemée
2009 *The Acquisition of Sociolinguistic Competence in a Study Abroad Context*. Bristol: Multilingual Matters.
- Schneider, Klaus P.
2017 Pragmatic competence and pragmatic variation. In: Rachel Giora and Michael Haugh (eds.), *Doing Pragmatics Interculturally: Cognitive, Philosophical, and Sociopragmatic Perspectives*, 315–333. Berlin/Boston: De Gruyter Mouton.
- Thomas, Jenny
1983 Cross-cultural pragmatic failure. *Applied Linguistics* 4(2): 91–112.
- Timpe, Veronika
2014 *Assessing Intercultural Language Learning: The Dependence of Receptive Sociopragmatic Competence and Discourse Competence on Learning Opportunities and Input*. Frankfurt: Lang.

I. Pragmatic development in a first language

2. Pragmatic development in a first language: An overview

Sandrine Zufferey

Abstract: This chapter presents an overview of children's developing pragmatic competencies, a term broadly defined as the ability to understand and use language appropriately in context. Pragmatic competencies thus defined include both the ability to adapt one's language depending on social contexts of interaction, and to enrich the linguistic meaning of sentences to access the speaker's explicit and implicit meaning. We provide evidence that the acquisition of pragmatic competencies spans over a long period of time: while some pragmatic competencies are already operational in preverbal infants, others first appear or keep on maturing until late during childhood. We review the cognitive, social and linguistic factors that account for this variability, and discuss how methodological differences between studies impact on the observed age of acquisition.

1. Introduction

The field of pragmatics is often defined rather broadly as the study of language in use (e. g. Huang 2007; Mey 1993; Sperber and Noveck 2004). As a result, studies on developmental pragmatics encompass a large array of loosely connected linguistic phenomena, such as implicatures, politeness, and speech acts, to name but a few. All these pragmatic phenomena are in addition studied from several points of view, emphasizing either their social or their cognitive components (Zufferey 2015). While social studies of pragmatics assess the appropriate uses of language in a given social and cultural context, cognitive studies focus on the type of cognitive processes necessary to perform various enrichments in order to recover the speaker's meaning on the basis of an underspecified linguistic meaning. While the cognitive and social components of pragmatic competencies are both necessary to account for the adequate use of language in communication, traditionally studies in developmental pragmatics were placing a greater emphasis on the social aspects in these phenomena (Becker-Bryant 2009; Clark 2003; Ninio and Snow 1996; Thompson 1997). Empirical studies on developmental pragmatics have, however, known a strong cognitive turn recently, with the result that studies focusing on cognitive competencies have flourished over the past decade (e. g. Matthews 2014; Pouscoulous and Noveck 2009; Siegal and Surian 2009 for reviews). In this chapter, our aim is to present a global overview of the development of both social and cognitive aspects of pragmatic competencies, underlying their complementary aspects.

<https://doi.org/10.1515/9783110431056-002>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 33–60. Berlin/Boston: De Gruyter Mouton.

In Section 2, we sketch a timeline for the acquisition of pragmatic competencies, demonstrating that this process spans over many more years than the acquisition of other aspects of the language faculty such as syntax or phonology. Indeed, while babies already display some pragmatic competencies during the pre-verbal period, especially in the domain of referential communication, many pragmatic competencies such as the ability to understand metaphors, scalar implicatures and indirect speech acts emerge only during the preschool years. Most of these competencies keep on progressing moreover during several years after they first appear, and children often reach adult-like competencies only late during childhood. The understanding of complex speech acts such as promises and non-literal language uses like irony also emerge only during these later years.

What are the factors that could explain this important variability? In Section 3, we discuss the cognitive, social and linguistic skills that are required for the development of pragmatic competencies. From a cognitive perspective, we underline the role of theory of mind abilities and inferential reasoning. We also argue that memory plays an important role, especially long-term memory for the storage and representation of world knowledge, and working memory to enable to simultaneous integration of information from various sources as input for the derivation of inferences. From a social perspective, acquiring pragmatics involves both the explicit learning of culturally-variable routines associated with polite behavior, as well as an attunement to social hierarchies and power relations between individuals in society. Finally, we argue that linguistic development in the domains of syntax and the lexicon are also necessary prerequisites for the development of a number of pragmatic competencies. Conversely, children's early cognitive and social pragmatic skills foster language acquisition in many ways that we do not discuss further in this chapter (see Zufferey 2015: chapter 2 for a review).

In addition to pinpointing variations in the age of acquisition between different pragmatic competencies, studies from the literature have also reached diverging conclusions regarding the age of acquisition of the same pragmatic competence. The latter type of divergences is in most cases traceable to methodological differences between the studies. Traditionally, studies in developmental pragmatics relied on metalinguistic tasks to assess children's competencies, for example asking them to reformulate the meaning of a metaphor (e. g. Asch and Nerlove 1960), or to explain why someone said something while meaning the opposite in the case of irony (e. g. Demorest et al. 1984). These methods led researchers to conclude that children do not develop pragmatic competencies until late during childhood, with the result that researchers working on other areas of language development such as syntax and the lexicon safely assumed that pragmatic components of these linguistic phenomena could be ignored in the investigation of early development (Papafra-gou and Skordos 2016). In recent years, the use of techniques targeting children's implicit comprehension of pragmatic phenomena through eye-movements data or act-out tasks have led to a drastic revision of this initial picture. These studies have

had a tremendous impact on our vision of young children's pragmatic competencies, and the timeline presented in Section 2 is based on these new research findings. In Section 4, we discuss the different methods that can be used to assess children's pragmatic competencies and illustrate how the use of one or the other of these methods influences the overall picture of children's competencies.

Finally, while research on the acquisition of pragmatics has made big leaps ahead over the past decade, many research questions still remain underexplored. In Section 5, we review some of these questions and make suggestions for future developments in the field.

2. A timeline for the acquisition of pragmatic competencies

Contrary to a long-held view in the field of language acquisition, a large body of recent studies have demonstrated that pragmatic competencies are not uniformly late acquired, and that babies already show signs of mastering a wide variety of them. These early competencies then keep on developing during most of childhood. In this Section, the acquisition periods for pragmatic competencies are (somewhat arbitrarily) divided into three timeframes: the early competencies of babies and toddlers (from birth until the age of three) in Section 2.1; the abilities emerging during the preschool years (from three to six) in Section 2.2; and the late emerging competencies during the school years (from six onwards) in Section 2.3.

2.1. Early pragmatic competencies of babies and toddlers (from birth to three years)

A strong testimony of babies' early pragmatic competencies already during the preverbal period is found in the domain of referential communication. At the age of twelve months, babies already display an ability to use common ground in their acts of referential communication. For example, they respond to an adult's searching behavior differently depending on whether the adult knows the location of the searched object or not. When adults are ignorant of the location of the searched object, children point to it more often, showing an ability to adapt to others' knowledge state (Liszkowski, Carpenter and Tomasello 2008). In addition, at the age of 16 months, children also point to novel objects more often when interacting with a knowledgeable than with an ignorant partner (Begus and Southgate 2012). By the age of two, they understand that what another person sees may be different from what they see (Moll and Tomasello 2006). Two-year-olds also display a sensitivity to their parents' knowledge state verbally, in the way they request help to retrieve a toy. When parents are ignorant of the toy's location, children name it and gesture towards it much more than when their parents are aware of its location (O'Neil 1996). In addition, when the object is located in a place that makes it impossible to

unambiguously designate it with gestures alone, children aged 2;8 are more likely to provide a verbal description than when the object can be identified through gesture (O'Neill and Topolovec 2001). It seems therefore that when children approach their third birthday, they become able to modulate the amount of linguistic information they provide to disambiguate a referent designated by a pointing gesture. Children aged 2;6 also possess an implicit ability to use prior discourse in order to assign a referent to an ambiguous pronoun, as they look longer at the character that was most salient in preceding discourse, in other words the referent that was mentioned first and placed in subject position (Song and Fisher 2007).

Another area of pragmatic competencies that develops early is the use and understanding of frequent indirect speech acts such as requests. Children aged 2;6 already produce as many requests as three- and four-year-old children (Read and Cherry 1978), and also use a wide array of different linguistic means to convey them. Ervin-Tripp (1977) reports that the first telegraphic requests like (1) to (3) emerge in children's speech before the age of two.

- (1) *I want dolly.*
- (2) *Gimme. Apple me.*
- (3) *Carol hungry.*

Early during children's third year, more complete forms of requests such as (4) to (6) appear, enabling children to develop a vast repertoire for conveying speech acts, including indirect and unconventionalized forms to convey requests such as hints and question directives (Newcombe and Zaslow 1981).

- (4) *Is there truck?*
- (5) *Would you like to play golf?*
- (6) *Can you give me one car please?*

In addition to their ability to produce requests, children aged 2;6 have also been found to understand and react appropriately to ambiguous formulations conveying different speech acts depending on the context (Reeder 1981), thus reflecting their ability to pair different illocutionary forces with a single sentence form. In addition, children do not appear to have more difficulties doing so when the illocutionary force corresponds to an indirect speech act of request or offer than when it is a direct speech act of question, thus contradicting the hypothesis that indirect speech acts are cognitively more complex than direct ones (see Papafragou 2000 for a discussion). Children also react appropriately to unconventionalized forms to convey requests such as hints by the age of 2;6 to 3;0 (Schulze, Grassmann and Tomasello 2013; Shatz and McCloskey 1984).

From the perspective of children's social pragmatic competencies, using speech acts implies the ability to choose a formulation conveying the appropriate degree

of politeness depending on the perceived social status of their addressee. During spontaneous interactions within their family, children already use different forms to convey requests to parents versus experimenters from the age of 2;6, adapting the level of politeness depending on their addressee. At this age, children use polite forms to convey requests in about 60% of the occurrences when they address experimenters, but only in 10% of the occurrences when speaking to their parents (Ervin-Tripp, O'Connor, and Rosenberg 1984). Around the age of two, children also modulate the level of politeness of their request depending on which parent they are addressing (Ryckebusch and Marcos 2004). While mothers elicit more direct imperatives, fathers elicit a higher number of polite requests and more uses of mitigating explanations. Between the age of two and three, 90% of the requests that children make to their mothers do not include any use of polite markers (Ervin-Tripp and Gordon 1986). In this age range, children sometimes use the word *please* to address an experimenter, a father and older siblings, indicating their perceived higher social roles (Ervin-Tripp, Guo and Lampert 1990). Up to the age of three, children resort mostly to prosody to mark differences of social status, such as for example the use of an aggravated tone of voice to speak to their mother and to younger children, who are perceived as low-ranking members of the family. At this age, children do also modulate the level of politeness of their requests depending on its perceived cost for their addressee. Typically, children who request a toy belonging to a younger sibling use polite forms much more often compared to other requests that they address them (Ervin-Tripp and Gordon 1986).

2.2. Development of pragmatic competencies during the preschool years (from three to six years)

The pragmatic competencies described above continue to mature over several years. For example, children's mastery of referential communication gets more and more sophisticated during the preschool period. From the age of three, children are able to use a complex noun phrase to informatively designate a referent, though they do not yet adapt their level of informativeness to the specific needs of their addressee (Bannard, Rosner and Matthews 2017). By the age of four, children are able to correctly alternate between the use of a pronoun in a situation of common ground with their addressee, and a full noun phrase when there is no common ground (Campbell, Brooks and Tomasello 2000). Around the age of five and six, children demonstrate an ability to take into account the speaker's visual perspective, and to infer whether a referential expression is potentially ambiguous or not. This ability was demonstrated in an eye-tracking experiment in which five- and six-year-old children had to select an object in two conditions: one in which the speaker had visual access to two referents that could potentially be designated by a referential expression, and one in which only the child saw the two referents while one of them was blocked from the speaker's view (Nadig and Sedivy 2002). When

the speaker had visual access to the two objects, children's eye-gazes alternated between the target object and the competitor object (as well as their partner's face for help) during the first 2 seconds, indicating that they realized that the speaker could potentially refer to either of the two objects, as both were part of the common ground. When the speaker had visual access to only one of the referents, children rarely looked at the competitor object. These results confirm that children implicitly take into account the fact that the speaker cannot refer to an object that is not visible to them. In addition, children's convergence on the target referent differed very quickly between the two conditions, suggesting that children, like adults, use common ground information very quickly during the processing of referring expressions. Finally, when children are engaged in a more naturalistic exchange with a naïve listener, they become more informative already at the age of four compared to a classic version of the task as the one described above (Grigoroglou and Papafragou 2019). This result indicates that children's referential communication is still heavily context-dependent in this age range.

During the preschool years, children also start mastering the use of discourse markers as a way to index power relations between interlocutors. Some discourse markers like *well* and *now* are used in sentence initial position to add authority in communicative contexts where there is an unequal power status between the participants (Coulthard 1977). In a situation of role play involving an unequal situation in terms of power, such as dialogues between doctors and patients or parents and children, children aged four to seven already use discourse markers differently depending on the social status of the character they impersonate (Andersen et al. 1999; Kyratzis 2007). More specifically, children use the discourse marker *well* much more frequently when they play the role of a parent and when they address a child than when they address another parent. They also vary their use of discourse markers for the same character depending on context. For example, in a medical context, both doctors and nurses have a higher social status than parents and children. In this context, children also use markers indicating higher status for nurses, while they use low status markers in the doctor-nurse interaction. Interestingly, children also use higher ranking markers when they play native speaking students talking to non-natives, thus reflecting their understanding of the power associated with language competence.

Metaphors represent another area of pragmatic competencies that arises during the preschool years. For example, three-year-olds display a similar ability to repeat literal and metaphorical sentences in a sentence repetition task (Pearson 1990). By contrast, even at the age of five, children have poorer performances with semantically anomalous sentences, compared to literal and metaphorical sentences. This provides some indirect indication that, by the age of three, children have some understanding of metaphorical meaning. By the age of four, children correctly understand metaphorical meaning when it is embedded in a supporting context, for example when it represents the expected outcome of a story in an act-out task

(Vosniadou et al. 1984). The importance of context for young children's understanding of metaphor is compatible with the relevance-theoretic account of metaphors as a form of lexical broadening justified by the search for relevance (Wilson and Carston 2007).

In addition, preschool children also understand a number of conceptual metaphors (Lakoff 1987) applied to different target domains. For example, the source domain metaphor *motion in space* can be applied to several domains such as time (*time flies*), sickness (*sickness crawls through one's body*), and ideas (*ideas pass through one's mind*). Four-year-olds understand all of these metaphors provided that the context is set to support the metaphorical interpretation, and five-year-olds are even able to verbally reason about the metaphorical mappings between source and target domains (Özçaliskan 2005). In each group, results were similar for idiomatic and less-idiomatic metaphor conditions (as measured by the frequency of the verbs used to convey them), indicating that children's ability was not due to their learning some mappings without understanding the underlying metaphorical link.

Finally, children also start developing an understanding of scalar implicatures already during the preschool years. For example, Chierchia et al. (2001) asked children aged 4;8 on average to perform a felicity judgment task. In this task, children were presented with pairs of two sentences, one of them containing an underinformative scalar word (7) in context, and the other an appropriate description (8).

(7) *Every farmer cleaned a horse or a rabbit.*

(8) *Every farmer cleaned a horse and a rabbit.*

In over 93% of the cases, children chose the appropriate formulation, thus revealing their sensitivity to the pragmatic inappropriateness of using a weaker term on the scale. Papafragou and Musolino (2003) also report that five-year-old children have already developed the ability to understand scalar implicatures when provided with a previous training to enhance their ability to detect pragmatic anomalies. In their experiment, children rejected underinformative statements in about 50% of the cases for scales involving *some* and *start* and in about 90% in a number scale involving the word *two*. Using an act-out task, Papafragou and Tantalou (2004) also report that five-year-olds overwhelmingly refuse to give a reward an animal who produces underinformative scalar words, on average in 79% of the cases across the three types of scales tested. Using a similar methodology, Papafragou (2006) reports that five-year-old children perform above chance only with the scalar words *half* and *halfway* but not with *begin* and *finish*, indicating a difference of complexity between various types of scales. In another experiment, children were asked to add or remove tokens in card boxes in order to match linguistic stimuli (Pouscoulous et al. 2007) for example after hearing a statement like (9) while all the boxes in front of them contained tokens.

(9) *I would like some boxes to contain a token.*

If children follow a logical interpretation of the quantifier *some*, they should leave the boxes as they are. If on the other hand they derive a scalar implicature, they should remove part of the tokens (at least one). Pouscoulous et al. (2007) report that 68% of the four-year-olds correctly derived the scalar implicature and removed tokens. Preschoolers' competence with scalar implicatures also improves when the alternatives on the scale are made salient and relevant in context (Skordos and Papafragou 2016). Finally, when children are given the opportunity to provide an answer on a scale instead of having to deliver a binary decision (true or false) as in most previous experiments, their ability to derive scalar implicatures also improves (Veenstra, Hollebrandse and Katsos 2017). This finding indicates that preschoolers might actually be competent to detect pragmatic anomalies, but might not judge them to be grave enough to reject the sentence in a binary task. All together, these results show that children already possess at least some ability to understand scalar implicatures during the preschool years even though their competence is not yet adult-like.

2.3. Late acquired aspects of pragmatic competencies (from six years onwards)

Many aspects of pragmatic competencies that have emerged during the preschool years keep on maturing, and children often reach fully adult-like competencies only late during childhood. For example, Bahtiyar and Küntay (2008) assessed the ability of children aged five to six and nine to ten to produce complex noun phrases to designate a referent. Their results indicate that while both age groups display a sensitivity to common ground in their choice of referring expressions by using more disambiguating expressions when two competitors are visually shared, an age-related progression was still observed between the two groups. In addition, a difference was also found between the older group and a control group of adults, indicating that children continue to develop their referential strategies over a long period of time.

A similar progression was also observed in the case of scalar implicatures. While preschoolers already display the ability to derive them in a number of cases as discussed in Section 2.3, they reach an adult-like performance only later during childhood. For example, in the act-out task designed by Pouscoulous et al. (2007), it is only at the age of seven that children derive scalar implicatures at a similar rate as adults, with only 17% of the children failing to deriving them versus 14% of the adults.

In the domain of speech acts, children's progression over the school years is noticeable in their mastery of complex speech acts such as promises. Until the age of nine, children seem to be insensitive to two essential aspects of promises,

following Searle's (1975) definition of their felicity conditions: (1) promises can only predicate a future action of the speaker; (2) by performing them, the speaker undertakes an obligation. In an experiment, children were presented with short stories in which a character always said *I promise* but sometimes violated a felicity condition by either promising something outside of their control and thus producing a prediction rather than a promise, or by promising something about an event occurring in the past, and therefore producing an assertion rather than a promise (Astington 1988). Results indicate that between the age of four to nine, children are insensitive to both felicity conditions, as they seem to consider that promises can be made about all events occurring either in the past or in the future, as long as they can be or have been accomplished. In this age range, the outcome thus seems to determine whether a promise was made or not. It is only by the age of nine that children become sensitive to the essential condition, as they take into account whether the speaker had control or not over the future action. Children become sensitive to the propositional content condition (i. e. the action must take place in the future) between the age of eleven and thirteen only. Thus, both the essential and the propositional content condition appear to be acquired late. This finding was confirmed in subsequent experiments (Maas and Abbeduto 1998; 2001).

Another aspect of pragmatic competencies that is mastered during this period is the ability to understand verbal irony. Understanding irony requires the ability to recognize that the speaker is echoing an utterance tacitly attributed to an external source, in order to convey a negative attitude towards its content (Wilson 2013). It is only by the age of six that children start producing ironic remarks, and even at the age of eight, children's ability to produce adult-like forms of irony is still limited, suggesting that the acquisition process continues until later during childhood (Lucariello and Mindolovich 1995). Children also show signs of understanding irony between the ages of five and eight (e. g. Dews et al. 1996; Keenan and Quigley 1999; Nakassis and Snedeker 2002; Winner 1988). Within this age range, a developmental sequence can be established. Children first understand that the speaker who produces an ironic statement believes something different from what they say around the age of five or six, but fail to recognize the reason for producing such statements (Ackerman 1983; Hancock, Dunham and Purdy 2000). Later, between the age of six to eight (or even later depending on the salience of the cues) they come to understand the speaker's intention to criticize or tease, as well as the negative attitude conveyed by irony.

Finally, the ability of children to master evidential information, in other words information about the source of speakers' beliefs is also late developing, as children do not seem to fully master the meaning of evidential markers until the age of six or older, depending on the language studied and the particular type of evidential marker investigated (e. g. Aksu-Koç 1988; Papafragou et al. 2007; de Villiers et al. 2009). By contrast, children acquiring languages that encode evidential markers

as part of their verbal morphology such as Turkish and Korean have been found to produce such markers (but not in an adult-like manner) from an early age (Aksu-Koç 1988; Papafragou et al. 2007). A recurrent finding from studies on evidentiality is that children understand markers of direct evidence (such as seeing) before markers of indirect evidence (such as inference of hear-say), even when the marker of direct evidence also indicates weak speaker certainty (see Koring and de Mulder 2015 for a recent review). This finding is congruent with the observation that children do not understand that inferences can be a source of belief until the age of six (Sodian and Wimmer 1987).

2.4. Summary

The following picture emerges from the studies reviewed above. During the pre-linguistic and early linguistic phase (from birth to three years), children already display an array of pragmatic competencies. These skills are for example noticeable in their production of pointing gestures to engage in acts of referential communication. They are also already able to convey both direct and indirect speech acts during the telegraphic phase of language development. From a very early age, children are in addition attuned to social interactions and understand the impact of power relations on language use. Taken together, these findings indicate that children already possess some cognitive and social pragmatic competencies before having the linguistic means to express them in an adult-like manner.

Later on (between the ages of three to six years), as the formal domains of language such as phonology and syntax are acquired, children become able to diversify their repertoire of pragmatic skills to include more complex cases of referential communication and speech act formulations. Children also become able to use important elements in discourse such as pronouns and discourse markers appropriately. In addition, during this period, children start to understand forms of non-literal language uses such as metaphors and scalar implicatures. During this phase, context still plays a crucial role for comprehension.

During a third phase (starting with the primary school years), as children's linguistic, conceptual and cognitive skills keep on maturing, they become able to understand many metaphors and implicatures in an adult-like manner. During this period, the ability to understand forms of non-literal language use that require complex mentalizing skills such as irony and promises also emerges. However, in many domains including referential communication and the production of discourse, differences between adults and children are still noticeable at the end of primary school years.

3. What does it take to acquire pragmatic competencies?

In the previous Section, we outlined the time frame for the acquisition of a number of pragmatic competencies. In this section, we tackle the question of why some pragmatic competencies are acquired later than others, by discussing the type of resources that are needed to develop and use them. We discuss the role of cognitive resources (Section 3.1.), social competencies (Section 3.2) and language skills (Section 3.3).

3.1. Cognitive resources

First and foremost, enriching the meaning of words and sentences to recover the speaker's meaning requires the cognitive ability to draw inferences, in other words to reason on the basis of premises in order to draw conclusions about the speaker's meaning. Children's relatively late ability to derive scalar implicatures, as discussed in the previous sections, could lead to the conclusion that young children do not yet possess the ability to derive pragmatic inferences. Research in the domain of children's early word learning does, however, refute this conclusion. Indeed, as early as 18 months, children are able to use the speaker's gaze direction to infer their referential intention (Baldwin 1991, 1993) and by the age of three, children presented with a familiar and an unfamiliar object correctly infer that when a speaker uses a name unknown to them, this name must apply to the unfamiliar rather than the familiar object (Markman and Wachtel 1988; see Bloom 2000 for a discussion). These studies thus testify of children's early ability to engage in a form of inferential reasoning, and it is likely that the difficulty that children experience with scalar implicatures rather stem from their linguistic complexity, as we argue in Section 3.3.

The ability to draw inferences in order to access the speaker's communicative intention is also strongly related to their ability to reason about what other people believe or want, in other words, to their theory of mind abilities. For the past thirty years, theory of mind has been a hot topic in cognitive psychology, and a long-held view on the development of theory of mind abilities was that children become able to understand that others can have false beliefs only by the age of four (see Wellman, Cross and Watson 2001 for a meta-analysis of these studies). However, during the past decade, multiple studies relying on fully implicit measures of false-belief detection have demonstrated that babies already implicitly attribute false beliefs to others. These studies have used various paradigms such as the surprise-looking paradigm (Onishi and Baillargeon 2005; Scott and Baillargeon 2009; Song et al. 2008; Surian, Caldi and Sperber 2007), expectancy looking (Southgate, Senju and Csibra 2007) or even active helping in a referential task (Southgate, Chevallier and Csibra 2010). The exact age at which infants demonstrate an understanding of false belief based on their gaze fixations has, however, not yet been

firmly established in this body of literature. While some studies have found that children display an understanding of false belief as early as thirteen months or even seven months (Kovács, Téglás and Endress 2010), others have not found it in eighteen-month-old children (Southgate, Senju and Csibra 2007).

In any case, these studies demonstrate that children can make use of their theory of mind abilities for verbal communication almost as soon as they produce their first words, and can also use them to understand all the cases of non-literal communication such as indirect speech acts and metaphorical meanings. There is, however, one area of pragmatic development that requires particularly complex theory of mind abilities, namely the understanding of irony. In that particular case, children have to be able to build metarepresentations amounting to a second-order level of theory of mind abilities (*Y thinks that Y thinks Z*) in order to understand that the ironic speaker intends to convey their own negative attitude towards attributed thoughts or utterances. Several studies have established a correlation between the development of second-order theory of mind abilities and the understanding of verbal irony (Filippova and Astington 2008; Happé 1993; Sullivan, Winner and Hopfield 1995; Winner and Leekam 1991; Zufferey 2010). For this reason, irony is acquired several years later than other cases of non-literal language use such as metaphors and indirect speech acts.

Finally, in order to develop pragmatic competencies, children also need to acquire world knowledge and store it in their long-term memory, in order to be able to use it as input for inferential processes. The lack of appropriate world knowledge may be one of the major bottlenecks limiting young children's display of pragmatic competencies in many experimental settings. An illustration of this problem is found in the literature on the acquisition of indirect speech acts. Spekman and Roth (1985) tested children's ability to understand unconventionalized indirect speech acts with stimuli like (10) while Schulze, Grassmann and Tomasello (2013) used stimuli like (11).

(10) *Some water spilled on the table.*

(11) *I find elephants good.*

While Schulze, Grassmann and Tomasello (2013) report that three-year-olds understand indirect speech acts, Spekman and Roth (1985) find them to be beyond the reach even of five-year-old children. The difference between these studies lies in the complexity of the world knowledge required to recover the speaker's meaning. In order to understand (10) as a request, children must first ask themselves why the speaker makes a statement about water being spilled on the table. Using their world knowledge about tables and what they are used for as well as the consequences of having water on objects, they should conclude that the speaker wants them to dry the table. This requires access to complex premises: what tables are used for as well as the consequences of having water on objects. In contrast, Schulze, Grass-

mann and Tomasello's (2013) stimuli (11) rely on children's understanding that a person who finds an object good probably wants this object. Many different studies in cognitive psychology have demonstrated that by the age of three, children are able to reason about other people's desires (Perner 1999).

Another example illustrating the impact of world-knowledge limitations on pragmatic competencies comes from the domain of metaphors. Keil (1986) compared five-, eight- and nine-year-old children's ability to understand metaphors across different source and target domains. Results indicate that different conceptual domains are acquired at different ages. For example, preschoolers already master the animate versus inanimate distinction and this leads to their understanding of metaphors such as *the car is tired*. By contrast, they do not understand metaphors when they lack the underlying conceptual distinctions, as for example between physical and abstract properties of objects. These examples provide a good illustration of the fact that children's apparent lack of pragmatic competencies can often be traced to problems that are not primarily linked to cognitive pragmatic processes such as the ability to make inferences, but reflect limitations in world knowledge or, as we discuss in Section 3.3, in linguistic competence.

3.2. Social competencies

From a social perspective, pragmatics involves the ability to use language appropriately in different situations, and to adapt one's speech depending on the perceived social status of one's addressee. Recent studies in the field of social cognition have demonstrated that young children are already attuned to social relations and judge others based on these criteria. For example, preverbal children show a preference for puppets that seem to share their taste in food or hold the same objects as themselves (Mahajan and Wynn 2012) and also prefer agents who act in a cooperative manner rather than in antisocial ways (Hamlin and Wynn 2011). Social hierarchies have also been found to emerge spontaneously in groups of two-year-old children (Boyce 2004) and even earlier, at the age of fifteen months, children already expect social hierarchies to be stable across time (Mascaro and Csibra 2012). From the age of three, children already infer social status based on notions of physical supremacy, decision power, age, and resources (Charafeddine et al. 2015). In sum, children's social cognition develops very early and is reflected in their early ability to adapt their speech depending on the social status of their addressee, as we illustrated in Section 3.1.

In addition to this universal cognitive attunement to social cues, every culture has also developed social routines related to the appropriate use of language in society. These social routines are highly variable across languages and cultures and must be learned. For example, while in England indirect requests are mostly conveyed through the use of conventionalized indirect forms as in (12), in Poland such formulations would not be associated to requests at all, and the common for-

mat to convey requests is the use of a direct imperative accompanied by a mitigator as in (13) (Wierzbicka 1991).

(12) *Could you close the window?*

(13) *Close the window, please!*

As a result of these variations, the system of politeness that children have to learn is quite different depending on where they grow up. For example, Samoan children are taught to produce speech acts reserved to the lower-status members of the family, such as the reporting of news to the older members of the family (Ochs and Schieffelin 1995), Japanese children are taught to bow and to use a complex system of honorifics (Burdelski 2011; Nakamura 2006) and American Koreans are taught to use honorific requests and greetings with their grandparents (Park 2006). Depending on the complexity of these rules as well as their encoding in language, children master them at a very variable age.

3.3. Linguistic development

In addition to cognitive development and the learning of social norms, the development of pragmatic competencies is also highly intertwined with language acquisition, both at the lexical and at the syntactic level. A case in point for the role of lexical knowledge comes from the study of scalar implicatures. When assessing children's ability to derive these implicatures, Pouscoulous et al. (2007) compared the effects of two French scalar words, both roughly equivalent to the English *some*, namely *certaines* and *quelques*. However, in French, the two words are not equivalent. While both are existential plurals, only *certaines* has a partitive meaning roughly corresponding to 'some of' and this meaning should therefore help children to access the pragmatically enriched meaning. However, Pouscoulous et al. (2007) also report results from corpus studies indicating that *certaines* is less frequent than *quelques* in children's written productions and used less frequently in children's books, indicating that they are probably less familiar with this word. Results from an experiment comparing children's ability to derive scalar implicatures with these two words indicate that children's lack of familiarity with the word *certaines* hinders their ability to derive scalar implicatures. Indeed, when *certaines* is replaced by *quelques* across identical experimental settings, nine-year-olds still favor a logical interpretation of *certaines* in 42% of the cases, while none of them do when *quelques* is used. Adults on the other hand are not affected by the choice of words, and prefer a pragmatic interpretation of the quantifiers in both cases. It seems therefore that children's familiarity with a lexical item plays a crucial role in these tasks. More generally, lexical knowledge is also instrumental for the development of other pragmatic competencies such as the ability to use and understand metaphors. In many cases, children's inability to understand metaphors stems from

the lack of conceptual knowledge of the source of the metaphor (e. g. Evans and Gamble 1988).

In addition to lexical knowledge, syntax also plays a crucial role for the development of pragmatic competencies. The importance of syntax is illustrated in studies focusing on indirect speech acts. Children's difficulty to understand indirect speech acts is partially dependent on the type of linguistic structure in which they are encoded. More specifically, requests that are formulated as questions are more difficult to understand than statements, and negative requests are more difficult than positive requests (Carrell 1981; Ledbetter and Dent 1988). In addition, when children are exposed to requests with a reduced amount of linguistic information due to a distorted (either truncated or acoustically distorted) linguistic signal, such manipulations are more detrimental for the understanding of requests at the age of seven than at the age of four (Reeder and Wakefield 1987), and such effects seem in addition to be even more detrimental for children with a high level of literacy as these children rely more on linguistic clues and less on context (Reeder, Wakefield and Shapiro 1988). It seems therefore that children move from a context-based interpretation to reliance on linguistic form to interpret utterance meaning as they become more linguistically proficient.

4. Methodological considerations for the study of pragmatic development

In early studies on pragmatic development, dating mostly from the 1970 s, the general picture was that pragmatic competencies are acquired late during childhood, starting only when the rest of children's competencies is already in place. This picture has, to a large extent, been revised in the light of more recent empirical findings, such as those that we presented in Section 2. In this section, we discuss the impact of different research methodologies for the observed age of acquisition of various pragmatic competencies. We start by discussing differences between studies of natural productions and those testing comprehension (Section 4.1). Among comprehension studies, we discuss the differences between online and offline methods (Section 4.2), and finally the differences of complexity between linguistic and metalinguistic tasks to assess comprehension (Section 4.3).

4.1. Differences between comprehension and production

The existence of a gap between the age of children's first productions of a given linguistic phenomenon and their comprehension is one of the most well-known facts about language acquisition. In the functional domains of language such as phonology, syntax and the lexicon, comprehension precedes in most cases production. For example, babies show a sensitivity to the sound structure of their mother tongue

long before their vocal tract becomes mature enough to enable them to produce these sounds (Mehler et al. 1988). The reverse asymmetry has, however, also been observed. For example, children start using function words like *a* and *the* in English in an undifferentiated manner, displaying the ability to produce these words before fully possessing a full mastery of their appropriate usages (Clark 2003).

In the case of pragmatic development, asymmetries between production and comprehension are also the norm, with children often displaying an implicit understanding of pragmatic phenomena before possessing the necessary level of linguistic competence to produce them themselves. Production data also sometimes point to an earlier ability than that observed in experimental settings targeting comprehension, but these results should always be taken with a grain of salt. In the case of pragmatic competencies, the use of production data as a source of evidence is more problematic than in the other areas of language development, as assessing children's production for pragmatic felicity requires an interpretation of their communicative intention, and this interpretation is in many cases rather speculative. For example, children produce from a very early age some non-literal uses of words, for example calling a toy car a snake while twisting it up their mother's arm (Winner et al. 1979), but it is often difficult to attribute to them the actual intention to speak metaphorically (see Pouscoulous 2014 for a discussion). A similar problem has also been pointed out in the context of children's early speech act productions (Cameron-Faulkner 2014). From a methodological perspective, this difficulty underlines the necessity to complement observations of children's spontaneous productions with an evaluation of comprehension making use of age-appropriate methods, as we now outline.

4.2. Differences between online and offline measures of comprehension

Online measures of comprehension provide an assessment of the way children understand utterances while they process them. Such methods involve for example measures of eye-movements while reading a text or looking at pictures (visual-world paradigm). Conversely, offline measures of comprehension assess the product of comprehension, tested after the input has been processed. Such measures can take various forms, ranging from metalinguistic questions, sense judgments or action performance (see Section 4.3. for a comparison of these methods).

The use of online or offline measures can result in a diverging picture of children's pragmatic competencies. A case in point comes from studies testing children's comprehension of referential ambiguities. While four- to seven-year-olds display a perception of the ambiguity of pronouns through the alternation of their gaze fixations between two characters in an eye-tracking experiment, they display no such sensitivity in an offline task requiring them to point to a picture (Sekerina, Stromswold and Hestvik 2004). In the latter case, they choose a referent even when there is an ambiguity. This result tends to indicate that children first go through a

phase of implicit knowledge which is not consistently reflected by their explicit pointing and linguistic behavior. A similar observation has also repeatedly been made for the development of children's theory of mind abilities (see Low and Perner 2012 for a review). From a methodological perspective, this result underlines the necessity to assess early pragmatic competencies with the use of online as well as offline methods. So far, only few studies have relied on online measures of comprehension in the field of pragmatic development.

4.3. Differences between linguistic and metalinguistic tasks

In addition to the distinction between online and offline measures of comprehension, the types of methods used to assess the offline comprehension of pragmatic phenomena also has a major impact on the abilities displayed by young children. An example comes from studies that have assessed the comprehension of highly implicit indirect speech acts such as hints and question directives. While some studies conclude that children do not understand them before the age of five or six (Ackerman 1978; Elrod 1987; Leonard et al. 1978), in others children appear to possess an early ability to handle them by the age of 2;6 to 3;0 (Schulze, Grassmann and Tomasello 2013; Shatz and McCloskey 1984; Spekman and Roth 1985). This discrepancy can be related to the nature of the task used to assess comprehension. Studies reporting a late acquisition of these indirect speech acts relied on complex meta-pragmatic skills such as appropriateness judgments (Leonard et al. 1978) or the choice of a sentence to continue a story (Ackerman 1978). Similar tasks were also used in more recent experiments investigating children's ability to draw relevance inferences to understand indirect replies to questions, and such procedures consistently lead to the conclusion that children do not draw such inferences until the age of six (Bucciarelli, Colle and Bara 2003; de Villiers et al. 2009; Verbuk and Shultz 2010). By contrast, studies reporting an early acquisition of these structures (Schulze, Grassmann and Tomasello 2013; Shatz and McCloskey 1984; Spekman and Roth 1985) relied on tasks in which children were asked to reply with a yes/no answer and/or to perform an action.

A similar discrepancy has been observed in studies focusing on children's understanding of metaphors. Early studies of metaphor comprehension concluded that children do not understand them until very late in their development. For example, Asch and Nerlove (1960) asked three- to twelve-year-old children questions about the meaning of dual-function adjectives such as *cold* or *sweet*, which can either refer to a physical property or a psychological trait and reported that preschoolers only understood the physical properties of these adjectives, while failing to perceive their psychological meaning. In this study, it was only by the age of eleven or twelve that children understood both meanings and related them. By contrast, studies which relied on a linguistically simpler task concluded that children understand many metaphors already during their preschool years (see section 2.2).

Finally, the importance of linguistic factors is not only limited to the type of reply that is expected of children in the experiment, but also concerns the linguistic formulation used in the stimuli, as children's responses can also be highly influenced by them. Salomo, Lieven and Tomasello (2013) found for example that young children have pronounced difficulties to answer sentence-focused questions (*What happened?*), and these are typically used in experiments testing the use of referring expressions in young children (Graf and Davies 2014).

In a nutshell, the development of linguistic and pragmatic competencies is closely intertwined, and these interactions should be taken into account when deciding on an experimental paradigm to assess comprehension, as well as when designing linguistic stimuli to test pragmatic competencies. Metalinguistic tasks artificially delay the age of success and even provide an inaccurate picture of the sequence of acquisition between several pragmatic competencies (Bernicot, Laval and Chaminaud 2007). Researchers should therefore resort to more implicit measures of comprehension especially with younger children, and control for linguistic and conceptual knowledge related to the stimuli used to assess pragmatic competencies.

4.4. The importance of considering individual differences between children

In linguistic and psycholinguistic research, individual differences are still often ignored or even ruled out as error variance, yet it is becoming increasingly clear that such differences exist and should be accounted for (Kidd, Donnelly and Christiansen 2017). Individual differences are an important issue for the study of developmental pragmatics that still remains largely to be explored. In a review of over 50 published studies, Matthews, Biney and Abbot-Smith (2018) found that individual variations exist in all domains of pragmatic competencies and in many cases, these variations can be linked to children's level of formal language (i. e. phonological, lexical and grammatical) competence. However, as the authors point out, since most pragmatic competencies rely on the comprehension of formal aspects of language, it is hardly surprising that they should be related. Some domains of pragmatics such as the ability to understand irony and to behave adequately in conversations also seem to be correlated with the development of theory of mind abilities. However, in both cases, additional studies are still needed to determine more precisely the nature and extent of this correlation.

Further research is also needed to assess the role of other factors to explain individual variations among children. As far as the development of theory of mind abilities is concerned, studies have found that individual variations between children are related to a number of environmental factors such as presence of an older sibling in the family (Ruffman et al. 1998); the socio-economic status of families (Shatz et al. 2003), and mothers' preference for mental state explanations (Peterson and Slaughter 2003). Similar correlations with a broader array of environmen-

tal factors are still lacking in the case of pragmatic competencies. In a nutshell, research about the existence and causes of individual differences in the acquisition of pragmatic competencies will constitute a major step ahead for our understanding of the nature and extent of these competencies that will need to be tackled in future research.

5. Conclusion

In this chapter, we sketched a timeline of children's developing pragmatic competencies. We presented evidence that infants already possess a range of pragmatic competencies even at the pre-verbal stage. At the other end of the scale, some pragmatic competencies such as the ability to understand complex speech acts like promises or non-literal language uses like irony develop only later during childhood. The general picture resulting from this review is that children possess the basic cognitive faculties underlying pragmatic competencies, namely inferential reasoning, social cognition and integration of contextual information, even before they produce their first words. In order to become pragmatically proficient speakers, children need, in addition to these cognitive skills, to acquire language competencies and conceptual knowledge, as well as to learn a set of rules characterizing polite behavior that are for most part culture-specific.

In addition to linguistic and conceptual limitations, young children's limited ability to understand some pragmatic phenomena could also be due to a lack of processing resources as argued in section 3.1., enabling them to simultaneously handle information from various sources as input for inferential processes. This factor – that has been called upon to explain the gap between infants' implicit ability to understand false beliefs and older children's inability to explicitly reason about them (Low and Perner 2012) – remains to a large extent unexplored in current studies focusing on pragmatic phenomena and should be more systemically investigated in future studies.

From a methodological perspective, we argued in section 4 that the study of pragmatic competencies lacked until recently the appropriate tools to assess children's development. Early studies often relied on a form of metalinguistic judgment that artificially delayed the age of success. More recent methods such as the use of eye-tracking or act-out tasks tap into the children's implicit understanding and does not require them to produce linguistic answers. The use of these methods has been instrumental in revealing the depth and array of young children's pragmatic competencies. These new research paradigms will now have to be applied to a wider range of pragmatic phenomena in order to deepen our understanding of early pragmatic development.

Finally, we emphasized throughout this chapter that pragmatic competencies, defined as the study of language use, included both social and cognitive aspects.

However, these two components of pragmatic competencies have so far been studied mostly separately. Future work in the field should strive to bring these two trends together and explore the various ways in which they are interrelated, for example by combining, in a single experiment, the social and cognitive factors affecting children's ability to understand indirect speech acts or verbal irony. These studies will also need to determine the extent and causes of individual variations in children's ability to handle the pragmatic aspects of language.

References

- Ackerman, Brian P.
1978 Children's understanding of speech acts in an unconventional directive frame. *Child Development* 49(2): 311–318.
- Ackerman, Brian P.
1983 Form and function in children's understanding of ironic utterances. *Journal of Experimental Child Psychology* 35: 487–508.
- Aksu-Koç, Ayhan
1988 *The Acquisition of Aspect and Modality: The Case of Past Reference in Turkish*. Cambridge: Cambridge University Press.
- Andersen, Elaine S., Maquela Brizuela, Beatrice C. Dupuy and Laura M. Gonnerman
1999 Cross-linguistic evidence for the early acquisition of discourse markers as register variables. *Journal of Pragmatics* 31: 1339–1351.
- Asch, Solomon E. and Harriet Nerlove
1960 The development of double function terms in children. In: Bernard Kaplan and Seymour Wapner (eds.), *Perspectives in Psychological Theory*, 47–60. New York: International Universities Press.
- Astington, Janet W.
1988 Children's understanding of the speech act of promising. *Journal of Child Language* 15: 157–173.
- Bahtiyar, Sevda and Aylin C. Küntay
2008 Integration of communicative partner's visual perspective in patterns of referential requests. *Journal of Child Language* 36(3): 529–555.
- Baldwin, Dare A.
1991 Infant's contribution to the achievement of joint reference. *Child Development* 62: 875–890.
- Baldwin, Dare A.
1993 Infant's ability to consult the speaker for clues to word reference. *Journal of Child Language* 20: 395–418.
- Bannard, Colin, Marla Rosner and Danielle Matthews
2017 What's worth talking about. Information theory reveals how children balance informativeness and ease of production. *Psychological Science* 28(7): 954–966.
- Becker-Bryant, Judith B.
2009 Pragmatic development. In: Edith L. Bavin (ed.), *The Cambridge Handbook of Child Language*, 339–354. Cambridge: Cambridge University Press.

- Begus, Katarina and Victoria Southgate
2012 Infant pointing serves an interrogative function. *Developmental Science* 15(5): 611–617.
- Bernicot, Josie, Virginie Laval and Stéphanie Chaminaud
2007 Nonliteral language forms in children: In what order are they acquired in pragmatics and metapragmatics? *Journal of Pragmatics* 39: 2115–2132
- Bloom, Paul
2000 *How Children Learn the Meanings of Words*. Cambridge, MA: The MIT Press.
- Boyce, W. Thomas
2004 Social stratification, health, and violence in the very young. *Annals of New York Academy of Science* 1036: 47–68.
- Bucciarelli, Monica, Livia Colle and Bruno G. Bara
2003 How children comprehend speech acts and communicative gestures. *Journal of Pragmatics* 35: 207–241.
- Burdelski, Matthew
2011 Language socialization and politeness routines. In: Alessandro Duranti, Elinor Ochs and Bambi Schieffelin (eds.), *Handbook of Language Socialization*, 275–295. Oxford: Wiley-Blackwell.
- Cameron-Faulkner, Thea
2014 The development of speech acts. In: Danielle Matthews (ed.), *Pragmatic Development in First Language Acquisition*, 37–53. Amsterdam: John Benjamins.
- Campbell, Aimee L., Patricia Brooks and Michael Tomasello
2000 Factors affecting young children's use of pronouns as referring expressions. *Journal of Speech, Language and Hearing Research* 43: 1337–1349.
- Carrell, Patricia
1981 Children's understanding of indirect requests: Comparing child and adult comprehension. *Journal of Child Language* 8: 320–345.
- Charafeddine, Rawan, Hugo Mercier, Laurence Kaufman, Fabrice Clément, André Berchtold, Anne Reboul and Jean-Baptiste Van der Henst
2015 How preschoolers use cues of dominance to make sense of their social environment. *Journal of Cognition and Development* 16(4): 587–604.
- Chierchia, Gennaro, Stephen Crain, Maria Teresa Guasti, Andrea Gualmini and Luisa Meroni
2001 The acquisition of disjunction: Evidence for a grammatical view of scalar implicatures. In: Anna Do, Laura Dominguez and Aimee Johansen (eds.), *Proceedings of the 25th Boston University Conference on Language Development*, 157–168. Somerville, MA: Cascadilla Press.
- Clark, Eve V.
2003 *First Language Acquisition*. Cambridge: Cambridge University Press.
- Coulthard, Malcolm
1977 *An Introduction to Discourse Analysis*. London: Longman.
- Demorest, Amy, Christine Meyer, Erin Phelps, Howard Gardner and Ellen Winner
1984 Words speak louder than actions: Understanding deliberately false remarks. *Child Development* 55: 1527–1534.

- de Villiers, Jill G., Jay L. Garfield, Harper Gernet-Girard, Tom Roeper and Margaret Speas
 2009 Evidentials in Tibetan: Acquisition, semantics and cognitive development. In: Stanka Fitneva and Tomoko Matsui (eds.), *Evidentiality: A Window into Language and Cognitive Development*, 29–47. San Francisco: Jossey-Bass.
- de Villiers, Peter A., Jill G. de Villiers, D’Jaris Coles-White and Laura Carpenter
 2009 Acquisition of relevance implicatures in typically-developing children and children with autism. In Jane Chandlee, Michelle Franchini, Sandy Lord and Gudrun Rheiner (eds.), *Proceedings of the 33th Annual Boston University Conference on Language Development*, 121–132. Somerville, MA: Cascadilla Press.
- Dews, Shelly, Ellen Winner, Joan Kaplan, Elizabeth Rosenblatt, Malia Hunt, Karen Lim, Angela McGovern, Alison Qualter and Bonnie Smarsh
 1996 Children’s understanding of the meaning and functions of verbal irony. *Child Development* 67: 3071–3085.
- Elrod, Mimi M.
 1987 Children’s understanding of indirect requests. *Journal of Genetic Psychology* 148: 63–70.
- Ervin-Tripp, Susan M.
 1977 Wait for me, roller skate! In: Susan M. Ervin-Tripp and Claudia Mitchell-Kernan (eds.), *Child Discourse*, 165–188. New York: Academic Press.
- Ervin-Tripp, Susan M. and David Gordon
 1986 The development of children’s requests. In: Richard L. Schiefelbusch (ed.), *Communicative Competence: Assessment and intervention*, 61–96. San Diego: College Hill Press.
- Ervin-Tripp, Susan M., Jiansheng Guo and Martin Lampert
 1990 Politeness and persuasion in children’s control acts. *Journal of Pragmatics* 14: 195–219.
- Ervin-Tripp, Susan M., Mary O’Connor and Jarrett Rosenberg
 1984 Language and power in the family. In: Muriel Schulz and Cheris Kramarae (eds.), *Language and Power*, 116–135. Belmont: Sage Press.
- Evans, Mary A. and Dianna L. Gamble
 1988 Attribute saliency and metaphor interpretation in school-age children. *Journal of Child Language* 15: 435–449.
- Filippova, Eva and Janet W. Astington
 2008 Further development in social reasoning revealed in discourse irony understanding. *Child Development* 79: 126–138.
- Graf, Eileen and Catherine Davies
 2014 Development of referring expressions. In: Danielle Matthews (ed.), *Pragmatic Development in First Language Acquisition*, 161–182. Amsterdam: John Benjamins.
- Grigoroglou, Myrto and Anna Papafragou
 2019 Interactive contexts increase informativeness in children’s referential communication. *Developmental Psychology* 55(5), 951–966.
- Hamlin, J. Kiley and Karen Wynn
 2011 Young infants prefer prosocial to antisocial others. *Cognitive Development* 26(1): 30–39.

- Hancock, Jeffrey, Philipp Dunham and Kelly Purdy
2000 Children's comprehension of critical and complimentary forms of verbal irony. *Journal of Cognition and Development* 12: 227–240.
- Happé, Francesca G.
1993 Communicative competence and theory of mind in autism: A test of relevance theory. *Cognition* 48: 101–119.
- Huang, Yan
2007 *Pragmatics*. Oxford: Oxford University Press.
- Keenan, Thomas R. and Kathleen Quigley
1999 Do young children use echoic information in their comprehension of sarcastic speech? A test of echoic mention theory. *British Journal of Developmental Psychology* 17: 83–96.
- Keil, Frank C.
1986 Conceptual domains and the acquisition of metaphor. *Cognitive Development* 1: 73–96.
- Kidd, Evan, Seamus Donnelly and Morten H. Christiansen
2017 Individual differences in language acquisition and processing. *Trends in Cognitive Sciences* 22(2): 154–169.
- Koring, Loes and Hannah de Mulder
2015 Understanding different sources of information: the acquisition of evidentiality. *Journal of Child Language* 42: 947–968.
- Kovács, Agnes M., Erno Téglás and Ansgar D. Endress
2010 The social sense: Susceptibility to others' beliefs in human infants and adults. *Science* 330: 1830–1834.
- Kyratzis, Amy
2007 Using the social organizational affordances of pretend play in American pre-school girls' interactions. *Research on Language and Social Interaction* 40(4): 321–352.
- Lakoff, George
1987 *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. Chicago: University of Chicago Press.
- Ledbetter, Patricia J. and Cathy H. Dent
1988 Young children's sensitivity to direct and indirect request structure. *First Language* 8: 227–245.
- Leonard, Laurence B., M. Jane Wilcox, Kathleen C. Fulmer and G. Albyn Davis
1978 Understanding indirect requests: An investigation of children's comprehension of pragmatic meanings. *Journal of Speech and Language Research* 21(3): 528–537.
- Liszkowski, Ulf, Malinda Carpenter and Michael Tomasello
2008 Twelve-month-olds communicate helpfully and appropriately for knowledgeable and ignorant partners. *Cognition* 108(3): 732–739.
- Low, Jason and Josef Perner
2012 Implicit and explicit theory of mind: State of the art. *British Journal of Developmental Psychology* 30: 1–13.
- Lucariello, Joan and Catherine Mindolovich
1995 The development of complex metarepresentational reasoning: The case of situational irony. *Cognitive Development* 10: 551–576.

- Maas, Fay K. and Leonard Abbeduto
 1998 Young children's understanding of promising: Methodological considerations. *Journal of Child Language* 25: 203–214.
- Maas, Fay K. and Leonard Abbeduto
 2001 Children's judgment about intentionally and unintentionally broken promises. *Journal of Child Language* 28: 517–529.
- Mahajan, Neha and Karen Wynn
 2012 The origin of “us” versus “them”: Prelinguistic infants prefer similar others. *Cognition* 124(2): 227–233.
- Markman, Ellen M. and Gwyn F. Wachtel
 1988 Children's use of mutual exclusivity to constrain the meanings of words. *Cognitive Psychology* 20: 121–157.
- Mascaro, Olivier and Gergely Csibra
 2012 Representation of stable social dominance relations by human infants. *Proceedings of the National Academy of Sciences of the United States of America* 109(18): 6862–6867.
- Matthews, Danielle (ed.)
 2014 *Pragmatic Development in First Language Acquisition*. Amsterdam: John Benjamins.
- Matthews, Danielle, Hannah Biney and Kirsten Abbot-Smith
 2018 Individual differences in children's pragmatic ability: A review of associations with formal language, social cognition, and executive functions. *Language Learning and Development* 14(3): 1–38.
- Mehler, Jacques, Peter Jusczyk, Ghislaine Lambertz, Nilofar Halsted, Josiane Bertoncini and Claudine Amiel-Tison
 1988 A precursor of language acquisition in young infants. *Cognition* 29(2): 143–178.
- Mey, Jacob L.
 1993 *Pragmatics: An Introduction*. Oxford: Wiley-Blackwell.
- Moll, Henrike and Michael Tomasello
 2006 Level I perspective taking at 24 months of age. *British Journal of Developmental Psychology* 24: 603–613.
- Nadig, Aparna S. and Julie C. Sedivy
 2002 Evidence of perspective-taking constraints in children's online-reference resolution. *Psychological Science* 13: 329–336.
- Nakamura, Keiko
 2006 The acquisition of linguistic politeness in Japanese. In: Mineharu Nakayama, Reiko Mazuka and Yasuhiro Shirai (eds.), *The Handbook of East Asian Psycholinguistics*, Volume II: Japanese, 110–115. Cambridge: Cambridge University Press.
- Nakassis, Constantine and Jesse Snedeker
 2002 Beyond sarcasm: Intonation and context as relational cues in children's recognition of irony. In: Barbora Skarabela, Sarah Fish and Anna Do (eds.), *Proceedings of the 26th Boston University Conference on Language Development*, 429–440. Somerville, MA: Cascadilla Press.
- Newcombe, Nora and Martha Zaslow
 1981 Do 2½ year-olds hint? A study of directive forms in the speech of 2½ year-olds to adults. *Discourse Processes* 4(3): 239–252.

- Ninio, Anat and Catherine E. Snow
1996 *Pragmatic Development*. Boulder: Westview Press.
- Ochs, Elinor and Bambi B. Schieffelin
1995 Language acquisition and socialization. Three developmental stories and their implications. In: Ben Blount (ed.), *Language, Culture and Society: A Book of Readings* (2nd edition), 470–512. Prospect Heights: Waveland Press.
- O’Neill, Daniela K.
1996 Two-year-old children’s sensitivity to a parent’s knowledge state when making requests. *Child Development* 67: 659–677.
- O’Neill, Daniela K. and Jane C. Topolovec
2001 Two-year-old children’s sensitivity to the referential (in)efficacy of their own pointing gestures. *Journal of Child Language* 28: 1–28.
- Onishi, Kristine H. and Renée Baillargeon
2005 Do 15-month-old infants understand false beliefs? *Science* 308: 255–258.
- Ozçaliskan, Seyda
2005 On learning to draw the distinction between physical and metaphorical motion: Is metaphor an early emerging cognitive and linguistic capacity? *Journal of Child Language* 32(2): 291–318.
- Papafragou, Anna
2000 Early communication: Beyond speech-act theory. In: S. Catherine Howell, Sarah A. Fish and Thea Keith-Lucas (eds.), *Proceedings of the 24th Annual Boston University Conference on Language Development*, 571–582. Somerville, MA: Cascadilla Press.
- Papafragou, Anna
2006 From scalar semantics to implicature: Children’s interpretation of aspectuals. *Journal of Child Language* 33: 721–757.
- Papafragou, Anna and Julien Musolino
2003 Scalar implicatures: Experiments at the semantics/pragmatics interface. *Cognition* 86: 253–282.
- Papafragou, Anna and Dimitrios Skordos
2016 Implicature. In: Jeffrey Lidz, William Snyder and Joe Pater (eds.), *The Oxford Handbook of Developmental Linguistics*, 611–631. Oxford: Oxford University Press.
- Papafragou, Anna and Niki Tantalou
2004 Children’s computation of implicatures. *Language Acquisition* 12(1): 71–82.
- Papafragou, Anna, Peggy Li, Youngon Choi and Chung-hye Han
2007 Evidentiality in language and cognition. *Cognition* 103: 253–299.
- Park, Eunjin
2006 Grandparents, grandchildren, and heritage language use in Korean. In: Kimi Kondo-Brown (ed.), *Heritage Language Development: Focus on East Asian Immigrants*, 57–86. Amsterdam: John Benjamins.
- Pearson, Barbara Z.
1990 The comprehension of metaphor by preschool children. *Journal of Child Language* 17(1): 185–203.
- Perner, Josef
1999 Theory of mind. In: Mark Bennett (ed.), *Developmental Psychology: Achievements and Prospects*, 205–230. Philadelphia: Psychology Press.

- Peterson, Candida and Virigina Slaughter
 2003 Opening windows into the mind: Mothers' preference for mental state explanations and children's theory of mind. *Cognitive Development* 18(3): 399–429.
- Pouscoulous, Nausicaa
 2014 "The elevator's buttocks": Metaphorical abilities in children. In: Danielle Matthews (ed.), *Pragmatic Development in First Language Acquisition*, 239–260. Amsterdam: John Benjamins.
- Pouscoulous, Nausicaa, Ira A. Noveck, Guy Politzer and Anne Bastide
 2007 A developmental investigation of processing costs in implicature production. *Language Acquisition* 14: 347–376.
- Pouscoulous, Nausicaa and Ira A. Noveck
 2009 Going beyond semantics: The development of pragmatic enrichment. In: Susan Foster-Cohen (ed.), *Language Acquisition*, 196–215. Basingstoke: Palgrave Macmillan.
- Read, Barbara K. and Louise J. Cherry
 1978 Preschool children's production of directive forms. *Discourse Processes* 1: 233–245.
- Reeder, Kenneth
 1981 How young children learn to do things with words. In: Philip Dale and David Ingram (eds.), *Child Language: An International Perspective*, 135–150. Baltimore: University Park Press.
- Reeder, Kenneth and Jane Wakefield
 1987 The development of young children's speech act comprehension: How much language is necessary? *Applied Psycholinguistics* 8: 1–18.
- Reeder, Kenneth, Jane Wakefield and Jon Shapiro
 1988 Children's speech act comprehension strategies and early literacy experiences. *First Language* 8: 29–48.
- Ruffman, Ted, Josef Perner, Mika Naito, Lindsay Parkin and Wendy A. Clements
 1998 Older (but not younger) siblings facilitate false belief understanding. *Developmental Psychology* 34(1): 161–174.
- Ryckebusch, Céline and Haydée Marcos
 2004 Speech acts, social context and parent-toddler play between the ages of 1;5 and 2;3. *Journal of Pragmatics* 36(5): 883–897.
- Salomo, Dorothé, Elena Lieven and Michael Tomasello
 2013 Children's ability to answer different types of questions. *Journal of Child Language* 40(2): 469–491.
- Schulze, Cornelia, Susanne Grassmann and Michael Tomasello
 2013 3-year-old children make relevance inferences in indirect verbal communication. *Child Development* 84(6): 2079–2093.
- Scott, Rose M. and Renée Baillargeon
 2009 Which penguin is this? Attributing false beliefs about object identity at 18 months. *Child Development* 80: 1172–1196.
- Searle, John R.
 1975 Indirect speech acts. In: Peter Cole and Jerry L. Morgan (eds.), *Syntax and Semantics 3: Speech Acts*, 59–82. New York: Academic Press.

- Sekerina, Irina A., Karin Stromwold and Arild Hestvik
2004 How do adults and children process referentially ambiguous pronouns? *Journal of Child Language* 31(1): 123–152.
- Schatz, Marilyn and Laura McCloskey
1984 Answering appropriately: a developmental perspective on conversational knowledge. In: Stan A. Kuczaj (ed.), *Discourse Development*, 19–36. New York: Springer.
- Schatz, Marilyn, Gil Diesendruck, Ivelisse Martinez-Beck and Didar Akar
2003 The influence of language and socioeconomic status on children's understanding of false belief. *Developmental Psychology* 39(4): 717–729.
- Siegal, Michael and Luca Surian
2009 Conversational understanding in young children. In: Erika Hoff and Marilyn Schatz (eds) *Blackwell Handbook of Child Development*, 304–323. Malden: Wiley-Blackwell.
- Skordos, Dimitrios and Anna Papafragou
2016 Children's derivation of scalar implicatures: Alternatives and relevance. *Cognition* 153: 6–18.
- Sodian, Beate and Heinz Wimmer
1987 Children's understanding of inference as a source of knowledge. *Child Development* 58(2): 424–433.
- Song, Hyun-Joo and Cynthia Fisher
2007 Discourse prominence effects on 2.5-year-old children's interpretation of pronouns. *Lingua* 117(11): 1959–1987.
- Song, Hyun-Joo, Kristine H. Onishi, Renée Baillargeon and Cynthia Fisher
2008 Can an agent's false belief be corrected by an appropriate communication? Psychological reasoning in 18-month-old infants. *Cognition* 109: 295–315.
- Southgate, Victoria, Coralie Chevallier and Gergely Csibra
2010 Seventeen-month-olds appeal to false beliefs to interpret others' referential communication. *Developmental Science* 13: 907–912.
- Southgate, Victoria, Atsushi Senju and Gergely Csibra
2007 Action anticipation through attribution of false belief by 2-year-olds. *Psychological Science* 18: 587–592.
- Spekman, Nancy J. and Froma P. Roth
1985 Preschool children's comprehension and production of directive forms. *Journal of Psycholinguistic Research* 14(3): 331–349.
- Sperber, Dan and Ira Noveck
2004 Introduction. In: Ira Noveck and Dan Sperber (eds.), *Experimental Pragmatics*, 1–22. London: Palgrave Macmillan.
- Sullivan, Kate, Ellen Winner and Natalie Hopfield
1995 How children tell a lie from a joke: The role of second-order mental state attributions. *British Journal of Developmental Psychology* 13: 191–204.
- Surian, Luca, Stefania Caldi and Dan Sperber
2007 Attribution of beliefs by 13-month-old infants. *Psychological Science* 18: 580–586.
- Thompson, Laura
1997 *Children Talking: The Acquisition of Pragmatics*. Clevedon: Multilingual Matters.

- Veenstra, Alma, Bart Hollebrandse and Napoleon Katsos
2017 Why some children accept under-informative utterances: Lack of competence or pragmatic tolerance? *Pragmatics & Cognition* 24(2): 297–314.
- Verbuk, Anna and Thomas Shultz
2010 Acquisition of relevance implicatures: A case against a rationality-based account of conversational implicatures. *Journal of Pragmatics* 42: 2297–2313.
- Vosniadou, Stella, Andrew Ortony, Ralph E. Reynolds and Paul T. Wilson
1984 Sources of difficulty in children's understanding of metaphorical language. *Child Development* 55: 1588–1606.
- Wellman, Henry M., David Cross and Julanne Watson
2001 Meta-analysis of theory-of-mind development: The truth about false belief. *Child Development* 72(3): 655–684.
- Wierzbicka, Anna
1991 *Cross-Cultural Pragmatics. The Semantics of Human Interactions*. Berlin/New York: Mouton de Gruyter.
- Wilson, Deirdre and Robyn Carston
2007 A unitary approach to lexical pragmatics: Relevance, inference and ad hoc concepts. In: Noel Burton-Roberts (ed.), *Pragmatics*, 230–259. Basingstoke: Palgrave.
- Wilson, Deirdre
2013 Irony comprehension: A developmental perspective. *Journal of Pragmatics* 59: 40–56.
- Winner, Ellen
1988 *The Point of Words: Children's Understanding of Metaphor and Irony*. Cambridge, MA: Harvard University Press.
- Winner, Ellen and Sue Leekam
1991 Distinguishing irony from deception: Understanding the speaker's second-order intention. *British Journal of Developmental Psychology* 9: 257–270.
- Winner, Ellen, Margaret McCarthy, Sandra Kleinman and Howard Gardner
1979 First metaphors. In: Dennie Wolf (ed.), *Early Symbolization: New Directions for Child Development*, 29–41. San Francisco: Jossey-Bass.
- Zufferey, Sandrine
2010 *Lexical Pragmatics and Theory of Mind: The Acquisition of Connectives*. Amsterdam: John Benjamins.
- Zufferey, Sandrine
2015 *Acquiring Pragmatics: Social and Cognitive Perspectives*. London: Routledge.

3. Communicative act development

Marisa Casillas and Elma Hilbrink

Abstract: How do children learn to map linguistic forms onto their intended meanings? This chapter begins with an introduction to some theoretical and analytical tools used to study communicative acts. It then turns to communicative act development in spoken and signed language acquisition, including both the early scaffolding and production of communicative acts (both non-verbal and verbal) as well as their later links to linguistic development and Theory of Mind. The chapter wraps up by linking research on communicative act development to the acquisition of conversational skills, cross-linguistic and individual differences in communicative experience during development, and human evolution. Along the way, it also poses a few open questions for future research in this domain.

1. Introduction

We use language to make things happen—there is a communicative intention at the heart of each utterance that must somehow be encoded (produced) by the speaker and decoded (comprehended) by the addressee. This is not a trivial task, neither for the speaker nor for the addressee; the same communicative intent can be expressed in a number of different ways. For example, “open up”, “here comes the choo-choo”, “who wants some applesauce?”, and “aaa! [with one’s mouth posed wide open]” can all be used to elicit the same response: to get a child to open their mouth for a spoonful of food. But these very same utterances mean something quite different in other situations, for example, while at the dentist, watching a train pull into the station, offering options for lunch, or trying a new food. The social and cognitive underpinnings of this flexible mapping between communicative act and linguistic form have long puzzled language scientists and philosophers. How do children manage to break into this system of flexible mappings?

In this chapter we briefly introduce communicative acts, their role in early language development, their application to signed languages, and their more recent extensions to other domains of development (also see Cameron-Faulkner 2014).

<https://doi.org/10.1515/9783110431056-003>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 61–88. Berlin/Boston: De Gruyter Mouton.

2. Communicative act theory¹

Simply speaking, a “communicative act” is the action (or set of actions) that a speaker accomplishes by producing an utterance. Communicative acts include phenomena like requests, invitations, apologies, greetings, and more. The linguistic encoding and decoding of a communicative act is closely tied to both (a) the interactants present when the act is communicated and (b) the context in which they find themselves. This idea radically shifts philosophies of meaning away from literal statements about reality, and into the domain of inference and the joint construction of communicative intent. How did this set of ideas come about?

“Speech act” theory gave language researchers a first set of tools with which to study the flexible division of utterance form and utterance meaning. With its roots in the Ordinary Language movement of the early 1900s, speech act theory was introduced by Austin (1962) and further developed by Searle (1969, 1976). Speech act theory introduced the groundbreaking idea that utterances can have different levels of meaning at which actions are accomplished. Traditional speech act theory posits three types of action: linguistic encoding (“locutionary” act), intended significance (“illocutionary” act), and effect on the addressee (“perlocutionary” act; Table 1). In the context of feeding a child, the utterance “here comes the choo-choo!” accomplishes these three types of acts: the locutionary act is in the utterance’s realization as a communicative signal (its spoken form), the illocutionary act is a request (i. e., for the child to open their mouth), and the perlocutionary act is persuading the child to cooperate in the ongoing activity.

The relationship between different levels of action is not always straightforward. For example, perlocutionary acts can arise as unintended consequences of expressing some utterance (e. g., your request for the time reminds me that I am late for a meeting). Some utterances may also entertain multiple perlocutionary meanings. For example, if a mother says, “Is that yours?” the child can take their mother’s meaning as a request for information (“no”) or as a request to put the object back in its place; the child must infer which response the mother is trying to elicit. In this example, the mother’s request is indirect. Similar indirectness can be used with other illocutionary act types. For example, in the exchange “Have you seen Charlie this morning?”—“*I just got here, sorry*”, there is a clear difference between the primary illocutionary act (“I have not seen Charlie”) and the secondary one

¹ We use the term “communicative act” instead of “speech act” throughout this chapter, except when discussing “speech act theory” directly (à la Austin and Searle). Though “speech act” is the more traditional linguistic term, it misses the essential insight that language use is multimodal. “Speech act” is also not naturally extensible to signed languages.

Table 1: Searle's illocutionary act classes

Illocutionary class	Definition	Examples	
		Illocutionary act	Locutionary act
Representative	Commits the speaker to the truth of the expressed proposition	I think that this stew has little flavor.	<i>This stew is very bland.</i>
Directive	An attempt by the speaker to get the addressee to do something	I hereby request that you pass me the salt.	<i>Pass the salt, please.</i>
Commissive	Commits the speaker to some future course of action	I intend to tell the chef (for which you can hold me accountable).	<i>I'll let the chef know.</i>
Expressive	Expresses the "psychological state" of the speaker with respect to a proposition	I feel grateful to you.	<i>Thanks very much!</i>
Declaration	Brings about a change in the real world in accordance with the proposition	In this moment I hereby terminate your employment.	<i>You're fired.</i>

(e. g., "I arrived just now"). In these cases, addressees must decide how to respond, given that multiple communicative acts are being performed simultaneously.

So how do addressees recover a speaker's intended meaning if it is not explicitly encoded in the utterance? If communicative acts take many forms and can even be expressed indirectly, addressees must either rely on convention or infer what the speaker meant from other available evidence. Here, H. P. Grice's Cooperative Principle sheds some light on how addressees might reconstruct intended meanings. Stated as a rule, but intended as a description of human interactional behavior, it is this: "Make your contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged" (Grice 1975: 45). In a nutshell, the idea is that if speakers follow this principle and expect their interlocutors to follow it too, they can identify and interpret the non-literal meanings that speakers intend. For example, if you assume that I am cooperative, you should also assume that my response ("I just got here, sorry") is intended to answer your question ("Have you seen Charlie this morning?"), even though it appears to be a non sequitur. Your assumption then encourages you to reason about how my response might be relevant, leading you to the conclusion that I could not usefully answer your question because I just arrived and have not

yet seen who is around.² Along similar lines, speakers can “flout” these assumptions in order to express meanings indirectly. For example, if I give you some disappointing news and you reply, “well that’s just great”, or if you ask me how my new year’s resolutions are coming along and I reply, “what awful weather we’re having”, we can still recover each other’s meaning by assuming cooperativity (i. e., “I am unhappy about this disappointing news” and “my new year’s resolution has not gone well”). As addressees, we can take these deliberate violations of cooperativity as a signal that something is being said indirectly.

The precise mechanisms by which addressees arrive at inferred meanings are not all well understood. Grice’s (1975) theory comes with four “maxims”, which are behaviors that addressees can assume speakers will try to observe. They are: Quality (be truthful), Quantity (be informative), Relation (be relevant), and Manner (be clear). In contrast, Sperber and Wilson (1986: 243–254) argue that, among these inferential tools, relevance alone is enough to guide addressees’ inferences in conversation. Their idea is that the properties of the speaker’s utterance and the context of the interaction are enough to put the addressee’s inferential process on the right track. Under their theory, the addressee does not need to identify or classify utterances into speech acts to understand their meaning. Both of these approaches bring new questions to bear, including how exactly relevance, or the other maxims, are assessed by addressees, what principles guide ostensive cueing of meaning, and how to resolve competing lines of reasoning.

Rather than asking how addressees “recover” speaker meaning—as if the basis of their understanding solely depended on the speaker’s locutionary act—others have focused on how meaning is jointly constructed by speakers and addressees. By definition, interactants are engaged in joint activity, which means that they share not only the relevant context for any given utterance, but also the schema for what to expect and how to contribute to the interaction itself (see H. H. Clark 1996: 29–124 for an introduction; see also Yurovsky 2018). This view conceives of addressees as taking an active role in conversation, and its proponents point to evidence from the construction of referential terms (“What should we call this?”), systems for “repair” in interaction (“Has a problem arisen?”, “How should we fix it?”), and verbal and non-verbal resources for conveying information uptake (“How can we signal updates to our mutual understanding?”)

In the field of Conversation Analysis (CA), actions in conversation are conceived of as being co-constructed by the participants such that coherent sequences of action emerge as talk unfolds (Sacks, Schegloff and Jefferson 1974; Schegloff 2007: 1–12). Much of CA focuses on whole sequences of action in conversation

² Note that this interpretation of the question, itself, assumes a non-literal interpretation: you probably don’t care if I (in particular) have seen Charlie; “Yes, I have!” would be an insufficient response.

and how they are structured (“sequence organization”). Its aim is to discover how each turn within a sequence contributes to the progression of the interaction—in other words, what role does each turn play with respect to the ongoing talk? CA analyses do not typically concern themselves with the encoding and decoding of propositional meaning, but the insights gained by studying sequence organization can inform exactly that: how speakers and addressees leverage local information to create and infer meanings efficiently.

Consider, for example, utterances that require a specific type of response from the addressee. In CA, utterances that require specific responses in the next slot are considered the first half of an “adjacency pair”. Adjacency pairs have two parts: the first pair part (FPP; e. g., Question) and the second pair part (SPP; e. g., Answer). First pair parts project a relevant response in the next possible position and must be interpreted within the ongoing sequence. However, the FPP and SPP may be separated by further sub-sequences upon which the realization of the SPP is dependent (e. g., asking a clarification question before giving the answer to a question). The CA conceptualization of adjacency pairs is highly sensitive to the varied relationships between turns that require a response and the responses, repairs, and sub-sequences of action that they elicit. Table 2 below illustrates the richness of CA-style action sequences for the analysis of natural interaction. We place it side-by-side with a mini analysis using Searle’s five basic illocutionary classes (Table 1) to demonstrate connections between the two frameworks,³

As illustrated in Table 2, CA gives researchers a rich perspective on the interactional meaning of each utterance within a longer sequence. In so doing, it captures both the local meaning of utterances (and silences) as well as the underlying patterns of communicative actions in conversation (Schegloff 2007: 1–12; for more, see Sidnell and Stivers 2013: 101–280, and Sidnell 2016).

There is still a great amount of work to be done on communicative acts: fundamental questions concerning the nature of communicative acts, their universality, and the cognitive mechanisms underlying them remain largely unanswered (Levinson 2006). We can get fresh insight into these questions by studying how communicative competence develops in children: how do communicative acts shape early language development and vice versa?

³ Note that this is a simplified representation of a Searlean-style analysis; further work has expanded on this initial classification (see, e. g., Blum-Kulka and Olshtain 1984; Holmes 1988; Searle 1975).

Table 2: Action sequence from the Providence corpus of spontaneous at-home child-caregiver interaction (Demuth, Culbertson and Alter 2006; Alex age 2;10.11; ale38: 475). CHI = child; MOT=mother.

Line	Speaker	Utterance	Searle-style illocutionary class (basic)	CA-style action sequence
1	CHI	this too big	Representative	Complaint (first pair part)
2		[no response]	<not applicable>	No response to complaint _{Line1}
3	CHI	too big the train	Representative	Pursuit of response to the complaint _{Line1}
4		[no response]	<not applicable>	No response to pursuit _{Line3}
5	CHI	too big train!	Representative	Upgraded pursuit of complaint _{Line1}
6	MOT	what honey?	Directive	Repair initiation _{Line5}
7	CHI	too big train!	Representative	Response to repair initiation _{Line6}
8	MOT	no, we- it's it's alright if you push it, it's when you use the green one that gets to be- to be too big	Representative	Response to complaint _{Line1} (second pair part)
9	CHI	I need blue	Representative	Request (initiates a new action sequence)

3. Communicative act development

3.1. Communication before language

Children engage in meaningful, communicative interaction from early in infancy. They take turns in vocal exchanges, alternate gaze, and exchange smiles (e. g., Hilbrink, Gattis and Levinson 2015; Kaye and Fogel 1980; Symons and Moran 1994). The capacity to produce communicative acts emerges during infancy and early childhood, possibly stemming from early playful interactions. Communica-

tive acts are first observed in infants' gestural behaviors during social interactions when they show, give, and point (e. g. Bates, Camaioni and Volterra 1975; Bruner 1975).

In the early 1970s researchers started to focus on children's communicative language use as a way to understand how language is acquired. Bruner (1975), Bates and colleagues (1975), and Dore (1974) were among the first to emphasize the importance of early pragmatic development for language acquisition, focusing much of their work on infant play. Highly predictable routines, such as peek-a-boo, give-and-take, rolling a ball back and forth, and care routines (e. g., diaper changing) provide a rich context for infants to learn about interactional structure and communicative skills. In these routines, infants practice taking turns and begin to segment the roles of different components from the ongoing activity: the agents, actions, objects, recipients, and their respective positions in the action sequence. Building on these familiar action sequences, children can manageably test out their conversational skills by anticipating the next action in the sequence and expertly preparing their response (e. g., holding back the response laugh in peek-a-boo). Role reversal games such as passing a ball back and forth also allow infants to learn that they can be recipients or agents, and what each role encompasses (Bruner 1975).

By focusing on the development of communicative skills, researchers can assess continuity in children's linguistic development from infancy to later childhood; they can trace language skills back to pre-linguistic behavior. One of the clearest demonstrations of this continuity in communicative development is Bates and colleagues' (1975) quasi-longitudinal study, which assessed the emergence of intentional communication prior to productive language use. Their analysis focused on children's early communicative acts. Working within a traditional speech act theory framework (see Section 2), they highlighted three children's early use of "proto-imperatives" (defined as using the adult as a way of getting a desired object) and "proto-declaratives" (defined as using an object as a way of attracting an adult's attention). They charted the development of communicative act understanding and communicative act production in these children from age 2 months to 16 months and found that the first intentional communicative acts emerged around 10 months of age.

In the first few months of life, infants produce cries, smiles, and vocalizations that elicit responses from their caregivers even though the infants themselves are not yet aware of the communicative meaning of these behaviors. Bates and colleagues (1975) classified these early communicative behaviors as perlocutionary communication in that they often effect a desired change in the infant's environment, for example the infant is being picked up, entertained, fed, or attended to in some other way. Similarly, when infants start to reach for objects, they do so without realizing that the object could be used to obtain attention or that the adult could be used to obtain an object. Even though these behaviors are not yet inten-

tional communicative acts, they do provide the infant with important experience: these early behaviors allow the infant to discover the physical and social contingencies that are the bedrock of adult communication. In their seminal study, Rovee and Rovee (1969) showed that infants as young as 2–3 months learn very quickly that when a mobile hanging above their crib is attached to their leg by a string, the mobile will move when they kick their legs. Similarly, Murray and Trevarthen (1985) found that infants look less at their mothers and smile less frequently when they see a recording of an earlier interaction with their mothers compared when they are experiencing a live interaction with her. These findings were some of the first to show that infants detect contingencies in the physical and social world from early on. And although many of these early contingent actions are initially expressed as simple means-end relationships (e. g., crying results in being picked up, or smiling elicits smiling back from the caregiver), they gradually develop into more sophisticated means-end realizations, such as pulling a cloth with a toy on it to obtain the toy. This in turn develops into the use of proto-imperatives, for example, looking fixedly at an adult’s face while reaching for a toy, which is what Bates and colleagues (1975) found to emerge around 10 months of age.

Similar to the transition from early means-end relationships to proto-imperatives, continuity is also observed in the development of proto-declaratives. First, infants start with “showing off” (repeating behavior that has previously attracted attention). Then they progress to showing objects, then giving objects, and finally pointing to objects (Bates, Camaioni and Volterra 1975; Cameron-Faulkner et al. 2015). Showing and giving objects are the first behaviors classified as intentional declaratives and are reported to emerge around 10 months of age—around the same time proto-imperatives appear (Bates, Camaioni and Volterra 1975). Notably then, many of children’s early communicative acts are produced through gestural rather than linguistic means.

3.2. Transitioning to communication with language

Infants’ non-verbal behavior plays an important role in early communication and is a fundamental piece of the puzzle in linking pre-linguistic behavior to later linguistic development. Infants typically use gestures before they begin to speak, but even before they start using gestures, they produce communicative actions (e. g., bringing an empty spoon to the mouth), that correspond to the meanings of later gestures, such as bringing a hand to the mouth. These acts eventually lead to their corresponding words, such as “eat” or “food” (Capirci et al. 2005). Furthermore, children use gestures to refer to objects before producing the word for those same objects (Iverson and Goldin-Meadow 2005). The findings of Capirci and colleagues suggest that gestures support early word use: infants start using many words within gesture-word combinations and then later transition to using the words without gesture. In another study, Capirci and colleagues (1996) showed that in one-ele-

ment utterances (i. e., a single word or single gesture) the use of gesture declines from 16 months to 20 months of age. At the same time, in two-element utterances gesture continued to be a frequent part of the utterances. Furthermore, the number of gestures and gesture-word combinations at 16 months of age predicted the amount of total vocal production (i. e., single-, two-, and multi-word utterances with or without gestures). Together, both studies provide evidence that gesture supports early word use and continues to be produced even after children begin to use more words. Butterworth and Morissette (1996) also found that children who pointed earlier used more gestures and more often recognized animal sounds at 14 months. Similarly, Carpenter and colleagues (1998) found that children who started using communicative gestures earlier also used referential language terms earlier, i. e., words for concrete actions or objects (see also Colonnese et al. 2010 for a meta-analysis on the relation between pointing and language development).

Soon after children produce their first words, the number of communicative acts they produce per minute rapidly increases (Snow et al. 1996). Snow and colleagues (1996) conducted the most comprehensive longitudinal study on communicative act development to date. They longitudinally tracked the communicative act development of 52 children at 14, 20, and 32 months of age using the INCA-A. The INCA-A coding system was developed by Ninio and colleagues to study the development of communicative acts in a comprehensive and theoretically sound way (see Ninio and Wheeler 1984, 1986; Ninio et al. 1994). Grounded in traditional speech act theory, sociology, and Conversation Analysis, the INCA-A differentiates between two levels of communicative intent: (a) the *interchange level*, one or more rounds of talk with the same interactive function, and (b) the *utterance/communicative act level*, the intent of the utterance from the speaker's perspective. One of the major advantages of the INCA system is that it was specifically designed to code communicative act development across a wide age range and therefore allows researchers to assess continuity in communicative act development. Using this system, Snow and colleagues (1996) demonstrated that infants' pragmatic flexibility (the number of different interchange-communicative act combinations) increased with age, and that infants' communicative act development was related to their productive language use. The first emerging communicative interchanges at 14 months were focused on the infant's immediate environment, such as communicative acts directing the addressee's attention, negotiating immediate activities, and discussing joint focuses. By the age of 32 months, infants' communicative interchanges included objects and events that are not observable, such as recent events and the addressee's thoughts and feelings. At the level of communicative acts, Snow and colleagues found that transferring objects, repeating utterances, answering wh-questions, and requesting/proposing were among the first types of communicative acts to emerge.

3.3. Understanding others' intentions

To effectively participate in conversation, children must be able to infer others' communicative intentions. As described above, there are several theoretical accounts describing how addressees might infer speaker intention, of which Grice's has been the most prominent (Grice 1975). Grice's account of intentional communication is built on the assumption that addressees can reason about others' thoughts and beliefs, in other words, that they have a Theory of Mind (Premack and Woodruff 1978). Without any simplifications, a Gricean account of intentional communication would require that children understand that (a) speakers intend to achieve a goal (which is likely shared with the addressee), and (b) speakers expect addressees to recognize what the speaker intends and not just what they say, both which may be quite complex for children (e. g., Moore 2014).

However, there is a wealth of evidence suggesting that infants are able to infer intentions from early on. A wide variety of abilities related to intention understanding emerge in the second half of children's first year, before first words appear. These abilities include goal understanding, joint attention skills, and more advanced intention reading. For example, at 9 months infants already distinguish between someone who is unwilling to hand them a toy (teasing) and someone who is unable to give them a toy because she accidentally dropped it (Behne et al. 2005). Similarly, 13- and 14-month-olds selectively imitate goal-directed and intentional actions and ignore actions that are not considered related to the goal or are considered accidental (Sakkalou et al. 2013). Furthermore, 14-month-olds recognize other people's goals and, if something goes awry, children spontaneously help those people reach their goals (Warneken and Tomasello 2007). A series of studies by Woodward suggest that goal understanding (in this case, reaching for an object) emerges between 6 and 9 months of age. She showed that when an actor repeatedly reaches for one of two toys (e. g., a teddy bear instead of a ball), children expect the actor to continue reaching for that same toy and express surprise when the actor reaches for the other toy instead, even if the location of the toys changes. Woodward suggests that infants interpret these reaching actions in a goal-directed manner, i. e., that the actor's goal was to obtain a specific object (Woodward 1998, 1999).

Traditionally, children's belief understanding has been tested with false belief tasks such as the Sally-Anne task (Baron-Cohen, Leslie and Frith 1985). In this task, children listen or watch a story about Sally and Anne. In the story, Sally puts a marble in a basket and leaves. When Sally is gone, Anne appears and hides the marble in a box. When Sally returns, the children are asked which of the two containers they think Sally will look in. If children understand that people can have beliefs that diverge from reality ("false beliefs") they will say that Sally thinks the marble is in the basket. Children generally pass this task around the age of 4 years. But more recent work shows that infants can attribute false beliefs to others from

the beginning of the second year of life when they are tested with non-verbal tasks (see Baillargeon, Scott and He 2010 for a review).

Children's early intention understanding has been linked to the ability to share attention with others, specifically to the ability to engage in triadic interaction which involves sharing attention with another person about a third entity (e. g., a toy). This type of triadic interaction is known as joint attention. The ability to engage in joint attention emerges around 9–12 months of age and typically requires the child to be aware of their interlocutor as an intentional agent (Tomasello 1995). Joint attention abilities, such as pointing and gaze following appear to be an important aspect of language development (e. g., Carpenter et al. 1998; Morales et al. 2000; Mundy et al. 2007; Scott et al. 2013). Carpenter and colleagues, for example, conducted a longitudinal study on the relationship between joint attention, imitative learning, imperative and declarative gestures, and language in development. They demonstrated that joint attention abilities and communicative gestures, such as gaze following and pointing, were related to the emergence of referential language (Carpenter et al. 1998). Furthermore, Carpenter and colleagues observed that joint engagement (sharing attention about a third entity, like a toy) consistently preceded the emergence of communicative gestures, which in turn consistently preceded the emergence of referential language.

Shortly after learning to engage in triadic interactions, infants become more active participants during coordinated joint interactions (Tomasello et al. 2005, see also Bakeman and Adamson 1984 for the development of various engagement states). This more active involvement has been shown to be important for acquiring language. Looking at infants' involvement, Scott and colleagues (2013) distinguished between two aspects of joint attention: mothers following-in into what the infant was attending to and infants following-in into what the mothers encouraged them to look at. Both aspects of joint attention predicted productive vocabulary size between 14 and 18 months, but infant follow-in was a stronger predictor than maternal follow-in. Infants who more often followed-in to their mother's locus of attention added new vocabulary words faster than infants who did not follow-in as often.

Even though infants' ability to infer intentions is now well-documented, how exactly they manage to understand and produce communicative intent is still an open question. The Natural Pedagogy account (Csibra and Gergely 2009; Csibra 2010) suggests that infants are born with the ability to recognize ostensive communicative cues—cues that indicate that something is being communicated. These cues include infant-directed speech, eye contact, and contingent turn taking (Csibra 2010). For example, Senju and Csibra (2008) demonstrated that, when viewing two objects, 6.5-month-olds look significantly more toward an object looked at by an actor, but only if the actor first makes eye contact with the child or speaks in a child-directed manner before turning her head. Moore, Liebal and Tomasello (2013) suggest that ostensive cues may be used to *establish* communicative inter-

action but not to *maintain* it; they found that 3-year-olds inferred communicative intentions regardless of whether ostensive cues were used. In their study, cooperative communication was already established during a warm-up phase, and therefore the children might not have needed ostensive signals in the test phase. In sum, children can infer intentions from infancy onwards and can use ostensive cues such as eye contact and child-directed speech to recognize that something is being communicated to them. But the exact function of these ostensive cues for language learning and communication is still unclear; for example, infants might not need ostensive cues to infer meaning and make responses in some interactional contexts (Shatz 1978a, 1978b).

According to Shatz, children can often get by during interaction without directly inferring others' communicative intentions (Shatz 1978a, 1978b). Shatz proposed that young children infer how they should respond to prompts from their caregivers by integrating superficial cues from the utterance with their knowledge about the affordances of objects currently in joint attention (see also E. V. Clark 1973). Along these lines, Shatz argues that children develop a strong bias to respond to verbal prompts with some kind of action—children can respond relevantly without needing to understand the prompt. So, when asked to “shut the door”, the word “door” can be enough for children to infer what they should do (Shatz 1978a; E. V. Clark 2009: 21–50). In other words, young children may find ways to respond appropriately in interaction *without* needing to first infer the speaker's meaning, at least in the way that we assume adults typically do. In many cases they then receive feedback about the appropriateness of their response (Shatz 1978b). This strategy gives children an efficient and effective avenue into non-routine interactions, but it also breaks down quite easily—for example, if the parent asks, “Where's the door?” and the child closes it in response.

As mentioned in Section 2, some analytical frameworks emphasize that meaning is constructed jointly by the interactants (e. g., H. H. Clark 1996; Sacks, Schegloff and Jefferson 1974). That means that participants in interaction have partial access to other participants' goals through their own knowledge about the joint goals, history, and current context of the interaction (i. e., their “common ground”). But, in order to benefit from their participation, children need to track what is in common ground with their interactants and what is not. O'Neill (1996) found that 2-year-olds take into account what an adult knows when requesting help from that adult. Toddlers asked for help by gesturing towards the location where a desired object was hidden significantly more often when the adult had not witnessed the hiding event compared to when the adult had witnessed the hiding. Moll and colleagues (2008) demonstrated that even 14-month-olds keep track of the experiences they share with others and act accordingly with their experience when continuing with the interaction. In their study, children looked at several objects with an experimenter, but only experienced shared excitement about one of the objects. When the experimenter later asked infants to hand them an object (neutrally referred to as

“it”), infants picked the object about which they and the experimenter had shared excitement previously. Crucially, when someone other than the experimenter asked infants to hand them an object, infants did not show this preference. Thus, infants kept track of what they had shared with whom, and in what way.

3.4. Summary

Infants begin to develop skills for understanding and producing communicative acts early in infancy. Highly routinized interactions play a foundational role in this development (e. g., Bruner 1975). Around the same age at which infants start to first understand intentions, triadic joint attention behaviors also emerge (e. g., Carpenter et al. 1998; Tomasello 1995), at which point infants also begin to produce proto-imperatives and proto-declaratives (e. g., Bates, Camaioni and Volterra 1975; Cameron-Faulkner et al. 2015; Tomasello 1995). The early gestural communicative behaviors that accompany proto-imperatives and proto-declaratives, such as pointing, influence children’s later linguistic development. In inferring other speakers’ intentions, infants can use ostensive cues, common ground, and the affordances of the current context, all of which helps them respond appropriately. This developmental trajectory demonstrates the close relationship between intention understanding, communicative act development, and language acquisition. Even though we have learned much about the development of communicative acts in prior research, important questions about the precise cognitive mechanisms for understanding and producing communicative intentions (and how they develop) remain largely unanswered.

4. Communicative acts in signed languages

So far we have focused on the acquisition of communicative acts in children acquiring spoken languages, but now we turn briefly to how children begin to use and understand communicative acts in signed languages. Although there has been much less research on the acquisition of communicative acts for signing children, the nature of early communication – its tight connection to the interactional context and its reliance on non-linguistic actions – makes it likely that early communicative act development in signing children is generally similar to what has been documented for speaking children. Crucially, however, the affordances of communication in the visual modality may affect the format of children’s early communication with their caregivers. In what follows, we briefly review what is similar and what is different in the two settings.

4.1. Acquiring a signed language

Before we summarize recent work on this topic, it is useful to give some background on the children and parents who are generally focused on in the studies we mention.⁴ One of the more striking facts to take into account in thinking about communicative act development in this population is that 90–95% of deaf children are born to hearing parents, most of whom have had no previous training with a signed language (Mitchell and Karchmer 2004). Once a child is diagnosed with severe hearing loss (which itself may take some time to recognize), most parents arrange for their children to get cochlear implants or hearing aids. However, the pre-implantation period can last for months or even years. During this period, typically developing hearing children develop many crucial skills on the basis of their social and verbal interactions with their caregivers including: triadic joint attention, familiarity with games and routines, and proto-imperatives and proto-declaratives (Section 3). What happens during this same period for families with deaf children?

Hearing parents of deaf children often do much to adapt their interactional style; they are more likely to use mixed modalities (speech and gesture) in interaction, they move objects and gestures into children's visual fields, use points and body-taps to gain attention, and even use more exaggerated gestures than deaf parents of deaf children (Depowski et al. 2015; Koester, Brooks and Karkowski 1998; Waxman and Spencer 1997). However, hearing parents still lack fluency in the use of non-spoken communication, which may affect the overall quality of the input and, thereby, children's interest in interactional engagement (Depowski et al. 2015). For example, deaf children of hearing parents engage in less sustained interactions than deaf children of deaf parents (Gale and Schick 2009) and spend less time overall in joint attention (Spencer 2000; Prezbindowski, Adamson and Lederberg 1998). Parents who can sign fluently have the ability to shift into child-directed signing when engaging their children in interaction. In child-directed signing they use longer, bigger, more repetitive, and more accessible signs to keep the child's attention, a communicative style that is perhaps more difficult for parents who are not fluent signers (Holzrichter and Meier 2000; Swisher 2000; Masataka 2000). For these reasons, much of the work on children's early communicative development in deaf and signing families has centered on differences that arise between deaf children with deaf signing parents and deaf children with hearing non-signing parents.

⁴ The work on early communicative development in signing children is primarily limited to Western Deaf communities, where signers are the vast minority and where communities have historically built up around organized education (e. g., schools for the deaf). However, there is a whole other world of signing—smaller communities with higher (often genetic) incidence of deafness—that gives a very different picture than the one we paint here. For more information, see Zeshan and de Vos (2012).

4.2. Communicative act development in deaf and signing families

Signing children's early use of proto-declaratives, proto-imperatives, and the transition of these communicative acts from early gesture to early symbolic communication appear developmentally quite similar to what is found for speaking children. One study of 14 deaf children of hearing parents elicited proto-imperatives and proto-declaratives between ages 18 and 30 months. They found that deictic gestures (e. g., pointing) emerged first and continued to be used frequently with development, but also that the frequency and diversity of communicative acts, plus their combination with gaze increased with age (Lichtert and Loncke 2006). The timing of this trajectory appears slightly delayed compared to what has been documented for hearing children of hearing parents (Section 3). In contrast, some have proposed that children acquiring signed languages from birth (typically deaf children with deaf parents) will make the transition between gesture and early symbolic communication earlier than children acquiring spoken languages. Goodwyn and Acredolo (1993) tested this hypothesis by training hearing parents to systematically use gesture during their interactions with their children. They then recorded children's use of symbolic communicative acts in both the gestural and spoken modality, finding that there is a very small (~1 month) but consistent advantage for symbolic communication in the gestural modality (also see Morgenstern et al. 2010). The authors conclude that, for children exposed to interaction rich in spoken or visual signals, the shift in early communicative behavior from gesture to symbolic communication is approximately similar, perhaps even gated by other cognitive developments that enable symbolic representation (see, e. g., Volterra and Caselli 1985).

One place where we can expect differences between signing and speaking children's early communication is during episodes of joint attention. When triadic joint attentional episodes (e. g., book reading or toy play) take place purely in the visual modality, children and parents need to engage in an additional set of behaviors to make sure that their attention stays coordinated. For example, during book reading, hearing children can listen to speech and look at the shared object (the book) simultaneously. Signing children (and parents) need adapt their behavior so that the linguistic information (the signs) and the object information (book) are both available to the child, for example, by signing on the book or frequently switching gaze between different targets (Lieberman, Hatrak and Mayberry 2014; Chasin and Harris 2008). Sign-acquiring children appear to master the basics of this attentional control by age two; during episodes of book reading, they look back at their caregiver more than a third of the time and make an average of 15–16 gaze switches per minute, whereas hearing children of hearing parents hardly look back at their caregiver at all in the same context (1 % of the time, and one gaze switch per minute; Lieberman, Hatrak and Mayberry 2014).

Even though children master the basics of this attentional control by age two, their gaze switching and their sensitivity to more subtle attention-getting cues

increases with age. Increased sensitivity to these cues is a critical development, allowing children to effectively coordinate their use of communicative acts with others during complex interactions. Notably, signing caregivers too have to adapt their language use to ensure that their communicative behaviors are coordinated with the child. Caregivers begin with explicit attention getters (e. g., body taps), but these become less frequent as children get older and, instead, caregivers expect children to understand more subtle behaviors, such as looking, as a bid for mutual gaze and simply beginning a turn at talk within conventional signing space (Harris et al. 1989; Baker and van den Bogaerde 1996; Waxman and Spencer 1997). So, in addition to learning how to use and understand early communicative acts, children acquiring signed languages must also learn early on how to shape their attention such that they can coordinate their communicative acts with others and still track the objects and events currently being talked about.

4.3. Signed language acquisition and Theory of Mind

Finally, much work on early communicative development in deaf and signing children has focused on the acquisition of Theory of Mind. As discussed above, the ability to think about other people's thoughts and beliefs is probably crucial for our ability to infer others' communicative intentions. Collectively, this research has established that deaf children from deaf families show parallel Theory of Mind development to hearing children from hearing families, but that deaf children from hearing families show delayed development with both language-based and non-language-based measures of Theory of Mind (Schick et al. 2007; Moeller and Schick 2006). The same pattern shows even with implicit non-verbal measures of Theory of Mind in infancy (Meristo et al. 2012). These findings suggest that, even before children begin to use and understand words, they benefit from the input they get in rich, linguistically fluent interactions with their caregivers (Meristo et al. 2012; Schick et al. 2007).

In fact, the same pattern can hold for adults who have limited experience with Theory of Mind words (e. g., “think” and “believe”) and syntax (subordinate clauses, i. e., “She thinks that X”). For example, Nicaraguan Sign Language (NSL), which began in the 1970s, took some time to develop Theory of Mind signs, such as “believe”. Early signers of NSL grew up without using these terms while later signers used them from the start. Pyers and Senghas (2009) found that the signers who did not grow up with these signs failed a non-linguistic test of Theory of Mind, while signers who did grow up with them performed well. Interestingly, when they tested these participants again two years later—when there had been much more social interaction between the earlier and later signer generations—they found that the earlier generation used more Theory of Mind signs and also now could pass the test. Their results suggest that the ability to talk about unobserved mental events helps participants to conceive of the mind-

states of others. However, as fully functional members of the NSL community, the early-generation participants in their study must also have had some mechanisms for thinking about others' mental states (e. g., for inferring the meaning of communicative acts) before learning these explicit Theory of Mind terms. The results therefore bring us back to thinking about the precise way in which Theory of Mind links to everyday attributions of communicative intent. It may well be that adults, as well as children, in both signed and spoken interaction, have a whole range of mechanisms for understanding the intentions behind communicative acts, some of which are identified above.

5. Links to other developmental domains

As we have seen, communicative acts are produced and understood in multiple modalities, they often rely on cultural and linguistic knowledge, and they require participants to closely track the ongoing interactive context. For these reasons and more, many other areas of language study naturally connect to communicative acts. Language researchers have investigated communicative acts in a diverse set of domains, including the acquisition of conversational skills, the role of communicative acts in human evolution, and cross-linguistic and individual differences in communicative experience during development.

Much of the work focusing on how children acquire conversational skills has addressed the development of communicative acts. Conversations are made up of sequences of joint action. But how do children get into these complex sequences? As mentioned above, highly predictable caregiver-infant interactional routines (e. g., peek-a-boo) establish interactional templates (Bruner 1975). Even in the initial stages of infancy, there are highly structured non-verbal routines that may serve as initial templates for children trying to break into interaction (Reddy et al. 2013; Takada 2011). These early action templates help children break first ground in learning turn-taking rules and other conversational norms, but they are also tightly connected to the communicative acts that define each action in the routine.

Experimental work on children's predictions about conversational turn taking has also yielded evidence that utterances requiring responses could have a special place in pragmatic development. Starting around age two, children watching videos of dialogue spontaneously anticipate upcoming responses after hearing questions, but not after non-questions (Casillas and Frank 2017; Lammertink et al. 2015). The linguistic and non-linguistic cues children use to recognize questions in real-time conversation are not yet well understood, but it is clear that between age two and three, children begin to (a) understand that questions call for an immediate response and (b) seek them out to anticipate upcoming response needs, even when they are a third-party participant (Lammertink et al. 2015).

Whether or not children make the same kinds of predictions for other types of response-encouraging utterances (e. g., greetings, compliments, complaints) still needs to be tested.

Children's early experience with response-requiring utterances varies across linguistic communities. Even within communities, response-requiring utterances vary in frequency and type as children grow older. Research on early language development in Western settings indicates that questions, especially "test" questions (e. g., "What does a kitty say?"), tag questions ("That was fun, huh?"), and repair questions (e. g., "You want more what?") are frequent in caregiver-child interaction, even in early infancy when there is no chance that the child can give a true response (Snow 1977). As children get older, caregivers ask more "real" questions (e. g., "What happened?"; Fitneva 2012; Casillas, Bobb and E. V. Clark 2016)—a developmentally critical distinction for communicative acts that is not clearly predicted in Gricean or CA theoretical accounts. That said, early "child-friendly" question-asking is not at all universal. In many cultures, caregivers encourage children to adapt to the social interactions in their environment and minimize children's expectations that their social partners will adopt a child-centric perspective (see Lieven 1994 and Gaskins 2006 for summaries). In these communities, there is little reason for "test" and "tag" questions unless they specifically relate to the topic at hand. Even within Western cultures, researchers have found variation in the amount and style of communication that children encounter, including the prevalence of questions (e. g., Hart and Risley 1995; Fernald, Marchman and Weisleder 2013; Weisleder and Fernald 2013) and have linked these differences in linguistic (and pragmatic) experience to speed of word recognition and vocabulary development.

Within single communities, individual children also show substantial variation in their use of early communicative acts. In one longitudinal study of 95 children, Mundy and colleagues (2007) looked at two communicative acts relating to triadic joint attention: initiating and responding to bids for joint attention. They found that children who responded to joint attention more often at 12 months and children who initiated joint attention more often at 18 months ended up with larger receptive (comprehension) vocabularies at 24 months, even when they accounted for differences in children's general cognitive development. Mundy and colleagues also found that some individual differences in joint attention were stable over development; for example, children who were less likely than average to make eye contact while initiating joint attention at 9 months also made lower-than-average eye contact when initiating joint attention at 18 months. Building on these results, the researchers argue that the impact of different communicative acts surrounding joint attentional events (initiating and responding) differs, depending on the child's stage of development. This result adds both individual variation and developmental timing to the list of features that shape the relationship between communicative act development and linguistic development.

These findings on individual differences in question-asking and joint attention lead us to ask just how variable children are in their communicative act development. The sum of prior work suggests that while children learn to leverage some communicative acts (e. g., requests for response, repairing misunderstandings, bids for joint attention) early on, there is immense variability across communities and individuals in the frequency and use of other communicative acts. We therefore expect variable trajectories for communicative act development across children and a complex relationship between communicative act development and language learning.

Most developmental work on communicative acts has focused on the first few years of life, but some aspects of communicative act development are not mastered until later childhood, or even until adolescence. Before age eight, children often respond in conversation in ways that adults find to be pragmatically “inappropriate” under the circumstances (Bishop and Adams 1989). And while children respond to requests for repair soon after they begin speaking (Tomasello, Conti-Ramsden and Ewert 1990; Forrester 2008), their responses are usually limited to self-repetition (Brinton et al. 1986). Sometimes children receive several repair requests in a row (e. g., “huh?”—“what?”—“I didn’t understand that”). Until age five, they have a few strategies for adapting their responses when faced with these repeated repair requests. But, between ages five and seven, children start to consistently add new information to their responses after they receive repeated requests for clarification. Only at age nine so they begin to repair serious breakdowns by backtracking to the original point of misunderstanding (Brinton et al. 1986).

Similarly, although children begin to make requests in infancy, they do not master persuasion or politeness for quite some time; both skills are complex, requiring children to mask requests as indirect communicative acts (Bates 1976; Axia and Baroni 1985). In experimental settings, five- and six-year-olds can mask their requests by making them indirect, but they cannot yet alter their requests flexibly when dealing with resistance from an adult (Axia and Baroni 1985). Request alteration following resistance only happens at age seven and up (Axia and Baroni 1985). In spontaneous interaction—when children are self-motivated to make successful requests (e. g., getting their caregiver to buy them a toy)—their persuasive tactics look more sophisticated. Under these circumstances five- and six-year-olds take their caregiver’s objections into account in their bargaining and they increase their politeness when making more substantial requests (“But I must have all the kinds of Legos!”; Ervin-Tripp, Guo and Lampert 1990; Axia 1996). By age eight, children even begin to reframe their toy-purchase proposals in more cooperative terms (“How much does this one cost? A lot, huh? And this one?”; Axia 1996). At this stage, the strategies for executing a successful request go far beyond masking a single utterance and instead become entire sequences of action.

As far as we know, humans are the only species using these kinds of complex conventions to encode communicative intentions. In fact, humans may be the only species to spontaneously aim to share joint attention between individuals. Hurford

(2016) argues that two developments—the social motivation to communicate and the ability to infer others’ points of view—form the bedrock of our species-specific ability to read others’ cooperative intentions and encode our own communicative intentions in a wide array of linguistic formats. Our great ape relatives, such as chimpanzees, bonobos, and orangutans use alert calls and some non-verbal sequences of communicative acts (e. g., Rossano and Liebal 2014; Rossano 2013). But these are typically limited to direct actions on either the speaker or the addressee (e. g., not about a third object) and are therefore limited in range compared to the full domain of human speaker meanings (Hurford 2016; Tomasello 2010: 319–346). That said, recent work comparing orangutans to human infants argues that some social action sequences, such as those involved in food-sharing, pre-date humans and are found in several primate species (Rossano and Liebal 2014). Future comparative work will be crucial for revealing the prehistoric roots of modern human communicative acts.

6. Concluding remarks

To use language with others, we must be able to produce and comprehend communicative acts. In this chapter, we have reviewed some basic analytical frameworks for thinking about communicative acts (Section 2), described research on the early development of communicative acts in spoken and signing families (Sections 3 and 4), and touched upon several links between early communicative act development and other domains, including the evolutionary origins of language (Section 5). Generally speaking, children show an early competence for communicative acts. The emergence of communicative acts is marked by a reliance on gesture, interactional routines, and early insights about their interlocutor’s perspective and experience; much the same for children acquiring spoken and signed languages. There is still much to be done in pinpointing the precise mechanisms behind early communicative development. An important avenue for future work will be to explore the ways in which these mechanisms adapt to differences in early interactional experience, for example how communicative act development proceeds in families and language communities where child-centric joint-attention and ostensive communicative cues are infrequent (Gaskins 2006). This chapter only scratches the surface in illustrating the multi-method approach that can be taken to studying children’s developing communicative skills: between speech act theory, Grice, common ground, relevance theory, and CA, researchers have a diverse set of tools at hand with which to gain insight about children’s natural interactions. Experimental research also has an enormous role to play in helping us tap into children’s tacit knowledge about interaction and to help elicit behaviors that are otherwise rare in everyday interaction. As we have seen, early communicative act development is closely intertwined with linguistic and social development. Future

work needs to explicitly address the connection between these three domains so that we can better understand communicative development as a whole.

Acknowledgements

This project was supported by an ERC Advanced Grant (269484 INTERACT) to Stephen C. Levinson and an NWO Veni Innovational Research Scheme grant (275-89-033) to MC.

References

- Austin, John L.
1962 *How to Do Things with Words*. Oxford: Oxford University Press.
- Axia, Giovanna
1996 How to persuade mum to buy a toy. *First Language* 16(48): 301–317.
- Axia, Giovanna and Maria R. Baroni
1985 Linguistic politeness at different age levels. *Child Development* 56(4): 918–927.
- Baillargeon, Renée, Rose M. Scott and Zijing He
2010 False-belief understanding in infants. *Trends in Cognitive Sciences* 14(3): 110–118.
- Bakeman, Roger and Lauren B. Adamson
1984 Coordinating attention to people and objects in mother-infant and peer-infant interaction. *Child Development* 55(4): 1278–1289.
- Baker, Anne E. and Beppie van den Bogaerde
1996 Language input and attentional behaviour. In: Carolyn E. Johnson and John H. V. Gilbert (eds.), *Children's Language*, Volume 9, 209–217. Mahwah, NJ: Erlbaum.
- Baron-Cohen, Simon, Alan M. Leslie and Uta Frith
1985 Does the autistic child have a “theory of mind”? *Cognition* 21(1): 37–46.
- Bates, Elizabeth
1976 Acquisition of polite forms: Longitudinal evidence. In: Elizabeth Bates (ed.), *Language and Context: The Acquisition of Pragmatics*, 245–294. New York: Academic Press.
- Bates, Elizabeth, Luigia Camaioni and Virginia Volterra
1975 The acquisition of performatives prior to speech. *The Merrill-Palmer Quarterly* 21(3): 205–226.
- Behne, Tanya, Malinda Carpenter, Josep Call and Michael Tomasello
2005 Unwilling versus unable: Infants' understanding of intentional action. *Developmental Psychology* 41(2): 328–337.
- Bishop, Dorothy V. and Catherine Adams
1989 Conversational characteristics of children with semantic-pragmatic disorder II: What features lead to a judgement of inappropriacy? *International Journal of Language and Communication Disorders* 24(3): 241–263.

- Blum-Kulka, Shoshana and Elite Olshtain
1984 Requests and apologies: A cross-cultural study of speech act realization patterns (CCSARP). *Applied Linguistics* 5(3): 196–213.
- Brinton, Bonnie, Martin Fujiki, Diane Frome Loeb and Erika Winkler
1986 Development of conversational repair strategies in response to requests for clarification. *Journal of Speech, Language and Hearing Research* 29(1): 75–81.
- Bruner, Jerome S.
1975 The ontogenesis of speech acts. *Journal of Child Language* 2(1): 1–19.
- Butterworth, George and Paul Morissette
1996 Onset of pointing and the acquisition of language in infancy. *Journal of Reproductive and Infant Psychology* 14(3): 219–231.
- Cameron-Faulkner, Thea
2014 The development of speech acts. In: Danielle Matthews (ed.), *Pragmatic Development in First Language Acquisition*, 37–52. Amsterdam: John Benjamins.
- Cameron-Faulkner, Thea, Anna Theakston, Elena Lieven and Michael Tomasello
2015 The relationship between infant holdout and gives, and pointing. *Infancy* 20(5): 576–586.
- Capirci, Olga, Annarita Contaldo, Maria C. Caselli and Virginia Volterra
2005 From action to language through gesture: A longitudinal perspective. *Gesture* 5(1): 155–177.
- Capirci, Olga, Jana M. Iverson, Elena Pizzuto and Virginia Volterra
1996 Gestures and words during the transition to two-word speech. *Journal of Child Language* 23(3): 645–673.
- Carpenter, Malinda, Katherine Nagell, Michael Tomasello, George Butterworth and Chris Moore
1998 *Social Cognition, Joint Attention, Communicative Competence from 9 to 15 Months of Age*. (Monographs of the Society for Research in Child Development 63:4.) Hoboken: Wiley.
- Casillas, Marisa, Susan C. Bobb and Eve V. Clark
2016 Turn-taking, timing, and planning in early language acquisition. *Journal of Child Language* 43(6): 1310–1337.
- Casillas, Marisa and Michael C. Frank
2017 The development of children's ability to track and predict turn structure in conversation. *Journal of Memory and Language* 92: 234–253.
- Chasin, Joan and Margaret Harris
2008 The development of visual attention in deaf children in relation to mother's hearing status. *Polish Psychological Bulletin* 39(10): 1–8.
- Clark, Eve V.
1973 Non-linguistic strategies and the acquisition of word meanings. *Cognition* 2(2): 161–182.
- Clark, Eve V.
2009 *First Language Acquisition*. Cambridge: Cambridge University Press.
- Clark, Herbert H.
1996 *Using Language*. Cambridge: Cambridge University Press.

- Colonnese, Cristina, Gert Jan J. M. Stams, Irene Koster and Marc J. Noom
2010 The relation between pointing and language development: A meta-analysis. *Developmental Review* 30(4): 352–366.
- Csibra, Gergely and György Gergely
2009 Natural pedagogy. *Trends in Cognitive Sciences* 13(4): 148–153.
- Csibra, Gergely
2010 Recognizing communicative intentions in infancy. *Mind and Language* 25(2): 141–168.
- Demuth, Katherine, Jennifer Culbertson and Jennifer Alter
2006 Word-minimality, epenthesis and coda licensing in the early acquisition of English. *Language and Speech* 49(2): 137–173.
- Depowski, Nicole, Homer Abaya, John Oghalai and Heather Bortfeld
2015 Modality use in joint attention between hearing parents and deaf children. *Frontiers in Psychology* 6: 1556.
- Dore, John
1974 A pragmatic description of early language development. *Journal of Psycholinguistic Research* 3(4): 343–350.
- Ervin-Tripp, Susan, Jiansheng Guo and Martin Lampert
1990 Politeness and persuasion in children's control acts. *Journal of Pragmatics* 14(2): 307–331.
- Fernald, Anne, Virginia A. Marchman and Adriana Weisleder
2013 SES differences in language processing skill and vocabulary are evident at 18 months. *Developmental Science* 16(2): 234–248.
- Fitneva, Stanka A.
2012 Beyond answers: Questions and children's learning. In: Jan Peter de Ruiter (ed.), *Questions: Formal, Functional, and Interactional Perspectives*, 165–178. Cambridge: Cambridge University Press.
- Forrester, Michael A.
2008 The emergence of self-repair: A case study of one child during the early pre-school years. *Research on Language and Social Interaction* 41(1): 99–128.
- Gale, Elaine and Brenda Schick
2009 Symbol-infused joint attention and language use in mothers with deaf and hearing toddlers. *American Annals of the Deaf* 153(5): 484–503.
- Gaskins, Suzanne
2006 Cultural perspectives on infant–caregiver interaction. In: Nicholas J. Enfield and Stephen C. Levinson (eds.), *The Roots of Human Sociality: Culture, Cognition, and Human Interaction*, 279–298. Oxford: Berg.
- Goodwyn, Susan W. and Linda P. Acredolo
1993 Symbolic gesture versus word: Is there a modality advantage for onset of symbol use? *Child Development* 64(3): 688–701.
- Grice, H. Paul
1975 Logic and conversation. In: Peter Cole and Jerry L. Morgan (eds.), *Syntax and Semantics*. Volume 3: *Speech Acts*, 41–58. New York: Academic Press.
- Harris, Margaret, John Clibbens, Joan Chasin and Ruth Tibbitts
1989 The social context of early sign language development. *First Language* 9(25): 81–97.

- Hart, Betty and Todd R. Risley
 1995 *Meaningful Differences in the Everyday Experience of Young American Children*. Baltimore, MD: Paul H. Brookes Publishing.
- Hilbrink, Elma E., Merideth Gattis and Stephen C. Levinson
 2015 Early developmental changes in the timing of turn-taking: A longitudinal study. *Frontiers in Psychology* 6: 1492.
- Holmes, Janet
 1988 Paying compliments: A sex-preferential politeness strategy. *Journal of Pragmatics* 12(4): 445–465.
- Holzrichter, Amanda S. and Richard P. Meier
 2000 Child-directed signing in American Sign Language. In: Charlene Chamberlain, Jill P. Morford and Rachel I. Mayberry (eds.), *Language Acquisition by Eye*, 25–40. Mahwah, NJ: Erlbaum.
- Hurford, James R.
 2016 Evolutionary linguistics. In: Keith Allan (ed.), *The Routledge Handbook of Linguistics*, 17–32. New York: Routledge.
- Iverson, Jana M. and Susan Goldin-Meadow
 2005 Gesture paves the way for language development. *Psychological Science* 16(5): 367–371.
- Mitchell, Ross E. and Michael A. Karchmer
 2004 Chasing the mythical ten percent: Parental hearing status of deaf and hard of hearing students in the United States. *Sign Language Studies* 4(2): 138–163.
- Kaye, Kenneth and Alan Fogel
 1980 The temporal structure of face-to-face communication between mother and infants. *Developmental Psychology* 16(5): 454–464.
- Koester, Lynne S., Lisa R. Brooks and Andrea M. Karkowski
 1998 A comparison of the vocal patterns of deaf and hearing mother-infant dyads during face-to-face interactions. *Journal of Deaf Studies and Deaf Education* 3(4): 290–301.
- Lammertink, Imme, Marisa Casillas, Titia Benders, Brechtje Post and Paula Fikkert
 2015 Dutch and English toddlers’ use of linguistic cues in predicting upcoming turn transitions. *Frontiers in Psychology* 6: 495.
- Levinson, Stephen C.
 2006 On the human “interaction engine”. In: Nicholas J. Enfield and Stephen C. Levinson (eds.), *Roots of Human Sociality: Culture, Cognition and Interaction*, 39–69. Oxford: Berg.
- Lichtert, Guido F. and Filip T. Loncke
 2006 The development of proto-performative utterances in deaf toddlers. *Journal of Speech, Language and Hearing Research* 49(3): 486–499.
- Lieberman, Amy M., Marla Hatrak and Rachel I. Mayberry
 2014 Learning to look for language: Development of joint attention in young deaf children. *Language Learning and Development* 10(1): 19–35.
- Lieven, Elena V. M.
 1994 Crosslinguistic and crosscultural aspects of language addressed to children. In: Clare Gallaway and Brian J. Richards (eds.), *Input and Interaction in Language Acquisition*, 56–73. New York: Cambridge University Press.

- Masataka, Nobuo
 2000 The role of modality and input in the earliest stage of language acquisition: Studies of Japanese Sign Language. In: Charlene Chamberlain, Jill P. Morford and Rachel I. Mayberry (eds.), *Language Acquisition by Eye*, 3–24. Mahwah, NJ: Erlbaum.
- Meristo, Marek, Gary Morgan, Alessandra Geraci, Laura Iozzi, Erland Hjelmquist, Luca Surian and Michael Siegal
 2012 Belief attribution in deaf and hearing infants. *Developmental Science* 15(5): 633–640.
- Moeller, Mary P. and Brenda Schick
 2006 Relations between maternal input and theory of mind understanding in deaf children. *Child Development* 77(3): 751–766.
- Moll, Henrike, Nadja Richter, Malinda Carpenter and Michael Tomasello
 2008 Fourteen-month-olds know what “we” have shared in a special way. *Infancy* 13(1): 90–101.
- Moore, Richard
 2014 Ontogenetic constraints on Grice’s theory of communication. In: Danielle Matthews (ed.), *Pragmatic Development in First Language Acquisition*, 87–104. Amsterdam: John Benjamins.
- Moore, Richard, Kristin Liebal and Michael Tomasello
 2013 Three-year-olds understand communicative intentions without language, gestures, or gaze. *Interaction Studies* 14(1): 62–80.
- Morales, Michael, Peter Mundy, Christine E. F. Delgado, Marygrace Yale, Daniel Messinger, Rebecca Neal and Heidi K. Schwartz
 2000 Responding to joint attention across the 6- through 24-month age period and early language acquisition. *Journal of Applied Developmental Psychology* 21(3): 283–298.
- Morgenstern, Aliyah, Stéphanie Caët, Marie Leroy-Collombel, Fanny Limousin and Marion Blondel
 2010 From gesture to sign and from gesture to word: Pointing in deaf and hearing children. *Gesture* 10(2–3): 172–202.
- Mundy, Peter, Jessica Block, Christine Delgado, Yuly Pomares, Amy V. Van Hecke and Meaghan V. Parlade
 2007 Individual differences and the development of joint attention in infancy. *Child Development* 78(3): 938–954.
- Murray, Lynne and Colwyn Trevarthen
 1985 Emotional regulation of interactions between two-month-olds and their mothers. In: Tiffany M. Field and Nathan A. Fox (eds.), *Social Perception in Infants*, 177–197. Norwood, NJ: Ablex.
- Ninio, Anat, Catherine E. Snow, Barbara A. Pan and Pamela R. Rollins
 1994 Classifying communicative acts in children’s interactions. *Journal of Communication Disorders* 27(2): 158–187.
- Ninio, Anat and Polly Wheeler
 1984 Functions of speech in mother-infant interaction. In: Lynne Feagans, Catherine Garvey and Roberta Golinkoff (eds.), *The Origins and Growth of Communication*, 196–207. Norwood, NJ: Ablex.

- Ninio, Anat and Polly Wheeler
 1986 A manual for classifying verbal communicative acts in mother-infant interaction. *Transcript Analysis* 3(1): 1–82.
- O’Neill, Daniela K.
 1996 Two-year-old children’s sensitivity to a parent’s knowledge state when making requests. *Child Development* 67(2): 659–677.
- Premack, David and Guy Woodruff
 1978 Does the chimpanzee have a theory of mind? *The Behavioral and Brain Sciences* 4(1): 515–526.
- Prezbindowski, Amy K., Lauren B. Adamson and Amy R. Lederberg
 1998 Joint attention in deaf and hearing 22-month-old children and their hearing mothers. *Journal of Applied Developmental Psychology* 19(3): 377–387.
- Pyers, Jennie E. and Ann Senghas
 2009 Language promotes false-belief understanding evidence from learners of a new sign language. *Psychological Science* 20(7): 805–812.
- Reddy, Vasudevi, Katja Liebal, Kerry Hicks, Srujana Jonnalagadda and Beena Chintalapuri
 2013 The emergent practice of infant compliance: An exploration in two cultures. *Developmental Psychology* 49(9): 1754–1762.
- Rossano, Federico
 2013 Sequence organization and timing of bonobo mother-infant interactions. *Interaction Studies* 14(2): 160–189.
- Rossano, Federico and Katja Liebal
 2014 “Requests” and “offers” in orangutans and human infants. In: Paul Drew and Elizabeth Couper-Kuhlen (eds.), *Requesting in Social Interaction*, 335–364. Amsterdam: John Benjamins.
- Rovee, Carolyn K. and David T. Rovee
 1969 Conjugate reinforcement of infant exploratory behavior. *Journal of Experimental Child Psychology* 8(1): 33–39.
- Sacks, Harvey, Emanuel A. Schegloff and Gail Jefferson
 1974 A simplest systematics for the organization of turn-taking for conversation. *Language* 50(4): 696–735.
- Sakkalou, Elena, Kate Ellis-Davies, Nia C. Fowler, Elma E. Hilbrink and Merideth Gattis
 2013 Infants show stability of goal-directed imitation. *Journal of Experimental Child Psychology* 114(1): 1–9.
- Schegloff, Emanuel A.
 2007 *Sequence organization in interaction, Volume 1: A primer in Conversation Analysis*. Cambridge: Cambridge University Press.
- Schick, Brenda, Peter De Villiers, Jill De Villiers and Robert Hoffmeister
 2007 Language and theory of mind: A study of deaf children. *Child Development* 78(2): 376–396.
- Scott, Katherine, Elena Sakkalou, Kate Ellis-Davies, Elma E. Hilbrink, Ulrike Hahn and Merideth Gattis
 2013 Infant contributions to joint attention predict vocabulary development. In: Markus Knauff, Michael Pauen, Natalie Sebanz and Ipke Wachsmuth (eds.), *Proceedings of the 35th Annual Conference of the Cognitive Science Society*, 3384–3389. Austin, TX: Cognitive Society.

- Searle, John R.
1969 *Speech Acts: An Essay in the Philosophy of Language*. Cambridge: Cambridge University Press.
- Searle, John R.
1975 What is a speech act? In: Max Black (ed.), *Philosophy in America*. Ithaca, NY: Cornell University Press.
- Searle, John R.
1976 A classification of illocutionary acts. *Language in Society* 5(1): 1–23.
- Senju, Atsushi and Gergely Csibra
2008 Gaze following in human infants depends on communicative signals. *Current Biology* 18(9): 668–671.
- Shatz, Marilyn
1978a Children's comprehension of their mothers' question-directives. *Journal of Child Language* 5(1): 39–46.
- Shatz, Marilyn
1978b On the development of communicative understandings: An early strategy for interpreting and responding to messages. *Cognitive Psychology* 10(3): 271–301.
- Sidnell, Jack
2016 A conversation analytic approach to research on early childhood. In: Ann Farrell, Sharon L. Kagan and E. Kay M. Tisdall (eds.), *The SAGE Handbook of Early Childhood Research*, 255–276. London: Sage.
- Sidnell, Jack and Tanya Stivers (eds.)
2013 *The Handbook of Conversation Analysis*. Chichester: Wiley-Blackwell.
- Snow, Catherine E.
1977 The development of conversation between mothers and babies. *Journal of Child Language* 4(1): 1–22.
- Snow, Catherine E., Barbara A. Pan, Alison Imbens-Bailey and Jane Herman
1996 Learning how to say what one means: A longitudinal study of children's speech act use. *Social Development* 5(1): 56–84.
- Spencer, Patricia E.
2000 Looking without listening: Is audition a prerequisite for normal development of visual attention during infancy? *Journal of Deaf Studies and Deaf Education* 5(4): 291–302.
- Swisher, M. Virginia
2000 Learning to converse: How deaf mothers support the development of attention and conversational skills in their young deaf children. In: Patricia E. Spencer, Carol J. Erting and Marc Marschark (eds.), *The Deaf Child in the Family and at School*, 21–40. Mahwah, NJ: Erlbaum.
- Sperber, Dan and Deirdre Wilson
1986 *Relevance*. Cambridge: Harvard University Press.
- Symons, Douglas and Greg Moran
1994 Responsiveness and dependency are different aspects of social contingencies: An example from mother and infant smiles. *Infant Behavior and Development* 17(2): 209–214.
- Takada, Akira
2012 Pre-verbal infant–caregiver interaction. In: Alessandro Duranti, Elinor Ochs and Bambi B. Schieffelin (eds.), *The Handbook of Language Socialization*, 56–80. Malden, MA: Wiley-Blackwell.

- Tomasello, Michael
 1995 Joint attention as social cognition. In: Chris Moore, Philip J. Dunham and Phil Dunham (eds.), *Joint Attention: Its Origins and Role in Development*, 103–130. Mahwah, NJ: Lawrence Erlbaum.
- Tomasello, Michael
 2010 *Origins of Human Communication*. Boston, MA: MIT Press.
- Tomasello, Michael, Malinda Carpenter, Josep Call, Tanya Behne and Henrike Moll
 2005 Understanding and sharing intentions: The origins of cultural cognition. *Behavioral and Brain Sciences* 28(5): 687–691.
- Tomasello, Michael, Gina Conti-Ramsden and Barbara Ewert
 1990 Young children’s conversations with their mothers and fathers: Differences in breakdown and repair. *Journal of Child Language* 17(1): 115–130.
- Volterra, Virginia and Maria C. Caselli
 1985 From gestures and vocalization to signs and words. In: William C. Stokoe and Virginia Volterra (eds.), *SLR '83 Proceedings of the III International Symposium on Sign Language Research*, 1–9. Silver Spring, MD: Linstok.
- Warneken, Felix and Michael Tomasello
 2007 Helping and cooperation at 14 months of age. *Infancy* 11(3): 271–294.
- Waxman, Robyn P. and Patricia E. Spencer
 1997 What mothers do to support infant visual attention: Sensitivities to age and hearing status. *Journal of Deaf Studies and Deaf Education* 2(2): 104–114.
- Weisleder, Adriana and Anne Fernald
 2013 Talking to children matters: Early language experience strengthens processing and builds vocabulary. *Psychological Science* 24(11): 2143–2152.
- Woodward, Amanda L.
 1998 Infants selectively encode the goal object of an actor’s reach. *Cognition* 69(1): 1–34.
- Woodward, Amanda L.
 1999 Infants’ ability to distinguish between purposeful and non-purposeful behaviors. *Infant Behavior and Development* 22(2): 145–160.
- Yurovsky, Daniel
 2018 A communicative approach to early word learning. *New Ideas in Psychology* 50: 73–79.
- Zeshan, Ulrike and Connie de Vos (eds.)
 2012 *Sign Languages in Village Communities: Anthropological and Linguistic Insights*. Berlin: Mouton de Gruyter.

4. Acquisition of epistemic and evidential expressions

Tomoko Matsui

Abstract: All the languages of the world have means to indicate how the speakers acquired a piece of information and means to indicate how certain or committed the speakers are about the truthfulness of the information they are describing. The former is often called evidential expressions and the latter epistemic expressions or expressions of certainty. When one of these expressions are included in an utterance, the hearer uses them to assess the trustworthiness of the information. In this chapter, I will discuss acquisition of epistemic and evidential expressions within the context of development of pragmatic abilities to assess trustworthiness of the utterance. I will first illustrate how acquisition of evidential and epistemic expressions is related to psychological understanding of trustworthiness of utterance. Then I will review the main findings about children's production and comprehension of epistemic and evidential expressions. The chapter will end with suggestions for future research directions.

1. Introduction

Pragmatic abilities required to assess trustworthiness of an utterance may be divided into two types. One is psychological (i. e. non-linguistic) and the other linguistic. Psychological abilities involved in assessing trustworthiness of utterances include an ability to understand and to evaluate the informant's mental states (i. e. "theory of mind") and an ability to grasp the sources of information and to assess their reliability critically. During the last decade, development of psychological abilities involved in assessment of trustworthiness of informants and sources of information has become one of the major topics of research among developmental psychologists (Gelman 2009). One of the main findings of the series of research so far is that sensitivity to a variety of non-linguistic clues of trustworthiness of the speaker gradually develops between 2 and 8 years of age (Matsui et al. 2016; Brosseau-Liard and Poulin-Dubois 2014).

On the other hand, researchers who are interested in language development discovered that certain linguistic expressions centrally contribute to the hearer's assessment of trustworthiness of the information communicated by the utterance. Given the social nature of our communication described above, it is no surprise that every language has means to indicate how the speakers acquired a piece of information, as well as means to indicate how certain or committed the speakers are

<https://doi.org/10.1515/9783110431056-004>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 89–118. Berlin/Boston: De Gruyter Mouton.

about the truthfulness of the information they are describing. The former is often called evidential expressions and the latter epistemic expressions or expressions of certainty. When one of these expressions are included in an utterance, the hearer uses them to assess the trustworthiness of the information. Existing studies indicate that epistemic expressions are acquired earlier than evidential expressions and that adult-like understanding of evidential expressions is protracted until around 8 years of age (Fitneva and Matsui 2009). Importantly, many studies suggest that acquisition and understanding of evidential and epistemic expressions is closely related to psychological understanding of trustworthiness of utterances (Fitneva and Matsui 2009; Matsui 2014).

In languages such as English and German, sources of information are encoded lexically with expressions such as “I saw” or adverbials such as *allegedly*. In some languages, for example, Tibetan and Turkish, by contrast, sources of information are expressed by grammaticalized morphology, such as verbal affixes and particles. In languages such as Turkish and Bulgarian, grammaticalized evidential marking (i. e. evidentials) is obligatory. In other languages such as Japanese and Quechua, it is optional. Unlike lexical expressions of sources of information such as “I saw” or “I heard” by which potentially anything can be described as the source, evidentials, which exist in one-quarter of the languages in the world, refer to only a limited set of knowledge sources such as personal experience, direct (visual) evidence, indirect (hearsay) evidence and inference (Aikhenvald 2004). Examples of Quechua evidentials (direct evidence, inference and indirect evidence) are shown below:

(1) From Courtney (2015: 106)

<i>Xwan-mi</i>	<i>chaya-mu-n.</i>
Juan-direct evidence	arrive-translocative3
‘(Speaker has witnessed that) Juan has arrived.’	

<i>Xwan-chá</i>	<i>chaya-mu-n.</i>
Juan-conjecture	arrive-translocative3
‘(Speaker infers/supposes that) Juan has arrived.’	

<i>Xwan-si</i>	<i>chaya-mu-n.</i>
Juan-reportative	arrive-translocative3
‘(Speaker has been told that) Juan has arrived’	

Some of the above Quechua evidential morphemes also have an epistemic function of indicating relative speaker certainty or degree of commitment to the truthfulness of the statement (Courtney 2015). For example, in (1), *mi* indicates that the speaker is certain that Juan has arrived, and in (2), *chá* indicates that the speaker is not 100

percent certain about Juan's arrival. The reportative *si*, in (3), on the other hand, has only the evidential function of marking information as hearsay.

There are a variety of linguistic means for expressing the speaker's attitude of certainty about the propositional content of the utterance. Certainty can be expressed via open-class lexical items such as *I know/bet, I think/guess, definitely*, and *probably* or closed class items such as *may* and *must*, or the Japanese sentence-final particles *yo* (certain) and *kana* (uncertain). Existing studies suggest that acquisition of the linguistic expressions of speaker certainty is closely related to children's understanding of the speaker's knowledge states around 3 years (Matsui et al. 2009) or the speaker's belief-states between 4 and 5 years of age (Moore, Pure and Furrow 1990).

Although evidentiality and speaker certainty are two conceptually distinct categories (De Haan 1999; Faller 2002), they are also closely related. The following scale has been suggested to represent a mental hierarchy of quality of evidence we prioritize in order to assess trustworthiness of the information:

(2) From Davis, Potts and Speas (2007: 3)

Personal experience > Direct (sensory) evidence > Indirect evidence > Hearsay

This hierarchy shows that we have a strong tendency to trust information on the basis of personal experience (based on privileged access to one's own state of mind or body) most and the hearsay information least. Needless to say, actual assessment of the speaker's trustworthiness depends on various other factors, such as the speaker's general intelligence and reliability in the past. Therefore, the scale should not be taken as a rigid rule. It is quite reasonable, however, to assume that our estimation of quality of evidence and evaluation of speaker's knowledge or commitment are closely related in the process of overall assessment of trustworthiness of utterances.

A number of developmental studies have demonstrated that children's acquisition of epistemic and evidential expressions is closely related to development of other cognitive capabilities including theory of mind and source monitoring ability. These cognitive abilities are required for psychological reasoning about trustworthiness of the speaker and reliability of information. Following Sperber and others (Sperber et al. 2010), I use the term "epistemic vigilance" to refer to the ability to reason about trustworthiness of the speaker and reliability of information. Importantly, such a reasoning ability makes an essential part of the hearers' pragmatic abilities to decide whether they should accept the information as true or not.

In this chapter, I will first discuss studies on development of three socio-cognitive abilities, i. e. epistemic vigilance, theory of mind, and the source-monitoring ability, which together form the psychological basis for understanding of epistemic and evidential expressions. I will also illustrate how these socio-cognitive abili-

ties are related to children's developing understanding of epistemic and evidential expressions. Then I will review the main findings about children's production and comprehension of epistemic and evidential expressions. The chapter will end with suggestions for future research directions.

2. Development of Epistemic Vigilance

2.1. Children's understanding of reliability of information source

Children demonstrate their sensitivity to signs of trustworthiness of the speaker (i. e. epistemic vigilance towards the source of information) by 3 years of age. They trust knowledgeable or accurate informants and dismiss the claim made by ignorant or inaccurate counterparts (e. g. Clément, Koenig and Harris 2004; Koenig, Clément and Harris 2004). Children become sensitive to the speaker's attitude of certainty about the propositional content of the utterance at an early age (Matsui et al. 2009). For example, 2-year-olds differentiate certain and uncertain speakers by non-verbal signs and imitate certain speakers more often than uncertain counterparts (Birch, Akmal and Frampton 2010; Brosseau-Liard and Paulin-Dubois 2014). By 3 years of age, children become capable of assessing the speaker's attitude of certainty on the basis of linguistic clues (Matsui et al. 2016). Their ability to assess the trustworthiness of the informant becomes more successful and consistent as they get older (Koenig and Harris 2005; Pasquini et al. 2007).

Children appear to understand seeing as a source of knowledge between three and four years of age (Pillow 1989; Pratt and Bryant 1990). Specifically, they begin to understand the difference between an informative and uninformative visual access—for example, that one cannot identify an object from seeing a part that allows multiple interpretations. Understanding of the modality-specific aspect of knowledge, for example, that knowledge of color is obtained through vision and of temperature through feeling is generally demonstrated only at age four (O'Neill and Chong 2001). It takes a couple of years more for children to understand that inference is also a legitimate source of knowledge (Sodian and Wimmer 1987). Further understanding about inference develops during middle childhood: at around age nine, children come to grasp that deduction is more reliable than guessing (Pillow et al. 2000).

Three- and four-year-olds also have difficulty correctly indicating how they have come to know what they report (Gopnik and Graf 1988; O'Neill and Chong 2001). O'Neill and Gopnik (1991), for example, tested whether preschoolers could identify an object that was hidden in a tunnel by touching it, seeing it, or being told what the object was. When later asked how they came to know what was inside the tunnel, three-year-olds generally failed to explain how they knew, despite being able to identify the object itself.

Developmental studies in the last 30 years have demonstrated that children's conceptual understanding of sources of knowledge takes time to develop. The earliest understanding is about the connection between seeing and knowing demonstrated between 3 and 4 years of age (Pillow 1989; Pratt and Bryant 1990; Wimmer, Hogrefe and Sodian 1988). More systematic modality-specific knowledge acquisition – for example, type of sound by hearing, or degree of hardness by touching – is achieved around age 4 (O'Neill and Gopnik 1991; Robinson, Mitchell and Nye 1995; Robinson and Whitcombe 2003; Whitcombe and Robinson 2000). Then, around 6 years of age, children begin to grasp that inference is also a legitimate source of knowledge, and around 9 years gradually come to distinguish a variety of inferences, for example, between deduction and mere guessing (Sodian and Wimmer 1987; Pillow et al. 2000). Thus, it is reasonable to assume that development of epistemic vigilance, i. e. the hearer's assessment of trustworthiness of the speaker also takes time to develop, but more research on older children's assessment of the speaker is required to confirm the possibility.

As children's assessment of reliability of source of information, as well as trustworthiness of the informants, is often discussed in relation to their mind-reading ability, in the next section, I will discuss studies on development of mind-reading ability and its relation to children's understanding of beliefs and intentions of the speaker.

2.2. Children's understanding of mental states of the speaker

Past research on development of mind-reading ability (or "theory of mind") has revealed that by 5 years of age, children acquire the concept of belief and can think and talk about not only true beliefs, but also beliefs that are false (Bartsch and Wellman 1995). The focus of the majority of research in the 80's and 90's was preschool children and their understanding of false belief. The experiments using standard false belief tasks demonstrated that 3-year-olds consistently failed while most 5-year-olds passed the first-order false belief tasks¹. The developmental trend turned out to be universal (Wellman, Cross and Watson 2001). Over the last

¹ First-order false belief tasks are widely used to examine children's ability to reason about a belief about reality attributed to one person which is false. First-order belief reasoning is considered to involve a metarepresentation containing a mental state verb (such as *believe*) and a complement clause (e. g. Tom believes that Simon has eaten all the chocolate). Children typically pass the first-order false belief tasks by 5 years of age. However, it takes time to acquire adult-like sophisticated belief understanding. Between 7 and 8 years of age, children become capable of understanding second-order false belief which involves one person's false belief about another person's belief about reality (e. g. Mary thinks that Tom believes that Simon has eaten all the chocolate).

decade, the focus of theory of mind research moved to even younger population. Recent studies have shown that 1- to 2-year-olds are able to grasp the behavioral consequence of having false beliefs (Onishi and Baillargeon 2005; Surian, Caldi and Sperber 2007).

By contrast, research on theory of mind development after the age of 6 is rather scarce so far (Lagattuta et al. 2015). Early studies on mind-reading ability in children above 6 demonstrated that the majority of 6-year-olds failed but 7- to 9-year-olds passed second-order false belief tasks (Perner and Wimmer 1985). Later studies have shown that even 5-year-olds understand second-order false belief if the story in the task is less complicated (Sullivan, Zaitchik and Tager-Flusberg 1994). Still, studies that compared the performance of the first-order and the second-order false belief tasks within a child revealed that children who do not pass the first-order tasks cannot pass the second-order tasks: in other words, there is a sequential order in development of first- and second-order representational abilities (Hayashi 2007).

Sequential development of mind-reading ability is also suggested by several studies using 5-point theory of mind scale (Wellman and Liu 2004; Wellman, Fuxi and Peterson 2011). These studies have shown that children first understand diverse desires, which is sequentially followed by diverse beliefs, knowledge access, false belief and hidden emotion. In a more recent study, sarcasm understanding was added to the scale as the 6th step and the result confirmed that it was the most challenging task even for 9-year-olds (Peterson, Wellman and Slaughter 2012). The authors concluded that understanding nonliteral, ironic or sarcastic messages is a more advanced aspect of mind-reading ability. They suggested that discrepancy between the speaker's intention and literal word meaning was the cause of the difficulty, but the question of why children found such discrepancy more difficult to handle, for example, than discrepant emotions, has not been addressed so far.

Some researchers developed so-called "advanced theory of mind" or "strange stories" tasks to investigate children's understanding of mental states during middle childhood and adolescence. These tasks involve stories in which the speaker said something to the hearer and children are asked about the speaker's intentions behind the utterance in the story. It turns out that these tasks are typically harder for children to pass than the standard second-order false belief tasks. Children pass the standard second-order false belief around 7 years of age (Perner and Wimmer 1985), but understanding of the speaker's intentions behind target utterances in the strange stories is achieved sometime between 8 and 16 years old (Dyck, Ferguson and Schochet 2001; Happé, 1994; Kaland et al. 2008; Meins et al. 2006). It appears, therefore, that second-order intention about beliefs (e. g. "the speaker intends that the hearer believes P") seems to be more difficult for children to understand than second-order belief about beliefs ("the speaker believes that the hearer believes P"). The issue is why this is the case. Existing studies suggest that chil-

dren come to understand false belief about intentions around the same time as they understand false belief about beliefs (Pillow and Weed 1995; Shiverick and Moore 2007). Understanding second-order intentions about beliefs, however, may require more sophisticated mind-reading ability (Miller 2012).

Why understanding the second-order intentions is more challenging than understanding the second-order beliefs for children? Successful understanding of someone's belief is achieved partly by comparison of the belief content with reality (or true information in general). Alternatively, if we know that people had misinformation about something, we assume that they may have false belief about it. But in order to understand or predict someone's intentions, comparison with reality or true information does not help. Unlike beliefs, mental states such as intentions, emotions, motivations, and attitudes cannot be assessed by either being true or false. People can have different intentions, emotions, motivations and attitudes about the same thing, person, or thought. Furthermore, the same person may have different intentions or emotions about the same thing or thought at different times. In other words, unlike beliefs which can only be either true or false, non-belief mental states are diverse by nature and hence more difficult to understand or predict than belief states.

Some researchers argue that children come to understand the diversity of mental states and the subjective or interpretive nature of mind during middle childhood (Carpendale and Chandler 1996). Children come to understand a variety of mental states and origin of such mental states between 6 and 12 years of age. For example, children develop understanding of the origins of expectation or misinterpretation (Pillow and Mash 1999), intentionality of actions (Mull and Evans 2010), belief-based emotions (de Rosnay et al. 2004), lie telling (Hsu and Cheung 2013), irony (Filippova and Astington 2008), Faux Pas (Banerjee, Watling and Caputi 2011; Baron-Cohen et al. 1999), modesty (Banerjee 2000), and social display rules (Banerjee and Yuill 1999; Naito and Seki 2009) over this period. Understanding of individual diversity of mental states is claimed to be conceptually distinct from understanding of false belief and hence children are considered to go through a major transition in mental state understanding during middle childhood (Lalond and Chandler 2002; Pillow and Henrichon 1996).

2.3. Mind-reading ability and epistemic vigilance

The existing studies on children's understanding of the subjective or interpretive nature of mental states during middle childhood, however, do not offer any model or theoretical framework on the following issue: in what way so-called "advanced" or "interpretive" mind reading ability helps a child to infer the speaker's intention behind utterances that are clearly false, such as lies and ironies. Here I suggest that relevance theory provides a strong theoretical framework (Sperber and Wilson 1995; Sperber et al. 2010). In order to understand the speaker's inten-

tions behind utterances, mind-reading ability, which is specifically geared to infer the speaker's higher-order intentions, is required. In addition, to understand that inconsistency or incoherence in the utterances and to work out its relation to the speaker intention, epistemic vigilance, i. e. the capacity to defend oneself against being accidentally or intentionally misinformed by communicators, is involved. Humans are equipped with an ability to assess truthfulness of the socially communicated information and to decide whether one should accept or reject the information on the basis of the assessment. This ability, combined with another ability geared to search for relevance, enables humans to infer the speaker's intentions behind utterances.

Mascaro and Sperber (2009) suggest that in order to understand deception, the hearer needs to grasp all of the following 3 features: the speaker's malevolent motivation, falsity of communicated information and the speaker's intention to deceive the hearer. They argue that humans are equipped with epistemic vigilance which consists of 3 components each of which is geared to deal with each of the 3 features of deception: a moral or affective component of epistemic vigilance is geared to grasp the speaker's malevolent motivation; the epistemic component is involved in attending to falsity of information; and the mind-reading component is involved in finding out if the hearer has a deceptive intention. They suggest that in adults, the 3 components of epistemic vigilance can function either independently or in coordination. They also demonstrate that in children, each of the 3 components develops independently at different time points. Thus, it is quite possible that only a part of the 3 components of epistemic vigilance are used in utterance comprehension. For example, preschoolers may notice the speaker's malevolent motivation and falsity of information, but they are unaware of his deceptive intention.

Developmental lag among the 3 components of epistemic vigilance is also suggested by existing studies on children's interpretation of apparently false utterances. Children understand lies are false statements by 4 years of age, without grasping that it is intentionally false (Lyon, Quas and Carrick 2013; Wimmer, Gruber and Perner 1984). However, until about 8 years of age, children do not always pay attention to the discrepancy between false statement and reality and tend to revise the reality in their mind on the basis of the statement (Ackerman 1981; Demorest et al. 1983). When they come to notice the discrepancy between the false statement and reality at around 9 years, children are more likely to think that the false statements are mistakes or lies (Demorest et al. 1983; Demorest et al. 1984). In other words, children recognize the discrepancy but assume that the speaker intends the hearer to believe the false statement as true, rather than to dismiss it as false.

Existing studies suggest that sometime between 11 and adulthood, children come to understand both the discrepancy between false statement and reality, and the speaker's purpose of making the false statement deliberately (Demorest et al. 1983; Demorest et al. 1984). Thus, children's understanding of the speaker's sec-

ond-order intention behind a false statement (the speaker intends that the hearer believes/does not believe the false statement) develops much later than understanding of second-order false belief. In the next section, I will discuss how children's understanding of linguistic markers of certainty and evidentiality is related to their assessment of trustworthiness of the information.

2.4. Children's understanding of linguistic indications of trustworthiness of the information

Existing developmental studies have demonstrated that children's acquisition of epistemic and evidential expressions is closely related to development of other cognitive capabilities including theory of mind, source monitoring ability, and epistemic vigilance. In this section, I will illustrate how children's understanding of epistemic and evidential expressions is related to their psychological understanding of the speaker's mental states and evidential commitment by reviewing the main findings of the existing studies.

Moore and his colleagues carried out a series of experimental studies which tested whether young children can adequately distinguish the semantic/pragmatic difference between word pairs such as *know* and *think* (Moore, Bryant and Furrow 1989). In these experiments, children were asked to identify the location of a hidden object on the basis of two conflicting claims made by two different speakers. One claim was always preceded by an expression of speaker certainty (e. g. *I know it's in the red box*) and the other by an expression of speaker uncertainty (e. g. *I think it's in the blue box*). Children were expected to trust the claim preceded by an expression of speaker certainty. The results of the experiments suggest that there is a threshold between 3- and 4-year-olds: 4-year-olds were capable of differentiating the degree of speaker certainty associated with each of the two verbs, while 3-year-olds were not. The authors concluded that only 4-year-olds, who are capable of first-order belief reasoning, understood the different degree of certainty indicated by *I know* and *I think*.

More recently, Sabbagh and Baldwin (2001) investigated whether young children learn words more readily from knowledgeable as opposed to ignorant speakers. The authors argue that for a child to learn the meaning of a new word, the child must be capable of judging if the speaker knows the word or not. The results of their first experiment suggest that both 3- and 4-year-olds are capable of understanding the speakers' confidence about word-referent links when this attitude is verbally expressed, as in *I know this toy*, or *I don't know this toy*. However, the results of their second experiment indicate that when the speakers' knowledge about the toy need to be inferred from the context (e. g. the speaker who has made the toy himself has knowledge of the toy but the speaker who is the friend of the toy maker may not have the relevant knowledge), only 4-year-olds were capable of assessing the knowledge states of the speaker accurately. On the basis of the overall

results, the authors suggested that children's understanding of speaker certainty in word learning is closely related to their theory of mind development.

Slightly older children's spontaneous understanding of linguistically- encoded speaker's knowledge states has been investigated by Matsui and colleagues (Matsui, Yamamoto and McCagg 2006; Matsui and Miura 2009). Matsui et al. (2006) presented preschoolers (aged 3–6 years) with hidden object tasks that prompted them to make decisions based on two conflicting utterances, each of which was marked with an expression of a different degree of speaker certainty and evidentiality. Table 1 shows the linguistic stimuli chosen to convey speaker certainty and evidentiality through both particles and verbs in Japanese.

Table 1: Contrastive Pairs Used in Hidden-Object Task (Matsui et al. 2006)

Linguistic form	Epistemic states	Contrastive pairs		
Particles	Certainty	<i>yo</i>	vs.	<i>kana</i>
	Evidentiality	<i>yo</i>	vs.	<i>tte</i>
Verbs	Certainty	<i>shitteru</i> (know)	vs.	<i>omou</i> (think)
	Evidentiality	<i>mita</i> (saw)	vs.	<i>kiita</i> (heard that)

Children comprehended certainty contrasts better than evidentiality contrasts, and they understood speaker's knowledge states better when they were conveyed by particles than by verbs. Three-year-olds already had a fairly good understanding of the particles of speaker certainty *yo* and *kana*, but their understanding of equivalent verbs remained poor. An intriguing finding was that children's understanding of epistemic particles did not correlate with the children's false belief understanding. Their understanding of epistemic verbs, however, did relate significantly to whether or not they pass false-belief tasks. The overall results thus indicate that the understanding of speaker's knowledge states conveyed by epistemic particles may involve different mechanisms from those involved in understanding epistemic verbs.

This study was extended by Matsui and Miura (2009) who investigated whether children could give adequate justifications for their choice of which was the more reliable speaker out of the two. They found that 4-year-olds were unable to provide a good justification for their choice even when the choice they made was correct. Children between 5 and 7 years of age could make some adequate justifications by referring to the relevant utterance, but even the oldest children's performance was far from that of adults. Interestingly, children were much better at making justifications when they heard utterances with epistemic and evidential particles than when they heard utterances with equivalent verbs.

Recently, a similar experimental paradigm as in Matsui et al. (2006) was used to test Quechua-speaking children's assessment of relative reliability of contrasting

statements. Courtney (2015) examined understanding of reliability of information in adults and children (3–6 years) using Quechua epistemic and evidential markers. *-Chá* that encodes both epistemic meaning of uncertainty and evidential meaning and reasoning as information source was contrasted with epistemic expressions of *-puni* (certainty) or *-mi* (certainty and direct evidence). The prediction here was that if children understand epistemic meaning of each morpheme, the statements with *-cha* should be assessed less reliable than the statements either with *-puni* or *-mi*. In addition, children's understanding of contrasting evidential expressions was tested by a pair of statements: one with the combination of *-mi* and *-ra* (experienced past) and the other with the combination of *-si* and *-sqa* (non-experience past). The results showed that overall adults and older children (5–6 years old) performed better than younger children (3–4 years old). However, while all children performed equally well with adults in assessing reliability of statements with contrasting epistemic expressions, they struggled to do so in assessing reliability of statements with contrasting evidential markers: Older children's performance was at chance and younger children below chance. Courtney concluded that as in the study of Japanese children in Matsui et al. (2006), Quechua-speaking children were good at assessing reliability of statements on the basis of what is encoded by epistemic expressions earlier than doing so on the basis of what is encoded by evidential expressions.

Aksu-Koç et al. (2009) report a study investigating the connection between use of evidentials and source monitoring. They predicted that children's ability to use evidentials boosts their skill to make use of the source of knowledge held in memory. Turkish 4-year-olds were asked to describe, comment on, or retell some events with appropriate evidentials (direct visual evidence, indirect hearsay evidence and inference). The children were also asked to identify the person from whom they acquired information a week later. The authors found that children's ability to use *-(Im)Is* (indirect hearsay evidence) predicted the ability to remember the source of information. They concluded that speaking a language with evidentials boosts development of memory of the knowledge source.

Lucas et al. (2013) also investigated the influence of exposure to language with obligatory use of evidentials on children's assessment of knowledge states of the speaker and theory of mind. They compared Turkish, Chinese, and English children's ability to assess trustworthiness of the speaker and false belief understanding. Turkish 3- and 4-year-olds, who were exposed to evidential language, were better than same-aged Chinese and English children both in assessment of trustworthiness of the speaker and false belief understanding. The authors concluded that exposure to evidential language yielded Turkish children's higher sensitivity to the speaker knowledge states and that such sensitivity in turn promoted their accurate assessment of trustworthiness of information and first-order belief reasoning.

2.5. Summary

Epistemic vigilance, i. e. the ability to assess the trustworthiness of information on the basis of the speaker's mental states and sources of information, takes time to develop. Development of children's understanding of linguistic markers of speaker certainty and evidentiality appear to be connected to their theory of mind development. However, exactly how they are connected is far from clear so far. The finding that 4-year-olds, but not 3-year-olds, understand the speaker's degree of certainty about the information indicated by epistemic verbs such as *I think* and *I know* suggests that there is connection between the first-order belief reasoning and skills to infer the knowledge state of the speaker. Also Turkish children's better performance than Chinese and English children in first-order false belief understanding suggests there is a positive link between exposure to evidential languages and theory of mind development.

However, existing studies reviewed here also demonstrated that the timing of children's functional understanding of epistemic expressions varies according to the linguistic form of each expression (e. g. particles vs. verbs). This indicates that factors unrelated to theory of mind development also determine the time course of development of epistemic expressions. In addition, children's ability to make use of evidential expressions to assess the trustworthiness of information develops much later between 6 and 12 years old. Currently, however, there is little evidence to connect higher-order belief understanding which begins around 6 years of age and children's mastery of comprehension of evidential system in a language.

In the next section, I will look at studies focusing on development of the linguistic ability to produce and comprehend epistemic and evidential expressions. Looking at their linguistic development will allow us to infer if and how the time course of children's understanding of linguistic coding of the speaker's epistemic and evidential states about the information is related to development of their psychological understanding of the speaker's knowledge states.

3. Linguistic Development

Here I will review the main findings on children's acquisition of epistemic and evidential markers, focusing on Japanese, Cantonese, Korean, Quechua, Turkish, Tibetan, English, Greek and Dutch. Naturalistic data is useful to investigate spontaneous productive use of epistemic and evidential markers. As a child's use of these markers does not necessarily entail full adult-like understanding, experimental methods are also used to examine exactly which aspects of meaning children can or cannot understand at a particular point of development. The two research methods are complementary, as in any other investigation of language development. In the following section, I will first review naturalistic studies on production

of epistemic and evidential markers, which will be followed by a brief review of experimental studies on comprehension of these markers.

3.1. Production of epistemic and evidential expressions

3.1.1. *Grammaticalized Expressions*

A few studies observed children's use of epistemic and evidential expressions in Japanese. Speaker certainty and evidentiality is most often expressed through sentence-final particles in Japanese child-directed speech (Clancy, 1985). Shirai, Shirai and Furuta (1999) analyzed children's use of Japanese sentence-final particles in longitudinal data of 4 children. The onset of sentence-final particle *yo* (certainty) occurs at about 18 months. The onsets of other particles *kana* (uncertainty) and *tte* (hearsay evidential) occur at roughly the same time, between 24 and 30 months of age. Shirai et al. also analyzed one mother's use of these particles, and concluded that early acquisition of *yo* seemed to have been affected by frequency of input, but that no correlation was found between the mother's input and the timing of the acquisition of either *kana* or *tte*. It was speculated that children's cognitive development is linked to the relatively late acquisition period of *kana* and *tte*.

Matsui and Yamamoto (2013) investigated early use of Japanese hearsay/quotative particle *tte* in detail. They hypothesized that children between 2 and 3 cannot attribute utterances to the original speaker, on the basis of the previous findings that children's ability to attribute knowledge and belief states to someone else develops between 3 and 6. In order to test the hypothesis, they analyzed parts of an intensive and longitudinal Japanese mother-child conversation database for the study: the data recorded six weeks from the child's second birthday and the data recorded one year later. A total of 2491 instances of the particle *tte* and 480 instances of the particle *to* were included in the analysis. Both the mother and the child used the more colloquial form *tte* much more frequently than the more formal *to*, and so I will focus on the child's use of *tte* here. The child's use of the particle *tte* increased over time: 269 occurrences at age 2, and 492 occurrences at age 3. At both times, the child used the particle to quote words as in the example below, as often as to quote utterances, unlike the mother who used it to quote utterances most of the time.

(3) From Matsui and Yamamoto (2013:19)

Child: *gakkoo tte nani?*
 school hearsay what
 'What is "school?"'
 Mother: *uun*
 interjection
 'Well.'

Mother: *gakkoo wa ne benkyoo suru toko desu.*
 school topic interjection study do place copula-polite
 ‘A school is where you study.’ (2;00.01)

When the child used the particle to quote utterances, imagined, rather than real, utterances were quoted most frequently as in the example below:

(4) From Matsui and Yamamoto (2013: 14)

Mother: *wanwan itteru ne.*
 bowwow saying final-particle
 ‘The dog is saying bowwow.’
 Child: *isshoni tabetai ne tte itteru.*
 together eat-want final-particle quotative-particle saying-ing
 ‘He is saying “he wants to eat with us”.’ (2;00.22)

On the basis of the analysis of the child’s use of the hearsay particle *tte*, Matsui and Yamamoto concluded that even at the age of 2, the child not only had an inchoate sense of the source of information, but also had some initial ability to attribute utterances to the original speaker by the use of the particle. The typical sources of quotation at this stage were not utterances of other human beings, but rather imagined utterances of non-human companions including pets, toys, and imaginary characters who are unable to speak. The child invented the original source utterance herself and attributed it to one of those companions in such cases. The child’s quotation of imagined utterances may therefore be closer to the act of speaking by proxy than that of quoting real utterances.

Lee and Law (2001) looked at children’s use of Cantonese evidential particles in the naturalistic conversation of 3 children. In Cantonese, there are 3 evidential particles: *lo1* (direct evidence/certainty), *wo5* (hearsay/indirect evidence), and *gwa3* (uncertainty/inference)². Among the 3 particles, children used *lo1* most frequently, more than 500 times. By contrast, only 3 instances of *wo5*, and no instances of *gwa3* were observed. Lee and Law suggest that the late emergence of *wo5* and *gwa3* is due partly to cognitive and linguistic complexity (e. g. the fact that adults use these particles in several different contexts), and partly due to paucity of input. Their analysis of parental input revealed that the 3 mothers used the hearsay particle *wo5* 14 times and the uncertainty particle *gwa3* 5 times, whereas they used certainty particle *lo1* more than 1000 times.

² The number following the particle indicates its tone: Tone 1 =high level; Tone 2 = high rising; Tone 3 = mid level; Tone 4 = low falling; Tone 5 = low rising; Tone 6 = low level.

Courtney (2008) investigates early use of Quechua evidential markers in naturalistic mother-child conversation. Quechua-speaking children started producing *-mi*, the marker of direct evidence, around 2 years of age. The evidential marker *-mi* has multiple meanings such as affirmation and certainty, in addition to indicating direct evidence. Children used it as a marker of the speaker certainty first between the age of 2 and 4. Then around 4, they started using *-mi* productively to indicate direct observation. Around the same time, they also started using *-chá*, another evidential marker, to indicate information is based on inference. The marker of indirect (hearsay) evidence *-si* was rarely used by children between 4 and 8, which indicates that the marker was acquired gradually after around 4 years of age. In more recent studies, Courtney (2015) confirms that early uses of *-mi* and *-chá* is confined to focus-marking and epistemic expressions of certainty and probability.

Acquisition of Turkish evidential particles was first investigated by Aksu-Koç (1988). Turkish particles are typically multifunctional: for example, the particle *-miş* expresses past tense, perfect aspect and indirect experience (evidential mood). Aksu-Koç demonstrates that the different meaning components of each evidential particle are acquired sequentially, by examining the data of 3 children between 1;9 and 2;6. The particle *-DI* (past/direct experience) emerges first, and is followed by the indirect experience marker *-miş* (past/perfect/indirect experience), around 2. Aksu-Koç reports that use of *-miş* to indicate hearsay did not occur in the sample, which suggests that understanding of this particular function of the particle develops later. In a more recent study, Aksu-Koç found that Turkish-speaking children start using the hearsay marker *-miş* productively between 2 and 3 years of age, which suggests that Turkish-speaking children acquire the basic system of evidentiality by the age of three (Aksu-Koç, Ögel-Balaban and Alp 2009).

A new study by Uzundag and her colleagues investigated if there is any individual difference in children's early use of the multifunctional evidential marker *-miş* (Uzundag et al. 2018). As the marker of indirect experience, *-miş* encodes either that the source of the stated information is the speaker's own inference, or that it is a hearsay. There has been a debate on which one of the two evidential functions (inference or hearsay) emerges earlier in child speech. They analyzed child-caregiver conversation of 6 children (8–36 months) and compared each child's use of the evidential marker. They also looked at each mother's use of the same particle and examined if there is any similarity or difference in the pattern of usage between each mother-child pair. They found not only individual differences but also differences due to the socio-economic status of the family. Children from the family with high socio-economic status produced *-miş* correctly for the first time almost 4 months earlier than children from the family with low socio-economic status. They suggest that the difference was caused by the overall amount of input children of each socio-economic status (SES) receive: the high-SES children were likely to have received more caregiver input than the low-SES children. As for the two evidential function of *-miş* (inference or hearsay), no specific order of acqui-

sition was found. The order of emergence of the two evidential functions varied among children. Generally, the evidential functions of *-mIş* emerged later than non-evidential functions (perceptual uses to mark new information and nonfactual uses). The authors suggest that later emergence of evidential functions of *-mIş* is due to lower input frequency and conceptual complexity of evidential functions.

3.1.2. *Lexical expressions*

Studies on acquisition of lexical expressions of speaker certainty and evidentiality is rather scarce, compared to those on acquisition of grammaticalized equivalents. So here I will first focus on English-speaking children's production of mental state verbs such as *think* and *know*, which have been often studied in relation to children's developing mental state understanding, i. e. theory of mind (e. g. Bartsch and Wellman 1995). No systematic investigation has been carried out, however, on English-speaking children's understanding of evidentiality. This is probably due to the fact that linguistic marking of knowledge source is rarely found in naturalistic data of English-speaking children.

English-speaking children use mental state terms such as *think* and *know* as expressions of speaker certainty or uncertainty (Shatz, Wellman and Silber 1983; Diessel and Tomasello 2001). Shatz et al. (1983) introduced the term 'modulation of assertion' to categorize uses of mental state verbs to express speaker uncertainty. They found that English-speaking children start using mental state verbs to modulate assertion as early as age 2;8. Diessel and Tomasello (2001) report that all 3 children they analyzed used *think* initially in the parenthetical formula *I think*, which they claim serves as an epistemic marker with a meaning similar to an epistemic adverb such as *maybe*. Some examples of the parenthetical use of *I think* reported in Diessel and Tomasello are shown below:

(5) From Diessel and Tomasello (2001: 111)

I think it's in here_Mommy. (3 years and 5 months)

I'm get my carriage (pause) I think. (3 years and 6 months)

Bloom et al. (1989) also suggest that English-speaking children first learn mental state verbs *think* and *know* in order to express varying degrees of certainty regarding the content of the complement proposition. Thus, there seems to be a consensus that children begin to use *think* to express uncertainty before they reach the age of 3.

3.1.3. Summary

The naturalistic studies reviewed above indicate several important patterns in young children's production of certainty markers and evidentials. First, children are likely to produce certainty markers before they start using uncertainty markers. Second, children produce the markers of direct evidence before they use the markers of indirect evidence. Third, acquisition of the overall evidential system in a language takes time. Overall, the following 3 factors are suggested to determine the production timing of these markers: (1) frequency of input, (2) conceptual complexity and (3) functional multiplicity. In the next section, I will review studies that investigate how children's ability to grasp semantics of these markers develop.

3.2. Comprehension of epistemic and evidential expressions

In this section, I will discuss children's ability to comprehend epistemic and evidential markers by focusing on experimental studies that examined children's semantic understanding of these markers.

3.2.1. Grammaticalized expressions

Existing studies on children's comprehension of epistemic and evidential markers suggest that children comprehend the markers of direct evidence before the markers of indirect evidence. The same sequential pattern was also found in young children's production of these markers. For example, de Villiers et al. (2009) report the results of some intriguing experiments. They tested Tibetan-speaking children's understanding of syntactic and semantic properties of the Tibetan evidential system. In one of the comprehension studies, '*dug* (the direct [visual] evidence) and other evidential markers with contrasting meaning, *yod red* (neutral), and *yod gi red/yod sa red* (inference based on indirect evidence) were chosen for stimuli to see if and when children are able to detect the semantic difference among them. Children were instructed to listen to utterances containing evidential markers and to tell whether the speaker had direct (visual) evidence or not for the information described. Among the 4 evidentials, '*dug* and *yod red* were understood earlier between 6 and 7 years of age whereas *yod gi red/yod sa red* were difficult to grasp even for 9-year-olds. Furthermore, subsequent experiments revealed that the predominant meaning of '*dug* for these children was speaker certainty.

The earliest study that reports the particular order in children's acquisition of evidentials is that of Aksu-Koç (1988). Aksu-Koç examined Turkish-speaking children's understanding of the meaning of evidential particles. In one of the comprehension tasks, children between 3;0 and 6;4 were asked to identify who the likely speaker was for each of several utterances. Two candidate speakers were introduced to the children: one who had witnessed the event in question, and one

who had just come in and who could only comment on the existing situation by making an inference from an observable end-state. Half of the utterances were inflected with *-mİş* (past/indirect experience), and the other half with *-DI* (past/direct experience). The results revealed that correct identification of the speaker for *-mİş* -inflected utterances was below chance for children at 4;11, whereas *-di*-inflected utterances were understood at above chance levels as early as 3;8. Thus, children's understanding of the linguistic marker of indirect evidence lagged more than a year behind their understanding of the marker of direct evidence.

Ozturk and Papafragou (2016) addressed the issue of asymmetry in acquisition of the linguistic marker of direct evidence and that of indirect evidence in terms of the developmental relation between conceptual understanding of information source and understanding of semantics of evidentials. Through 3 experiments, they tested which one of the following hypotheses should explain better the protracted development of evidential morphemes for indirect evidence among Turkish children: (a) that conceptual understanding of information source takes time to develop and acquisition of evidential morphemes is based on, or at least coincides with, development of conceptual understanding of information source; (b) that conceptual understanding of source information develops independently of acquisition of evidential morphemes and a separate mapping process between conceptual understanding of information source and linguistic system of evidentiality, which takes time, is required for a child to acquire evidential morphemes for indirect evidence.

They predicted that if children performed better in the tasks to test conceptual development, it should indicate that the delay in acquisition of morphemes for indirect evidence is due to the mapping problem. On the other hand, if their performance in the two types of tasks is relatively similar, it should indicate that timing of acquisition of evidential morphemes is closely tied with development of conceptual understanding of source information. Five- to 7-year-old children participated in the study. For production, only 6- and 7-year-olds could use the indirect evidential *-mİs* reliably for hearsay but even the oldest group could not use it for inference. For comprehension, 5-year-olds managed to understand the direct marker *-DI*, but only 7-year-olds correctly understood the meaning of the indirect morpheme *-mİş*. For the source-monitoring tasks, even the youngest children were able to report their own and others' sources of information for the direct perception items, but for the indirect perception items, only the oldest group demonstrated accurate and consistent understanding.

Overall, their findings seem to support both of the two hypotheses. Children's understanding of direct evidence preceded their understanding of indirect evidence in both linguistic and conceptual domains. It indicates that difficulty in understanding of indirect evidence is of conceptual nature and its influence carries over to understanding of function of linguistic equivalent. Comparison of children's performance in the linguistic and conceptual tasks revealed that they were better in the conceptual tasks than in linguistic ones. The result indicates that children's

conceptual understanding of information source precedes their mastery of the linguistic evidential system.

Existing studies also suggest that there is a substantial lag between early emergence and accurate understanding of semantic meaning of evidentials. For example, Aksu-Koç (1988) concludes that although Turkish evidential particles *-DI* and *-mİş* emerge in children's conversation by 3;0, appropriate use according to the context (e. g. witnessed vs. non-witnessed) develops gradually between the ages of 3;6 and 4;6.

Papafragou and her colleagues carried out a comprehension experiment in Korean that is based on an earlier study by Aksu-Koç (Papafragou et al. 2007). In the experiment, 3- and 4-year-old Korean children saw animated stories in which one of the two characters looked at and the other merely heard about what is inside the box. Then the children heard either one of the following two utterances: "There is a balloon inside the box *-e* (direct evidence)" or "There is a balloon inside the box *-tay* (indirect evidence)". The children were expected to attribute an utterance marked with *-e* to the character who looked inside a box and an utterance with *-tay* to the character who was told about what is in the box. Neither 3- or 4-year-olds successfully attributed the utterances to the right speaker. By contrast, children produced *-e* (direct evidence) quite accurately by 3 years and *-tay* (indirect evidence) by 4 years in an elicited production task carried out in the same study. Thus, similar to Turkish children, accurate comprehension of the two evidential morphemes is harder to accomplish for Korean-speaking children.

The study on acquisition of Turkish evidentials by Ünal and Papafragou (2016) confirmed the earlier finding that children's comprehension of evidential morphemes lags behind their production. Furthermore, they investigated possible reasons why this is the case. Previous studies suggest two different theoretical explanations for the pattern of linguistic development. The first explanation claims that the pattern is attributed to processing or metalinguistic demands of comprehension tasks. The second one argues that psycholinguistic properties of comprehension itself are the key for the delay. Through series of experiments tapping children's ability to produce and comprehend Turkish evidentials, Ünal and Papafragou have concluded that mastery of comprehension of evidentials is protracted because it is closely related to sophistication of the perspective-taking ability required to evaluate others' information access. Their experiments demonstrated that children between age 3 and 6 were much worse at reasoning about other's information access compared to their own.

3.2.2. *Lexical expressions*

Unlike evidential markers that are closed-class morphemes, lexical expressions of epistemic states and evidentiality vary in their syntactic properties. For example, they belong to different parts of speech: they can be a verb or an adverbial. They

may vary in terms of degree of syntactic complexity. Investigation of how lexical expressions of epistemic states and evidentiality, thus, potentially shows how syntactic properties influence acquisition of each expression.

Acquisition of mental state verbs and evidential adverbials in Greek was investigated by Ifantidou (2005). Children between 4;6 – 11;7 participated in the study. An experimenter read 12 short extracts from familiar children's stories one by one, each of which contained one epistemic or evidential expression. Children were given a drawing from the original story books that helped them to grasp the story line related to the extracts. Ten Greek epistemic or evidential expressions were included in the study, which were equivalent to the following English expressions: 'I think', 'she thinks', 'I suppose', 'I ween', 'it seems to me', 'it seems that', 'it doesn't seem that', 'evidently', 'possibly', and 'certainly'. Having heard each extract, children were asked what each epistemic or evidential expression meant. Two possible answers, one of which was the correct one, were given to children and they could choose either one or alternatively could provide a different answer. A translated example of the extract and the question is shown below:

(6) From Ifantidou (2005: 390)

Extract:

The rabbit and the ferret were taking a walk to the woods, when they saw, terrified, a huge bear getting close. The ferret climbed up a tree nearby. After the bear left, the ferret came down the tree and asked the rabbit: "It seemed to me that I saw the bear whispering at your ear. What was he saying?"

Question: What does the ferret mean by saying *it seemed to me*?

Answer:

1. I am certain, I saw the bear whispering to you.
2. I am not sure the bear was whispering to you or not. (The correct answer)
3. Other.

The result showed (a) that the epistemic verb 'I think' was understood well both by pre-school children and school-age children, and (b) the expressions such as 'it seems that', *evidently*, *possibly*, and *certainly* were difficult to grasp even for school-age children. Ifantidou suggests that the results confirm that acquisition of evidential vocabulary is a protracted process. More specifically, she suggests that the epistemic and evidential meaning of the syntactically more complex construction (e. g. 'it seems that/to me') and adverbials are acquired gradually during the school period. The order of acquisition, she argues, is related to development of children's metarepresentational ability.

Koring and de Mulder (2015) investigate if acquisition of lexical expressions of direct and indirect information source in Dutch follows the same order as acqui-

sition of grammaticalized evidential expressions in other languages. In Dutch, sources of information is encoded by the verbs such as *lijken* (direct visual evidence), *schijnen* (hearsay evidence) and *lijkt me* (*lijken* combined with an overt experiencer pronoun) (inferential evidence). According to the authors, the verb *lijken* is used in contexts in which the speaker has some kind of direct perceptual evidence for a proposition, but the evidence is unclear and potentially fallible. *Schijnen* is used in contexts in which the speaker has obtained information via the report of some other person and *lijkt me* is used when the speaker draws an inference.

Children between 6 and 9 years of age participated in an experiment that tapped their understanding of the three verbs. Children heard stories with accompanying pictures and at the end of the story, the target question was asked. For the story to tap the children's understanding of *schijnt* (hearsay), Minnie Mouse had a role as an observer. Here are examples of stories and questions for the three verbs:

(7) From Koring and de Mulder (2015: 967–968)

Example story and question with *lijken* (Direct visual evidence):

“Here you see father and his son Sam. Father is a firefighter. Today is an open day at the fire station and Sam joined father there. Sam is even wearing a real fireman's uniform. The fire fighters have even made a real fire. Look, Sam is already holding the fire hose. Who *lijkt* to be going to put out the fire?”

Example story and question with *lijkt me* (Inference):

“Here you see father and his son Sam. Father is a firefighter. Today is an open day at the fire station and Sam joined father there. Sam is even wearing a real fireman's uniform. The fire fighters have even made a real fire. Look, Sam is already holding the fire hose. But then, Sam doesn't know how to turn on the fire hose. Dad, who is a firefighter, does know how to turn on the fire hose. Who *lijkt je* to be going to put out the fire?”

Example story and question with *schijnt* (Hearsay):

“Here you see father and his son Sam. Father is a firefighter. Today is an open day at the fire station and Sam has joined father there. They even made a real fire. Minnie: “Mickey once told me how this story ends. Father will explain how the fire hose works and then Sam will put out the fire.” Who *schijnt* to be going to put out the fire?”

Children were expected to provide the source of information indicated by the evidential verbs. The result demonstrated that 6-year-olds accurately understood *lijken* (direct visual evidence). However, even 9-year-old showed limited understanding of *schijnt* (hearsay) and *lijkt me* (inference). Thus, the result suggests that the order

of acquisition of evidential expressions (the marker of direct evidence precedes those of indirect evidence) is confirmed not only in grammaticalized evidentials but also in the case of lexical expressions.

3.2.3. *Summary*

The studies reviewed here suggest that children comprehend grammaticalized markers of direct evidence before the marker of indirect evidence. This pattern was also confirmed in development of semantic understanding of lexical expressions of evidentiality. The same sequential pattern was found in children's production of these markers. However, children accomplish accurate semantic understanding of these two types of evidential much later than when they first produce them. The lag between early production and relatively late comprehension of evidentials indicates that the development of relevant concepts in children is time-consuming. Adult-like conceptual understanding of evidential expressions may also require sophistication of the perspective-taking ability involved in evaluating others' information access.

4. Conclusion

In this chapter, I discussed acquisition of epistemic and evidential expressions within the context of development of pragmatic abilities to assess trustworthiness of the utterance. I illustrated how epistemic vigilance, theory of mind, and the source-monitoring ability, all of which contribute to assessment of trustworthiness of the utterance, relate to children's understanding of epistemic and evidential expressions.

The main findings about children's production and comprehension of these expressions reviewed in this chapter strongly suggest that children's understanding of the overall system of epistemic and evidential expressions undergo protracted development from infancy to early adolescence. Currently, however, we do not have a satisfactory answer to the question of why acquisition of the overall linguistic system of epistemic and evidential expressions is a protracted development. One possibility is that protracted course of development is due to conceptual complexity of linguistic expressions. Alternatively, functional multiplicity of some of the evidential expressions (e. g. Tibetan *'dug* and Quechua *-mi*) may be the main cause of delayed understanding of the linguistic system. Given that children's socio-cognitive abilities such as theory of mind and source monitoring ability also takes many years to develop, in order to find a more satisfactory answer to the question, it should be fruitful to investigate further the relation between acquisition of linguistic expressions of epistemic/evidential states and children's gradual understanding of other's mind and quality of evidence.

On that point, many studies reviewed in this chapter strongly indicate that children's psychological (i. e. non-linguistic) understanding of how the speaker recognizes sources of information closely relate to the understanding of the linguistic system of evidentiality and speaker certainty. Children come to grasp the speaker's knowledge states of knowing vs. ignorant quite early by 3 years of age, and are able to make use of expressions of certainty and/or direct evidence around the same time. However, it is not until 7 years of age that children begin to grasp more delicate relations between the sources of information and the speaker's knowledge states (e. g. indirect evidence and inference). Adult-like understanding of the linguistic system of evidentiality is likely to be accomplished only during adolescence.

The relation between theory of mind and acquisition of evidential expressions is not as clear as the relation between theory of mind and acquisition of epistemic expressions. This is partly due to the paucity of studies on theory of mind development of children older than 6. More research on exactly how each stage of children's gradual understanding of evidential system relates to which aspects of theory of mind development is urgently needed. The finding that Turkish children understood first-order false belief better than Chinese and English children in Lucas et al. (2013) indicates a positive link between exposure to evidential languages and theory of mind development. They suggest that exposure to grammaticalized evidential expressions promotes children's sensitivity to the speaker's knowledge states that varies in reliability across different situations. In other words, Lucas et al. suggest that linguistic system influenced Turkish children's socio-cognitive development. Other researchers also endorse this direction of influence in language-cognition interface (Aksu-Koç 2009; Aksu-Koç, Ögel-Balaban and Alp 2009; Aydin and Ceci 2009). Ifantidou (2005), on the other hand, argues that higher-order metarepresentational ability is required to master overall linguistic system of evidentiality. She suggests that adult-like understanding of evidential system of a language is based on higher-order metarepresentational ability that is also used in understanding of deception, hearsay, and irony. In other words, she suggests that metarepresentational ability of psychological or conceptual nature promotes understanding of linguistic system of evidentiality. The direction of influence here is the opposite of what Lucas et al., for example, suggest. It is also important that while Lucas et al. looked at children between 3 and 4 years of age, Ifantidou gathered data from older children, between 4 and 11. Thus, it is possible that the relation between understanding of evidential system and higher-order metarepresentational ability varies substantially at each stage of development leading to mastery of a full evidential system.

References

- Ackerman, Brian P.
1981 Young children's understanding of a speaker's intentional use of a false utterance. *Developmental Psychology* 17: 472–480.
- Aikhenvald, Alexandra Y.
2004 *Evidentiality*. Oxford: Oxford University Press.
- Aksu-Koç, Ayhan
1988 *The Acquisition of Aspect and Modality: The Case of Past Reference in Turkish*. Cambridge: Cambridge University Press.
- Aksu-Koç, Ayhan, Hale Ögel-Balaban and Í. Ercan Alp
2009 Evidentials and source knowledge in Turkish. In: Stanka A. Fitneva and Tomoko Matsui (eds.), *Evidentiality: A Window into Language and Cognitive Development* (Special issue). *New Directions for Child and Adolescent Development* 125, 13–28. San Francisco: Wiley.
- Aydin, Çağla and Stephen J. Ceci
2009 Evidentiality and suggestibility: A new research venue. In: Stanka A. Fitneva and Tomoko Matsui (eds.), *Evidentiality: A Window into Language and Cognitive Development* (Special issue). *New Directions for Child and Adolescent Development* 125, 79–93. San Francisco: Wiley.
- Banerjee, Robin
2000 Developing an understanding of modesty. *British Journal of Developmental Psychology* 18: 499–517.
- Banerjee, Robin, Dawn Watling and Marcella Caputi
2011 Peer relations and the understanding of faux pas: Longitudinal evidence for bidirectional associations. *Child Development* 82: 1887–1095.
- Banerjee, Robin and Nicola Yuill
1999 Children's understanding of self-presentational display rules: Associations with mental-state understanding. *British Journal of Developmental Psychology* 17: 111–124.
- Baron-Cohen, Simon, Michelle O'Riordan, Valerie Stone, Rosie Jones and Kate Plaisted
1999 Recognition of faux pas by normally developing children with Asperger syndrome or high-functioning autism. *Journal of Autism and Developmental Disorders* 29: 407–418.
- Bartsch, Karen and Henry M. Wellman
1995 *Children Talk about the Mind*. New York: Oxford University Press.
- Birch, Susan A. J., Nazanin Akmal and Kristen L. Frampton
2010 Two-year-olds are vigilant of others' nonverbal cues to credibility. *Developmental Science* 13: 363–369.
- Bloom, Lois, Matthew Rispoli, Barbara Gartner and Jeremie Hafitz
1989 Acquisition of complementation. *Journal of Child Language* 16: 101–120.
- Brousseau-Liard, Patricia and Diane Poulin-Dubois
2014 Sensitivity to confidence cues increases during the second year of life. *Infancy* 19(5): 461–475.
- Carpendale, Jeremy I. and Michael J. Chandler
1996 On the distinction between false belief understanding and subscribing to an interpretive theory of mind. *Child Development* 67: 1686–1706.

- Clancy, Patricia
1985 The acquisition of Japanese. In: Dan I. Slobin (ed.), *The Crosslinguistic Study of Language Acquisition*, Volume 1: *The Data*, 373–524. Hillsdale, NJ: Lawrence Erlbaum.
- Clément, Fabrice, Melissa Koenig and Paul Harris
2004 The ontogeny of trust. *Mind and Language* 19: 360–379.
- Courtney, Ellen H.
2008 Child production of Quechua evidential morphemes in conversations and story retellings. Ms. El Paso: University of Texas.
- Courtney, Ellen H.
2015 Child acquisition of Quechua evidentiality and deictic meaning. In: Marilyn S. Manley and Antje Muntendam (eds.), *Quechua Expressions of Stance and Deixis*, 101–144. Leiden/Boston: Brill.
- Davis, Christopher, Christopher Potts and Margaret Speas
2007 The pragmatic values of evidential sentences. In: Masayuki Gibson and Tova Friedman (eds.), *Proceedings of SALT 17*: 71–88. Ithaca, NY: CLC.
- Demorest, Amy, Lisa Silberstein, Howard Gardner and Ellen Winner
1983 Telling it as it isn't: Children's understanding of figurative language. *British Journal of Developmental Psychology* 1: 121–134.
- Demorest, Amy, Christine Meyer, Erin Phelps, Howard Gardner and Ellen Winner
1984 Words speak louder than actions: Understanding deliberately false remarks. *Child Development* 55: 1527–1534.
- De Haan, Ferdinand
1999 Evidentiality and epistemic modality: Setting boundaries. *Southwest Journal of Linguistics* 18: 83–101.
- de Villiers, Jill G., Jay Garfield, Harper Garnet-Girard, Tom Roeper and Margaret Speas
2009 Evidentials in Tibetan: Acquisition, semantics, and cognitive development. In: Stanka A. Fitneva and Tomoko Matsui (eds.), *Evidentiality: A Window into Language and Cognitive Development* (Special issue). *New Directions for Child and Adolescent Development* 125: 29–47. San Francisco: Wiley.
- de Rosnay, Marc, Francisco Pons, Paul L. Harris and Julian M. B. Morrell
2004 A lag between understanding false belief and emotion attribution in young children: Relationships with linguistic ability and mothers' mental-state language. *British Journal of Developmental Psychology* 22: 197–218.
- Diessel, Holger and Michael Tomasello
2001 The acquisition of finite complement clauses in English: A corpus-based analysis. *Cognitive Linguistics* 12: 97–141.
- Dyck, Murray J., Kristen Ferguson and Ian M. Schochet
2001 Do autism spectrum disorders differ from each other and from non-spectrum on emotion recognition tasks? *European Child and Adolescent Psychiatry* 10: 105–116.
- Faller, Martina T.
2002 *Semantics and Pragmatics of Evidentials in Cuzco Quechua*. PhD thesis, Stanford University.
- Fillipova, Eva and Janet W. Astington
2008 Further development in social reasoning revealed in discourse irony understanding. *Child Development* 79: 126–138.

- Fitneva, Stanka A. and Tomoko Matsui (eds.)
 2009 *Evidentiality: A Window into Language and Cognitive Development* (Special issue). *New Directions for Child and Adolescent Development* 125. San Francisco: Wiley.
- Gelman, Susan A.
 2009 Learning from others: Children's construction of concepts. *Annual Review of Psychology* 60: 115–140.
- Gopnik, Alison and Peter Graf
 1988 Knowing how we know: Young children's ability to identify and remember the sources of their beliefs. *Child Development* 59: 1366–1371.
- Happé, Francesca G.
 1994 An advanced test of theory of mind: Understanding of story character's thoughts, and feelings by able autistic, mentally handicapped, and normal children and adults. *Journal of Autism and Developmental Disorders* 24: 129–154
- Hayashi, Hajimu
 2007 Young children's understanding of second-order mental states. *Psychologia* 50: 15–25.
- Hsu, Yik K. and Him Cheung
 2013 Two mentalizing capacities and the understanding of two types of lie telling in children. *Developmental Psychology* 49(9): 1650–1659.
- Ifantidou, Elly
 2005 Pragmatics, cognition and asymmetrically acquired evidentials. *Pragmatics* 15: 369–394.
- Kaland, Nils, Kirsten Calleson, Annette Møller-Nielsen, Erik L. Mortensen and Lars Smith
 2008 Performance of children and adolescents with Asperger syndrome or high-functioning autism on advanced theory of mind tasks. *Journal of Autism and Developmental Disorders* 38: 1112–1123.
- Koenig, Melissa, Fabrice Clément and Paul L. Harris
 2004 Trust in testimony: Children's use of true and false statements. *Psychological Science* 10: 694–698.
- Koenig, Melissa and Paul L. Harris
 2005 Preschoolers mistrust ignorant and inaccurate speakers. *Child Development* 76: 1261–1277.
- Koring, Loes and Hannah De Mulder
 2015 Understanding different sources of information: the acquisition of evidentiality. *Journal of Child Language* 42(5): 947–968.
- Lagattuta, Kristin H., Hannah J. Kramer, Katie Kennedy, Karen Hjortsvang, Deborah Goldfarb and Sarah M. Tashjian
 2015 Beyond Sally's missing marble: Further development in children's understanding of mind and emotion in middle childhood. *Advances in Child Development and Behavior* 48: 185–217.
- Lalonde, Christopher E. and Michael J. Chandler
 2002 Children's understanding of interpretation. *New Ideas in Psychology* 20: 163–198.
- Lee, Thomas H. and Ann Law
 2001 Epistemic modality and the acquisition of Cantonese final particles. In: Mineharu Nakayama (ed.), *Issues in East Asian Language Acquisition*, 67–128. Tokyo: Kuroshio Publishers.

- Lucas, Amanda J., Charlie Lewis, F. Cansu Pala, Katie Wong and Damon Berridge
2013 Social-cognitive processes in preschoolers' selective trust: Three cultures compared. *Developmental Psychology* 49(3): 579–590.
- Lyon, Thomas D., Jodi A. Quas and Nathalie Carrick
2013 Right and righteous: Children's incipient understanding and evaluation of true and false statements. *Journal of Cognition and Development* 14(3): 437–454.
- Mascaro, Olivier and Dan Sperber
2009 The moral, epistemic and mindreading components of children's vigilance towards deception. *Cognition* 112: 367–380.
- Matsui, Tomoko
2014 Children's understanding of linguistic expressions of certainty and evidentiality. In: Danielle Matthews (ed.), *Pragmatic Development: Trends in Language Acquisition Research*, 295–316. Amsterdam/Philadelphia: John Benjamins.
- Matsui, Tomoko and Yui Miura
2009 Children's understanding of certainty and evidentiality: Advantage of grammaticalised forms over lexical alternatives. In: Stanka A. Fitneva and Tomoko Matsui (eds.), *Evidentiality: A Window into Language and Cognitive Development* (Special issue). *New Directions for Child and Adolescent Development* 125: 63–77. San Francisco: Wiley.
- Matsui, Tomoko, Hannes Rakoczy, Yui Miura and Michael Tomasello
2009 Understanding of speaker certainty and false-belief reasoning: A comparison of Japanese and German preschoolers. *Developmental Science* 12: 602–613.
- Matsui, Tomoko, Taeko Yamamoto and Peter McCagg
2006 On the role of language in children's early understanding of others as epistemic beings. *Cognitive Development* 21: 158–173.
- Matsui, Tomoko and Taeko Yamamoto
2013 Developing sensitivity to the sources of information: Early use of the Japanese quotative particles *tte* and *to* in mother–child conversation. *Journal of Pragmatics* 59: 5–25.
- Matsui, Tomoko, Taeko Yamamoto, Yui Miura and Peter McCagg
2016 Young children's early sensitivity to linguistic indications of speaker certainty in their selective word learning. *Lingua* 175–176: 83–96.
- Meins, Elizabeth, Charles Fernyhough, Fiona Johnson and Jane Lidstone
2006 Mind-mindedness in children: Individual differences in internal-state talk in middle childhood. *British Journal of Developmental Psychology* 24: 181–196.
- Miller, Scott A.
2012 *Theory of Mind: Beyond the Preschool Years*. New York: Psychology Press.
- Moore, Chris, Dana Bryant and David Furrow
1989 Mental terms and the development of certainty. *Child Development* 60: 167–171.
- Moore, Chris, Kiran Pure and David Furrow
1990 Children's understanding of the modal expression of speaker certainty and uncertainty and its relation to the development of a representational theory of mind. *Child Development* 61: 722–730.
- Mull, Melinda S. and E. Margaret Evans
2010 Did she mean to do it? Acquiring a folk theory of intentionality. *Journal of Experimental Child Psychology* 107: 207–228.

- Naito, Mika and Yoshimi Seki
2009 The relationship between second-order false belief and display rules reasoning: The integration of cognitive and affective social understanding. *Developmental Science* 12: 150–164.
- O'Neill, Daniela K. and Sang C. Chong
2001 Preschool children's difficulty understanding the types of information obtained through the five senses. *Child Development* 72(3): 803–805.
- O'Neill, Daniela K. and Alison Gopnik
1991 Young children's ability to identify the sources of their beliefs. *Developmental Psychology* 27: 390–397.
- Onishi, Kristine H. and Renée Baillargeon
2005 Do 15-month-old infants understand false beliefs? *Science* 308: 255–258.
- Ozturk, Ozge and Anna Papafragou
2016 The acquisition of evidentiality and source monitoring. *Language Learning and Development* 12(2): 199–230
- Papafragou, Anna, Peggy Li, Youngon Choi and Chung-hye Han
2007 Evidentiality in language and cognition. *Cognition* 103: 253–299.
- Pasquini, Elisabeth S., Kathleen H. Corriveau, Melissa Koenig and Paul L. Harris
2007 Preschoolers monitor the relative accuracy of informants. *Developmental Psychology* 43: 1216–1226.
- Perner, Josef and Heinz Wimmer
1985 "John thinks that Mary thinks that...": Attribution of second-order beliefs by 5- to 10-year-old children. *Journal of Experimental Child Psychology* 39: 437–471.
- Peterson, Candida C., Henry M. Wellman and Virginia Slaughter
2012 The mind behind the message: Advancing theory-of-mind scales for typically developing children, and those with deafness, autism, or Asperger syndrome. *Child Development* 83: 469–485.
- Pillow, Bradford H.
1989 Early understanding of perception as a source of knowledge. *Journal of Experimental Child Psychology* 47: 116–129.
- Pillow, Bradford H., Valerie Hill, April Boyce and Catherine Stein
2000 Understanding inference as a source of knowledge: Children's ability to evaluate the certainty of deduction, perception, and guessing. *Developmental Psychology* 17: 263–276.
- Pillow, Bradford H. and Andrea J. Henrichon
1996 There's more to the picture than meets the eye: Young children's difficulty in understanding biased interpretation. *Child Development* 67(3): 803–819.
- Pillow, Bradford H. and Clay Mash
1999 Young children's understanding of interpretations, expectation and direct perception as sources of false belief. *British Journal of Developmental Psychology* 17: 263–276.
- Pillow, Bradford H. and Stephen T. Weed
1995 Children's understanding of biased interpretation: Generality and limitations. *British Journal of Developmental Psychology* 13: 347–366.
- Pratt, Chris and Peter Bryant
1990 Young children understand that looking leads to knowing (so long as they are looking into a single barrel). *Child Development* 61: 973–982.

- Robinson, Elizabeth J., Peter Mitchell and Rebecca Nye
1995 Young children's treating of utterances as unreliable sources of knowledge. *Journal of Child Language* 22: 663–685.
- Robinson, Elizabeth J. and Emma L. Whitcombe
2003 Children's suggestibility in relation to their understanding of sources of knowledge. *Child Development* 74: 48–62.
- Sabbagh, Mark A. and Dare A. Baldwin
2001 Learning words from knowledgeable versus ignorant speakers: Links between preschoolers' theory of mind and semantic development. *Child Development* 72: 1054–1070.
- Schatz, Marilyn, Henry M. Wellman and Sharon Silber
1983 The acquisition of mental terms: A systematic investigation of the first reference to mental states. *Cognition* 14: 301–321.
- Shiverick, Sean M. and Colleen F. Moore
2007 Second-order beliefs about intention and children's attributions of sociomoral judgment. *Journal of Experimental Child Psychology* 97: 44–60.
- Shirai, Junko, Hidetoshi Shirai and Yoshiteru Furuta
1999 Acquisition of sentence-final particles in Japanese. In: Michael Perkins and Sara Howard (eds.), *New Directions in Language Development and Disorders*, 243–250. New York: Plenum Press.
- Sodian, Beate and Heinz Wimmer
1987 Children's understanding of inference as a source of knowledge. *Child Development* 58: 424–433.
- Sperber, Dan, Fabrice Clément, Christophe Heintz, Olivier Mascaro, Hugo Mercier, Gloria Origgi and Deirdre Wilson
2010 Epistemic vigilance. *Mind and Language* 25: 359–393.
- Sperber, Dan and Deirdre Wilson
1995 *Relevance: Communication and Cognition*. (2nd edition). Oxford: Blackwell.
- Sullivan, Kate, Deborah Zaitchik and Helen Tager-Flusberg
1994 Preschoolers can attribute second-order beliefs. *Developmental Psychology* 30: 395–402.
- Surian, Luca, Stefania Caldi and Dan Sperber
2007 Attribution of beliefs by 13-month old infants. *Psychological Science* 18: 580–586.
- Ünal, Ercenur and Anna Papafragou
2016 Production–comprehension asymmetries and the acquisition of evidential morphology. *Journal of Memory and Language* 89: 179–199.
- Uzundag, Berna A., Süleyman S. Taşçi, Aylin C. Küntay and Ayhan Aksu-Koç
2018 Functions of Turkish evidentials in early child-caregiver interactions: a growth curve analysis of longitudinal data. *Journal of Child Language* 45(4): 878–899.
- Wellman, Henry M., David Cross and Julianne Watson
2001 Meta-analysis of theory of mind development: The truth about false belief. *Child Development* 72: 655–684.
- Wellman, Henry M. and David Liu
2004 Scaling of Theory-of-Mind tasks. *Child Development* 75(2): 523–541.

- Wellman Henry M., Fang Fuxi and Candida C. Peterson
2011 Sequential progressions in a theory of mind scale: Longitudinal perspectives. *Child Development* 82(3): 780–792.
- Whitcombe, Emma L. and Elizabeth J. Robinson
2000 Children’s decisions about what to believe and their ability to report the source of their belief. *Cognitive Development* 15: 329–346.
- Wimmer, Heinz, Silvia Gruber and Josef Perner
1984 Young children’s conception of lying: Lexical realism – Moral subjectivism. *Journal of Experimental Child Psychology* 37: 1–30.
- Wimmer, Heinz, Jürgen Hogrefe and Beate Sodian
1988 A second stage in children’s conception of mental life: Understanding informational accesses as origins of knowledge and belief. In: Janet W. Astington, Paul L. Harris and David R. Olson (eds.), *Developing Theories of Mind*, 173–192. New York: Cambridge University Press.

5. Acquiring implicatures

Elsbeth Wilson and Napoleon Katsos

Abstract: Children begin to acquire the ability to make inferences based on expectations of speaker co-operativity – implicatures – from the fourth year of life, but gaining adult-like proficiency in more complex communicative situations seems to take several more years. In this chapter we review what is known about children’s developing ability to derive quantity, relevance and manner implicatures, and identify some key ingredients of this development: acquiring knowledge about communication, the world, and vocabulary and grammar; learning the inferencing process itself; and developing social cognition. We suggest that integrating these skills and types of knowledge in conversation is a key challenge faced by children, and outline directions for future research.

1. Introduction

1.1. The puzzle of implicature

The puzzle driving much recent research on the acquisition of implicature and other pragmatic phenomena, such as metaphor and irony, has been this: Why are children so adept at some skills that are foundational to pragmatics at an early age, yet apparently often so poor at inferring the speaker’s communicative intention beyond what he or she literally said? From infancy, children demonstrate the ability to understand something about others’ desires and intentions, track shared knowledge, and harness pragmatic assumptions for word learning (for an overview see Tomasello 2003, Clark 2009, and Ambridge and Lieven 2011). Yet their ability to perform in an adult-like way in tasks that test their pragmatic inferencing of implicatures seems to develop later, at age 5 or above.

Following Noveck’s (2001) findings that ‘children are more logical than adults’, researchers have sought to disentangle an *apparent* delay in implicature acquisition from a real one. Are young children unable to infer that *Sam ate some but not all of the sweets* when they hear *Sam ate some of the sweets*, for example, because the demands of the task are too high, belying their true pragmatic competence? Or do they gradually learn the necessary knowledge and pragmatic processes, so that deriving implicatures emerges later as part of their communicative capacity? In this chapter, we will see, unsurprisingly perhaps, that the answer so far seems to include both aspects.

<https://doi.org/10.1515/9783110431056-005>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 119–148. Berlin/Boston: De Gruyter Mouton.

1.2. What is implicature?

When speakers communicate, they convey more than just the literal meaning of their utterances; hearers derive pragmatic inferences to understand speakers' intended meaning, of which implicature is one type. Grice's (1975) model of rational communication has been foundational for both theoretical and empirical research on implicature. His proposal of an over-arching heuristic that guides human communication, the Co-operative Principle, was fleshed out with four maxims – quality, quantity, relevance and manner – which can be paraphrased as:

Maxim of quality: Be true.¹

Maxim of quantity: Be as informative as you can, but no more informative.

Maxim of relevance: Be relevant.

Maxim of manner: Be clear, brief and orderly – use linguistic forms in a conventional way.

Interlocutors assume that they are following these maxims in their communicative exchange. When speakers appear not to adhere to them, given the literal content of the utterance, hearers are able to infer their intended meaning – or derive an implicature – on the assumption that they are in fact doing so. In the following examples, if Speaker A assumes that Speaker B is in fact being as informative, relevant or clear as possible in response to the explicit question, then she can reason to Speaker B's intended meaning:

(1) A: Did you clean the house?

B: I cleaned the kitchen.

→ I didn't clean the whole house².

(2) A: What shall we have for breakfast?

B: We've got no milk.

→ We can't have cereal; we'll have to have something else.

(3) A: How did John react?

B: He turned the corners of his lips slightly upwards.

→ He didn't exactly smile; he tried to smile; he feigned a smile.

¹ We do not consider the Maxim of quality at length here, as it is often taken to be foundational, and, furthermore, on some theoretical approaches is key for metaphor and irony, each of which have their own chapter in this volume; although see Section 3.3 on the Epistemic Step.

² → indicates the speaker's intended meaning.

Crucially, we can see here how the situational context, the discourse context – including the Question Under Discussion (Roberts 1996) – and the utterance itself all have to be taken into account by the listener. Change the context, and the implicature is different. For example, if the reply *We've got no milk* is in answer to the question *What can I get from the shop?*, it might instead implicate that the speaker wants the addressee to get some milk. On a Gricean approach, these kind of inferences, firstly, involve non-deductive and presumptive reasoning based on arguments from ignorance – the hearer's inference is derived based on lack of evidence to the contrary, but could be cancelled if new relevant information becomes available. Secondly, they are elaborative inferences based on background knowledge about the world and what is typically the case, which provides a cohesive link between what is said and how it is relevant (Cummings 2005: 91–103). And thirdly, in the case of quantity (1) and manner (3), they involve reasoning about alternatives – what the speaker could have said but did not. For instance, in the case of (1), the hearer assumes that the speaker is being fully informative (following the maxim of quantity) and is knowledgeable about the situation; he depends on background knowledge about the world, that a kitchen is a part of a house; and he reasons that the speaker could have said the stronger alternative 'the house', but did not.

In addition, note that these are *verbal* inferences about communicative intentions, dependent on lexical and grammatical forms – a fact that is easily taken for granted when thinking about adults' competency with implicature (in their first language, at least), but important to bear in mind when considering children, whose lexical and grammatical knowledge is developing along with their pragmatic abilities. This also differentiates implicatures, as inferences about *communicative* intentions, from other inferences that young infants can make about others' desires and actions (e. g., Behne et al. 2005).

Subsequently, other theorists have streamlined Grice's maxims, or adjusted where the line between literal and inferred content is to be drawn (or, indeed, how many lines there are). For instance, Horn (1984) proposes just two opposing principles, Q and R, while Relevance theorists put forward Relevance as a single motivation for pragmatic enrichment (Sperber and Wilson 1995, Wilson and Sperber 2012). Some particular implicatures, like scalar implicatures, have been recategorised as 'explicatures' (e. g. Carston, 2008), or as a primarily grammatical phenomenon involving a covert exhaustifier operator (e. g. Chierchia et al. 2001; Chierchia, Fox and Spector 2008). These differing theories are relevant to the question of children's acquisition to the extent that they provide models of adult pragmatic competence – the supposed endpoint of acquisition. However, the focus of this chapter is on what children do and why. We therefore concentrate on the empirical evidence about children's pragmatic development, assuming a context-driven, Gricean approach to implicatures, rather than following in detail these debates that have concerned pragmatic theory and, to some extent, adults'

processing of implicature. We also assume that this Gricean model primarily represents a theory at the computational level of analysis, and not a processing account (for a fuller exploration of this debate, see Geurts and Rubio-Fernandez 2015, and Franke and Jäger 2016).

1.3. Aims of this chapter

In the second section of this chapter we outline what is known about the timeline of children's developing comprehension of implicature (most of the work to date has focussed on comprehension, though for a production corpus study of scalar implicature, see Eiteljörge, Lieven and Pouscoulous 2018, and for an example of related work on informativity and reference in production, see Davies and Katsos 2010). While the overwhelming majority of studies – concerning pragmatic theory, adult processing and first language acquisition – have focussed on a particular type of quantity implicature known as scalar implicature (SI), we will attempt to give equal weight to quantity, relevance and manner, as focussing narrowly on SIs may skew our understanding of children's development of implicatures in general (see Katsos 2014, Zufferey 2015, and Papafragou and Skordos 2016, for overviews of SI acquisition). We will see that many factors in acquisition are common to the different types of implicature, and furthermore, as suggested by Verbuk and Shultz (2010: 2311), that developmental trajectories are likely to be linked to smaller subclasses of implicature and the characteristics of each conversational exchange.

In the third, more lengthy, section, we identify some specific aspects of implicatures that children have to acquire to bridge the gap between early pragmatic competence in infancy and adult-like performance for implicatures in late childhood and adolescence. We suggest that the acquisitional challenges for children include a) learning knowledge about vocabulary and grammar, about communication and about the world (Section 3.1); b) working out how to derive complex inferences (Section 3.2); c) developing social cognition (Section 3.3); and then d) integrating these processes and complex information in real life interactions (Section 3.4). While for each of these factors it is possible to identify aspects that develop earlier – facilitating implicature – or later – stalling some cases of implicature – no single one can be identified as the 'key'. However, it does seem that learning to integrate the different sources of information needed to derive an implicature could be the final step to adult-like competency. Finally, we end with some future directions for research.

2. Children's comprehension of implicatures

2.1. Quantity

Quantity implicature is the best understood type of implicature in children's acquisition, given the many studies across a wide age range and in many different languages besides English (e. g., Finnish – Loukusa, Leinonen and Ryder 2007; French – Pouscoulous et al. 2007; Greek – Papafragou and Tantalou 2004; Italian – Foppolo, Guasti and Chierchia 2012; Japanese – Okanda et al. 2015; and Spanish – Miller et al. 2005). These studies have also employed a variety of experimental designs: truth value judgement tasks, felicity judgement tasks, picture-matching, and action-based activities, to name a few.

Most of these studies have concentrated on scalar implicatures, for which the inference depends on a particular word in the utterance that can be said to lie on a scale with its stronger alternatives: a stronger alternative on the scale entails the weaker term that was uttered. For example, on the scale <all, most, many, some>, *some* is entailed by the stronger alternatives <all, most, many>. Upon hearing *Sam ate some of the sweets*, the listener may infer that the speaker would have used the stronger alternative on the scale *all* if that were the case, assuming that the speaker is fully knowledgeable about the situation; as the speaker did not, the negation of the stronger alternative (*but not all*) must hold. A few studies have also considered ad hoc quantity implicatures, where the stronger alternative is dependent entirely on the context: for instance, hearing *On the correct box, there is a car* (Grosse et al. in prep.) in a context where there is also a box with a car and a doll, the listener makes an exhaustive inference, *only a car*.

Given the evidence so far, it seems that children learn to derive SIs later than ad hoc quantity implicatures. For example, 5-year-olds and even older children respond with more 'logical' than 'pragmatic' answers for SIs than adults do, in truth value judgement tasks (e. g., Guasti et al. 2005; Foppolo, Guasti and Chierchia 2012) and eye-tracking tasks (e. g., Huang and Snedeker 2009). However, with an action-based or picture-matching task even some 4-year-olds begin to approach adult-like rates of inference, though not to the same extent of 5- or 6-year-olds (Pouscoulous et al. 2007; Horowitz, Schneider and Frank 2018). Three-year-olds, though, tend to perform at worse-than-chance levels with <all, some> inferences (Horowitz, Schneider and Frank 2018; Wilson, 2017; Grosse et al, in prep.).

In contrast, Stiller, Goodman and Frank (2015) found that 3-year-olds were able to make simple ad hoc inferences with a performance that was approaching adult-like. They presented children with an array of three objects, for example smiley faces: one with nothing extra, one with glasses, and one with glasses and a hat. Children were asked to choose which belonged to a toy animal, who said, for example, *My friend has glasses*. Children in the 3.5- to 4-year-old age range picked the face with only glasses significantly more than chance (70 %

compared to 50 % chance), and 3- to 3.5-year-olds were also tending in that direction.

Still more convincing evidence comes from studies that have examined scalars and ad hocs together. Grosse et al. (in prep.) used a design similar to Stiller, Frank and Goodman (2015), in which the child had to find the location of a sticker which was described using either a scalar or ad hoc weaker term. When the description included the weaker term, 3-year-olds made the pragmatic inference at a rate of 81 % for ad hocs (above chance), compared to 49 % for scalars (at chance), whereas 5-year-olds did so at 97 % and 69 % respectively (both above chance). Similar results have been found in other picture-matching tasks (Horowitz, Schneider and Frank 2018; Wilson 2017), and in eye-tracking experiments (Yoon and Frank 2019).

Besides scalar and simple ad hoc implicatures, there are other kinds of quantity implicature, as we saw in our first example, *I cleaned the kitchen*. These rely on other lexical or contextual alternatives, such as whole-part relations. The limited evidence so far tentatively indicates that, when appropriate examples are chosen according to children's world knowledge, children are able to derive such inferences later than simple ad hocs and around the same time as or slightly earlier than SIs (Papafragou and Tantalou 2004; Verbuk and Shultz 2010). However, Verbuk and Shultz's (2010) study relies on both a binary judgement and a metalinguistic comment on the judgement with only three items, so may not be accurately tapping into children's pragmatic skills; Papafragou and Tantalou (2004) use a reward-based design and find that 4–6-year-olds correctly withhold a prize 70% of the time, but test only 10 participants with a three year age range. This is therefore an area where future work is needed to fill in the picture.

It seems, though, that even simple ad hocs where the alternatives are visually presented in context are too hard for 2-year-olds. The youngest group were performing randomly in Stiller, Goodman and Frank's (2015) study, even in a simplified pilot version specially designed for 2-year-olds. Likewise, Yoon and Frank (2019) found in their eye-tracking study that 2-year-olds actually looked more to the distractor item, possibly due to salience. In other words, there is positive evidence for a 'gap' between early foundational skills for pragmatics, and an ability to derive quantity implicatures even in simple contexts.

2.2. Relevance

Children seem to begin to derive relevance implicatures from 3 years, although again this depends on the precise nature of the implicature. For example, 3-year-olds responded in a pragmatically appropriate way at above chance levels (75 %) with examples like (4), as they also did when the question and intention matched, with the response *I like elephants* (at 98 %):

(4) A: Should [child] give you the elephant?

B: I don't like elephants.

→ Give me another item.

(Schulze, Grassmann and Tomasello 2013: 2082; see too Tribushinina 2012)

In this case, the knowledge that provides the cohesive link between the utterance and the intended meaning is arguably readily available: preference strongly indicates desire. More complex inferences based on background knowledge about an unfulfilled condition are also understood at that age (5), but those based on a fulfilled condition are not (6):

(5) A: Do you want the cereal or the roll? [for breakfast]

B: The milk is gone.

→ I want the roll

(6) A: Do you want the cereal or the roll? [for breakfast]

B: I bought milk.

→ I want cereal

(Schulze, Grassmann and Tomasello 2013: 2087)

In other words, while it seems that the ability to derive relevance inferences is available from 3 years in general, whether a child understands a particular implicature is variable, depending on the background knowledge required for the elaborative inference, as we will discuss more in Section 3.1.2. However, more research is needed to chart children's developing abilities with relevance implicatures, and to establish whether such inferences are possible below 3 years as well.

2.3. Manner

Like quantity and relevance, manner implicatures have been taken to be part of an adult speaker's pragmatic toolbox, and therefore part of the acquisition challenge faced by the child. Their distinguishing characteristic is that the speaker's meaning is conveyed by way of the form of the utterance: the use of a marked form where there is a less marked alternative with similar semantic content can convey a marked meaning of 'not usual'. Admittedly, though, while some theorists have built on Grice's proposals for manner (e. g. Levinson 2000; Franke 2009), much less is understood about manner implicature in theory and in adult processing than for other implicatures, and many of the oft-cited examples turn out to be hard to tease apart from quantity (for a full discussion, see Wilson 2017). Consequently, we are also only beginning to understand when and how children are able to derive manner implicatures.

Like quantity implicatures, manner implicatures fall on a spectrum of potentially more or less conventionalised cases: from those where there is a systematic relationship between the form of an utterance and its alternative, to those where the relationship is ad hoc and completely dependent on context. An example of the more conventionalised, or generalised type in English involves causative verbs: given a systematic relationship between a periphrastic verb phrase (e. g., *cause to open*) and the alternative related verb (e. g., *open*), using the periphrastic verb phrase can trigger a manner implicature. Antoniou and Katsos (2017) tested Greek-speaking 6–12-year-old bilinguals and bidialectals on such inferences in a picture selection task. In the task, children saw pairs of pictures, for example an illustration of a man opening a door in the normal way (by turning the handle) and another illustration of a man opening a door in an unusual way (by kicking it). They had to choose the picture that was being described when they heard an utterance such as:

(7) In this picture a man made the door open.

They found that children performed comparably for manner implicatures, scalar implicatures and metaphor comprehension. Due to the wide age range, however, it is difficult to tell much about the developmental trajectory of this kind of manner implicature from this study.

Some researchers have noted the similarity between manner implicatures and the strategies that children use in word learning, in particular word learning by exclusion (Gathercole 1989; Brosseau-Liard and Hall 2011; de Marchena et al. 2011; for more general comparisons between implicature and word learning: Huang and Snedeker 2009; Barner, Brooks and Bale 2011; Katsos and Bishop 2011; Sullivan and Barner 2011; Bale and Barner 2013; Morisseau, Davies and Matthews 2013; Katsos and Wilson 2014; Stiller, Goodman and Frank 2015). In the typical word learning by exclusion paradigm, the infant is presented with two objects, one known and one novel, and told *point to the dax* (e. g., Diesendruck and Markson 2001). Even infants as young as 16 or 17 months have been shown to choose the novel object upon hearing the novel word at above chance levels (e. g., Graham, Poulin-Dubois, Baker 1998; Halberda 2003). One influential explanation for this behaviour – though by no means the only explanation – is a pragmatic one: the Principles of Conventionality and Contrast (e. g., Clark 1990, 2009). The Principle of Contrast, by which “speakers assume that any difference in form must signal a difference in meaning” (Clark 2009: 22), enables young word learners to infer the intended reference of a novel word along the following lines of reasoning: had the speaker been referring to the known object she would have said [known word]; she did not say [known word] but instead [novel word]; she must be intending not to refer to the known object; she must be intending to refer to the novel object. Word learning by exclusion and implicature can thus be

said to share pragmatic prerequisites – such as joint attention and attribution of intention – and also a similar inferential process. Like manner implicature, the word learning by exclusion inference involves reasoning about the form of the utterance, an awareness of conventional language use, and generating and negating an alternative (Grassman 2013; Katsos and Wilson 2014). It is crucial for word learning by exclusion that the child knows and can produce the form associated with the known object (Grassmann, Schulze and Tomasello 2015), and appreciates the conventionality of word use.

However, there are important differences between manner implicature and word learning by exclusion. For instance, in the typical word learning by exclusion situation, the need for disambiguation is obvious; the relevance of the alternative is clear; and linguistic and inferential demands are arguably simpler than in an implicature task (for further discussion of differences, see Morisseau, Davies and Matthews 2013: 27). Moreover, the emerging picture from studies on word learning is of changing and developing strategies over infancy and childhood, and so it is possible that children's very early demonstrations of word learning by exclusion are reliant on different mechanisms or heuristics from the word learning strategies they use later (Hollich, Hirsh-Pasek and Golinkoff 2000; Kalashnikova, Mattock and Monaghan 2014). The precise nature of both word learning by exclusion and manner inferences, as well as their similarity over development, is therefore a topic that merits further research. It does seem, though, that word learning by exclusion and manner implicature cannot be said to be one and the same inference without qualification.

3. Aspects of implicature acquisition

We turn now to some specific aspects of implicature inferences which are key challenges in the acquisition process. They form part of the explanation for why we see a gradual development of this pragmatic skill, with some types of implicature achievable before others and high variability in performance depending on context. We consider the specific types of knowledge that children require for implicatures; the inferencing process itself; and children's developing social cognition. We suggest that the final challenge is acquiring the ability to quickly integrate these different skills and sources of information in conversation.

3.1. Knowledge and implicatures

In order to be able to grasp implicatures, children need to acquire knowledge about communication, about the world and about vocabulary and grammar – we consider each in turn.

3.1.1. *Knowledge about communication*

Firstly, children must acquire knowledge of what it means to be communicatively co-operative, and the understanding that being co-operative is a shared expectation. In other words, they must learn to assume that speakers are, for the most part, informative, relevant and conventional, and recognise what this looks like in communication. This kind of knowledge enables a hearer to be sensitive to which utterance or speaker is more co-operative in a particular context, as is tested, for example, in a felicity judgement task (Chierchia et al 2001; Foppolo, Guasti and Chierchia 2012, Experiment 5), or a Conversational Violations Test (Siegal, Iozzi and Surian 2009; Foppolo, Guasti and Chierchia 2012, Experiment 4). In Foppolo, Guasti and Chierchia's study, children heard an under-informative description of a story from one puppet, and a maximally informative description from another puppet, and had to judge which could 'say things better' (2012: 384). They found that the same children who performed poorly on SIs in a truth value judgement task (in which they had to say whether a speaker was right or not in describing a scene) were at ceiling in the felicity judgement task (in which they had to choose between two utterances to describe a scene). This suggests that knowledge about communication is a necessary but not sufficient step towards acquiring the ability to actually derive implicatures.

This knowledge emerges from infants' early ability to participate in a joint attentional frame with their interlocutor and recognise that others have intentions, and specifically communicative intentions. This begins around the age of 9 months, and is seen in second year of life in preverbal communication with pointing and gestures (for an overview, see Tomasello 2003, 2008; Tomasello, Carpenter and Liszkowski 2007). From 18 months, infants are able to infer an interlocutor's social goal and understand non-verbal indirect communicative acts (Schulze and Tomasello 2015). Later, specific pragmatic expectations about co-operative communication become evident: by three years, children are sensitive to whether an utterance is relevant or not (Lewis 2013) and whether a referential expression is ambiguous and therefore under-informative (Morisseau, Davies and Matthews 2013). However, it is not until age 5 that children begin to be sensitive to over-informativeness where there is no ambiguity in a referential context (Morisseau, Davies and Matthews 2013).

Once children have begun to be sensitive to informative, relevant and conventional utterances (and, conversely, under-informativeness, irrelevance and non-conventional language use), they must learn to extend this knowledge and apply it in new situations. It has been observed that, while in a binary judgement task children display much lower levels of pragmatic inferencing than adults, in a reward-based task with a scale of three or more potential prizes for the speaker, they show more adult-like performance. One proposal to account for these differences is the notion of pragmatic tolerance: children are less quick to penalise

under-informativeness than adults (Davies and Katsos 2010; Katsos and Bishop 2011). Various explanations for this phenomenon have been proposed, such as an inability to express nuanced judgement or uncertainty about language use. Another plausible option is that children differ from adults in their expectations of co-operativity in new situations, especially ones which lack contextual information or collaborative interaction, as is the case in many experimental designs. In other words, children may not expect the same level or kind of informativeness from the speaker in the communicative context created by a binary judgement task as adults do, and therefore fail to derive an implicature in the same way. Such situations are not just a quirk of experimental contexts: the amount of contextual information available to interlocutors varies in naturalistic settings too, where it can sometimes be extremely impoverished. Children might have to learn what a ‘default’ level of co-operativity is, or build up enough experience of different situations, in order to infer the speaker’s intended meaning.

One intriguing finding from a study that, unusually, tested SIs throughout childhood and into adolescence, is an inverted U-shaped curve in ‘pragmatic’ responses with increasing age (Scrafton and Feeney 2006). The proportion of pragmatic responses increased from the youngest children, aged 5, to the middle group, aged 12, who were practically at ceiling. But then the rate decreased again in the 15-year-old and adult groups. This was more marked for a truth value judgement task with no context (based on Noveck 2001) than a story-based task with enriched context. There are many potential explanations for this progression, but one could be that a growing experience and increasing knowledge of co-operativity in communication allows the listener to gauge whether the literal meaning or a pragmatic enrichment is the most likely intended meaning. This study also highlights the fact that homing in on the first emergence of implicatures in children aged 3–5 years leaves a gap in our knowledge about the intervening years before adulthood – a period when many other pragmatic skills, like irony and metaphor comprehension, are known to be still developing.

3.1.2. *Knowledge about the world*

Secondly, learning to derive implicatures requires learning knowledge about the world, and learning to retrieve that knowledge appropriately. This is most obvious for relevance inferences, but is true of other implicatures too. In the simplest cases we saw earlier, where 3-year-olds inferred from an utterance like *I don’t like elephants* that the speaker did not want the elephant, they had to use the fact that people tend to want or choose things that they like. Similarly, in the breakfast scenario, the listener must know that people typically have cereal with milk, in order to infer that the speaker does want cereal (*I bought milk*) or not (*The milk is gone*). Indeed, there is evidence that world knowledge does correlate with children’s competence with relevance implicatures (Anagnostopoulou et al. 2017).

Likewise, quantity implicatures can rely on knowledge about the world. For instance, what are sometimes called ‘encyclopaedic’, ‘pragmatic’ or Hirschberg scales (Hirschberg 1991; Papafragou and Tantalou 2004; Verbuk and Shultz 2010; Verbuk 2012) have a contextually defined ordering relation, to take an example we have encountered already:

- (8) A: Did you clean the house?
 B: I cleaned the kitchen.
 → I didn’t clean the whole house.
 (cf. Verbuk 2012: 1693)

Here the knowledge, albeit basic, that the kitchen is just one part of the house is required to infer that the speaker did not clean the whole house³. Similarly, in this next example, the knowledge that Stansted is closer than London facilitates the inference that the speaker did not cycle to London.

- (9) [Context: discussing a trip from Cambridge.]
 A: Did you cycle to London?
 B: I cycled to Stansted.
 → I didn’t cycle to London.

Our knowledge about the world of course develops across the lifespan, and as children increase in their world knowledge through growing experience and cognitive capacity, the breadth of implicatures that they are able to comprehend also increases.

3.1.3. Knowledge of vocabulary and grammar

We highlighted in the introduction (Section 1.2) that implicatures, in a broadly Gricean conception, are essentially verbal – they are inferences about communicative intention beyond the literal meaning of what the speaker *says*. Children therefore need to have at least some knowledge of vocabulary and grammar in order to derive implicatures. Much debate about the role of lexical knowledge

³ Two inferences are actually possible here: one which relies on a contextual scale, on which <house, kitchen> are ordered with an entailment relation, and the stronger alternative (*whole*) *house* is negated. The other is more like an ad hoc inference, in which the mention of *house* activates alternatives like *bedroom*, *bathroom* and so on, which are then negated to derive the implicature *I cleaned only the kitchen (not the bedroom, not the bathroom, etc)*. Which inference is made depends on which alternatives might be salient in context.

has concerned SIs, and so we consider this in some depth here, before turning to knowledge about grammatical constructions and prosody.

The focus on children's acquisition of SIs reflects the corresponding debate in the theoretical and adult processing literatures on their nature: do children perform poorly on SIs because they have not yet acquired both the scalar terms and the scale to which they belong, or is there a more general explanation? Proposals that SIs are generated by default (Levinson 2000) or through a grammatical exhaustivity operator (e. g., Chierchia, Fox and Spector 2008; see also Chemla and Singh 2014a, 2014b), lead to the hypothesis that children's apparent lack of success with scalar inferences is due to the need to acquire lexical scales (e. g., Tieu et al. 2015). Thus SIs are harder than ad hoc implicatures, and acquired later, because for SIs the listener has to know and access the appropriate scale, whereas for ad hocs the alternatives are often available in context, and no special lexical knowledge is required. This idea seems plausible given studies in which children seem to have a good grasp of the stronger alternative, such as *all*, but still perform at less than adult-like rates with under-informative *some* (e. g., Noveck 2001, Experiment 3; Pouscoulous et al. 2007). Note, though, that a lexical or grammatical theory of SIs could, in principle, lead to the opposite prediction for acquisition: hypothetically, it could be that implicatures that 'only' depend on linguistic knowledge are likely to be easier than those that depend on background knowledge (as proposed by Verbuk 2012).

Barner, Brooks and Bale (2011) tested directly whether the challenge of SIs is learning that *some*, for instance, belongs together on a scale with *all*. They employed a truth value judgement task with pictures in which either some or all of a group of animals have some property. Their procedure differed from other similar studies though, in that the children were asked questions rather than given statements to evaluate, for example: *Are some of the animals sleeping?* Given that question environments usually do not license scalar implicatures, this means that this design does not test implicature derivation per se. However, the goal of the study is still addressed, thanks to the two manipulations that Barner and colleagues carried out. Children were asked a question either with the quantifier *some* or with animal labels (e. g. *the dog and the cat*), with or without the explicit operator *only*. There was an interaction between these four conditions: as expected, children strongly tended to answer 'yes' to the questions without *only* for both *some* and *the dog and the cat*, when all three animals in the picture were sleeping. However, for the questions with *only* they still answered 'yes' for *some*, but not for the labelled animals. That is, they apply the exhaustive meaning of *only* in the case of *only the dog and the cat (and not the cow)*, but not in the case of *only some of the animals (and not all of them)*. Based on the assumption that *only* requires similar reasoning to SIs in terms of generating and negating alternatives, and presupposing that these 4-year-olds have fully grasped the meaning of *only*, the results can be interpreted as evidence that children know *some* and *all* but do not yet know that they occupy

the same lexical scale. Acquiring this knowledge might be a special challenge in learning to understand scalar inferences.

The focus on SIs with the scale <all, some> may mask an important characteristic of children's acquisition of implicature, namely that different scales may be acquired at different points or at different rates over development. Obviously, the acquisition of scales depends on acquiring the meaning of the scalar items themselves, which may be easier or harder depending on more general cognitive development – epistemic modals <must, may>, for example, are likely to be acquired later (Ozturk and Papafragou 2015). In addition, we know that for adults scales seem to vary in how robustly they trigger implicatures, with <some, all> actually perhaps being an exception, rather than the rule (van Tiel et al. 2016). This raises some interesting questions: how does this pattern emerge developmentally? Is there continuity from childhood into adulthood? Do children show similar patterns of variability?

This brings us to a more general point about knowledge of vocabulary: it is clearly required for all types of implicature, so that the listener can both comprehend the literal meaning and derive the inference. There are links to the need for background or world knowledge here, but we can think of cases where it is specifically semantic knowledge that is required. To take another quantity implicature as an example, in the following case one needs to know the meaning of *parent* and *mum*; how the two are conceptually related to each other; and how they are related to what could be considered as an alternative, *dad*.

(10) A: Did Jane meet his parents?

B: She met his mum.

→ She didn't meet his dad.

If that semantic knowledge is not in place, then what potentially results instead is a relevance inference from a perceived evasive answer, comparable to:

(11) A: Does Jane like orange juice?

B: She likes apple juice.

→ She doesn't like orange juice. / I'm not sure whether she likes orange juice.

Here the listener either derives a strong inference, that Jane does not like orange juice, or a weak one, that the speaker does not know whether Jane likes orange juice (see Bale and Barner 2013: 247–248 for discussion). Likewise, the hearer in the *parents* case would infer either that the speaker met his mum, but not his parents (paradoxical though that is), or that the speaker is unsure whether Jane met his parents. Whether children sometimes defer to a relevance strategy instead of an informativeness one due to lack of lexical or semantic knowledge has yet to be addressed. However, it is plausible, given their fairly early ability to derive

relevance implicatures (e. g., Schulze, Grassmann and Tomasello 2013) and understand evasive answers (Sullivan, Davidson, Wade and Barner 2019), and the fact that such inferences do not require the generation and selection of relevant alternatives (Bale and Barner 2013: 248).

There are two more areas to mention where acquiring implicature hangs on acquiring aspects of grammar. Firstly, it is not only knowledge of words, but also phrases and grammatical constructions that children need to learn as a basis for implicature, especially for manner inferences.

(12) A: How did John react?

B: He turned the corners of his lips slightly upwards.

→ John didn't exactly smile / John feigned a smile.

(13) The man made the door open.

→ The man opened the door in an unusual way.

Here, the listener needs to know that *smile* is a plausible alternative that the speaker chose not to use in the first example, and that there is the simple verb *open* that alternates with the periphrastic causative *make X open* or *cause X to open*, in the second. Crucially, it is not just a productive knowledge of lexical items or grammatical constructions as alternatives that it is needed, but also of how phrases or grammatical constructions are typically used – that is, sociolinguistic value, frequency, complexity, or any of the other features that might contribute to ‘markedness’. This is obviously knowledge that depends on linguistic experience, which we would expect to contribute to a gradual development of manner inferences.

Secondly, children’s knowledge of prosody, and especially contrastive focus intonation, is known to interact with their acquisition of implicature. Children aged 4 or above, and indeed adults as well, derive more scalar implicatures when the quantifier carries a contrastive accent (Miller et al. 2005; Cummins and Rohde 2015), e. g.:

(14) Make some faces HAPPY

Make SOME faces happy

(Miller et al. 2005: 394)

One suggested explanation for this effect is that the focal accent highlights the Question Under Discussion that the utterance is relevant to (Cummins and Rohde 2015) – which is especially valuable in controlled experimental situations with impoverished context. However, this is only available to children as a cue to the speaker’s intended meaning once they have developed sensitivity to and understanding of contrastive stress. At the age of 3 years, contrastive focus intonation has only a limited facilitative effect for SIs, which, as Yoon and Frank (2019)

point out, is likely to reflect children's developing and fragile sensitivity to stress. It seems that in the preschool years children are still learning the abstract meaning of contrastive stress, and so only show an adult-like comprehension when it is supported by context, even drawing on other pragmatic strategies to infer the speaker's intention in using contrastive stress (Sekerina and Trueswell 2012; Kurumada 2013). While the interaction between contrastive intonation and implicature is now better explored in adults (e. g., de Marneffe and Tonhauser 2015; Gotzner 2017), how children integrate prosodic knowledge into implicatures is a question still open to further research.

In summary, however 'simple' the implicature, some knowledge about vocabulary and grammatical constructions is crucial, and will determine which implicatures are accessible to young children: lexical, grammatical and prosodic knowledge all interact with and constrain children's pragmatic inferences, and this is true not just of scalar implicatures, but other quantity, manner and relevance implicatures as well.

3.2. The inferencing process

Besides knowledge that facilitates sensitivity to co-operativity, children also need to acquire the inferential process itself in order to derive implicatures in context. In this section we pick out two inferential steps that seem to be particularly challenging for young children – generating alternatives and selecting relevant alternatives.

Firstly, children not only need to possess the vocabulary, grammar or background knowledge needed for an implicature, but to access this knowledge as part of the reasoning. In particular, for quantity and manner inferences, they must learn to generate alternatives – what the speaker could have said but did not. Studies in which the availability of the alternative is manipulated – for example by providing or cueing it in the experimental context – show that increasing its availability helps young children to derive implicatures at more adult-like levels. For instance, studies that give children a training phase emphasising informativeness (e. g., Papafragou and Musolino 2003) or where children hear the contrasting alternative before the critical utterance with the weaker term (Skordos and Papafragou 2016; Horowitz and Frank 2014; Grosse et al, in prep), find that children derive implicatures at higher rates with training or exposure to alternatives than when there is no training or exposure to alternatives.

Secondly, children need to learn to generate *relevant* alternatives. In other words, it is not just a matter of knowing that *all* can be an alternative to *some*, and accessing *all* when *some* is heard, but knowing that it is the relevant alternative given the context. In principle, the studies that found a facilitative effect of encountering the stronger alternative before the critical weaker term could be explained in two ways: it could be that providing the stronger alternative itself is what helps children perform in a more adult-like way – the developmental challenge is purely

learning and accessing alternatives. Or it could be that, in addition, mentioning the stronger alternative highlights quantity as part of the Question Under Discussion and so *all* is provided as a *relevant* stronger alternative in that context. Skordos and Papafragou (2016) teased apart these two options in their acceptability judgement task, in which 5-year-olds heard an utterance with *all* before a critical under-informative utterance with *some* in one of two conditions: either the utterance with *all* (for example, *all of the animals have scarves*) was false because, in the picture, only some of the animals had scarves, or it was false because all of the animals had hats, not scarves. That is, the implicit Question Under Discussion was either quantity or quality, and thus either consistent or inconsistent with the following critical trials with *some* where the implicit Question Under Discussion was to do with quantity. Where the Question Under Discussion was consistently quantity, children who were competent with the semantics of *some* and *all* performed indistinguishably from adults in detecting the under-informativeness of the critical *some* utterances (17 “passers” and 0 “failers”). But where the Question Under Discussion shifted from quality to quantity, the 5-year-olds performed more poorly (6 “passers” and 16 “failers”). This provides evidence that as children acquire implicatures, they are learning how to track the Question Under Discussion and to recognise and generate alternatives that are relevant.

It is worth noting that the findings from Barner, Brooks and Bale’s (2011) study, described above in Section 3.1.3, might also be explained in terms of a general challenge of generating relevant alternatives (as suggested by Papafragou and Skordos, 2016): it could be that the negated alternative is more easily generated for ad hoc inferences (in their case, where the animals are labelled) because the set of alternatives is highlighted in the utterance by the labelling of the different animals. For SIs with *some*, the relevant alternative is less obvious, and this makes both SIs and sentences with the explicit exhaustifier *only* more difficult. This proposal can also explain why the contexts created by some experimental designs allow children to perform like adults with SIs: where *some* and *all* are both presented at the same time, either in utterances or pictures (such as in felicity judgement tasks or binary picture-matching tasks), they can be treated as relevant alternatives. This may even allow children to derive an inference without knowing and using a scale, but merely seeing the stronger term as a contrasting alternative (Sullivan, Davidson, Wade and Barner 2019; for examples of such studies, see Katsos and Bishop 2011; Horowitz and Frank 2018).

Manner inferences also involve the generation of relevant alternatives, but there is potentially an extra step in the inference: the relevant alternatives are relevant not only because they are a less marked corresponding form, but also because they are typically used to convey a stereotypical or usual meaning – *he smiled* without further qualification implies *he smiled normally*. On this view, the prototypical manner implicature, incorporating some sort of ‘unusual’ meaning, is arrived at by negating not the corresponding form but its corresponding impli-

cated meaning. This extra step might make manner implicatures harder for young children than quantity implicatures, but as we saw above (Section 2.3) we do not yet know a great deal about adults' processing or children's acquisition of manner implicatures.

Generating relevant information is a key part of relevance inferences, too: children have to learn to make a cohesive link between what was said and the Question Under Discussion. This would involve efficient searching of background knowledge and recognising how the relevant fact provides the link (e. g., through cause, contingency, correlation, and so on). As we saw above (Section 2.2), Schulze, Grassmann and Tomasello (2013) found that 3-year-olds perform better for relevance inferences based on preference than those based on unfulfilled conditions, and in turn better than those based on fulfilled conditions. This provides tentative evidence that, as with quantity implicatures, children are aided when the relevant information is more available in the context. It would be instructive to examine the acquisition of relevance implicatures using experimental designs that have been developed for quantity implicatures, to see whether training on relevance or implicitly or explicitly cueing the cohesive link does aid children's inferential capacities in a similar way.

3.3. Social cognition and implicature

Having outlined how acquiring implicatures depends on acquiring certain knowledge and inferencing abilities, we now turn to a final aspect: how implicature acquisition is contingent on developing social cognition. By social cognition, we have something different in mind from the communicative knowledge we discussed earlier in 3.1.1: social cognition involves the more general cognitive capacities of tracking and reasoning about others' desires, intentions and epistemic states, which are foundational not just for pragmatic phenomena but any social interaction.

The received view on a Gricean approach to pragmatics is that competence with deriving implicatures involves reasoning about the speaker's intentions and epistemic state, or Theory of Mind, which is "the capacity to attribute mental states to oneself and to others, and to reason on the basis of this information in order to interpret and predict others' behaviors" (Zufferey 2010: 6). On this model of reasoning, hearers reason about speakers' epistemic states as they make the assumption that the speaker is fully knowledgeable about the information in the utterance. Take our example of a quantity implicature again:

(15) A: Did you clean the house?

B: I cleaned the kitchen

Without this assumption, the hearer can only make an ignorance inference that the speaker does not know whether she cleaned the house; assuming that the speaker

is fully knowledgeable allows the inference that she did not clean the whole house, only the kitchen. Indeed, adults do adjust the inferences they make depending on whether the speaker is knowledgeable or ignorant, deriving a quantity implicature less often if the speaker is ignorant or only partially knowledgeable about the situation being described (Bergen and Grodner 2012; Breheny, Ferguson, Katsos 2013; Goodman and Stuhlmüller 2013). However, there are also alternative views that pragmatic inferences do not always require reasoning about the speaker's epistemic state, either throughout the lifespan or specifically in development (Breheny, 2006; Jary, 2013; Kissine 2016; Andrés-Roqueta and Katsos 2017).

In children, developing Theory of Mind abilities have traditionally been measured by tests of their ability to attribute false beliefs to others, such as the Sally-Anne change-of-location task (Baron-Cohen, Leslie and Frith 1985) or unexpected contents task (Perner, Leekham and Wimmer 1987)⁴. Typically, children only pass these tests at age 4, with some variation depending on the exact procedure (Wellman, Cross and Watson 2001). Given that we see some competence with implicatures emerging from age 3, this could be taken to indirectly suggest that implicature inferences are possible without full Theory of Mind, at least in development. However, more recent implicit tests of false belief provide evidence that these skills may already be in place in the second year of life (e. g. Onishi and Baillargeon 2005; Mascaro and Sperber 2015), in the which case they could be supporting implicature acquisition in the fourth year. A further scenario, based on the influential modular view of Theory of Mind (e. g., Baron-Cohen 1995) is that this cognitive capacity develops incrementally, and different types of pragmatic inference are correspondingly available at different stages. On the modular view, some abilities, like intentionality and eye-direction detection, are in place early, and later followed by shared-attention, and finally full Theory of Mind (see also Tomasello 2003, and Kissine 2016, for similar views). It could be that the types of implicatures that young children are able to understand do not require any notion of false belief, but only joint attention and intention reading. As children mature in their Theory of Mind throughout childhood, acquiring the ability to understand second order false beliefs, for example, they also acquire more adult-like competence with implicatures, in particular in situations where the speaker and listener do not share beliefs about a situation.

However, as we have already seen with knowledge of vocabulary and grammar and with generating alternatives, possessing the requisite abilities does not necessarily mean that they can be used in pragmatic inferences; we must consider cases

⁴ In the Sally-Anne task, a story is acted out with two protagonists, Sally and Anne. Sally puts a marble in a box, before leaving the room; Anne then moves the marble into a basket, before Sally returns. The child is asked where Sally put the marble at the beginning, where it is now, and where Sally will look for it on her return.

where children demonstrate social cognition actually in their pragmatic inferences. There is evidence that the ability to monitor whether someone is knowledgeable or ignorant about something in a communicative situation develops early. For example, Grosse and Tomasello (2012) found that 2-year-olds are able to differentiate 'test' questions, where the speaker already knows the answer, from genuine questions. Likewise, children change their production and provide more information if their parent has not seen where an object was hidden (O'Neill 1996). Furthermore, by around 5 years, children are sensitive to ignorance and able to make inferences based on it. Hochstein et al. (2016) asked 4- and 5-year-olds whether a blindfolded, ignorant puppet or a seeing, knowledgeable puppet uttered a sentence such as *The bunny took a cup or plate*, when in fact the bunny had taken a cup *and* a plate. They found that 5-year-olds, but not 4-year-olds, were able to attribute the under-informative statement to the ignorant puppet at above chance levels (see too Papafragou, Friedberg and Cohen 2018, for a replication with SIs with *some*). In other words, children are able to track others' epistemic states and use this information to at least derive ignorance inferences from 5 years.

However, it seems that they may not be able to take into account the speaker's epistemic state to appropriately derive or not derive an implicature until later in development. Wilson, Lawrence and Katsos (2018) used a version of the director task in which children had to follow a speaker's instructions to select from an array of picture cards, one of which the speaker could not see. They found that, unlike adults, children aged 5–6 years were unable to not derive an ad hoc quantity implicature when the speaker was ignorant of the relevant information. This was despite the children's adult-like ability to derive an implicature when the speaker's epistemic state was not at stake, and their competent explicit reasoning about the speaker's epistemic state (passing a Theory of Mind false belief task, and accurately stating which cards the speaker could and could not see). This suggests that the remaining challenge for children could be integrating the two skills, of the pragmatic inferencing process and reasoning about others' beliefs.

3.4. Integration of multiple sources of knowledge and processes

We have seen that acquiring implicatures is a considerable challenge in children's communicative development: understanding a speaker's intention by deriving an inference draws on different types of knowledge, inferential processes, and more general social cognitive skills. While some of these skills and knowledge are acquired in infancy, many appear only gradually and later in childhood. Furthermore, they are all independently necessary for implicatures, but they must also be integrated at speed in conversation in order for an implicature to actually be derived.

Papafragou and Skordos (2016) propose that what is common across the acquisition of different pragmatic phenomena is the gradual development of the ability

to integrate linguistic and non-linguistic sources of information. Similarly, others have proposed that there are multiple ‘routes’ to deriving an implicature, and children are restricted in which they can use. Given that language processing in general is known to be massively interactive, Snedeker (2016, see also Huang and Snedeker 2009) suggests that there are two possible routes by which a hearer can derive an enriched meaning: bottom-up or top-down. Bottom-up reflects the traditional Gricean model, whereby the literal meaning of an utterance is first interpreted, and then the implicated meaning calculated based on the literal meaning, contextual information and assumptions about the speaker. On the other hand, top-down processing is possible when the context allows the hearer to predict the meaning that the speaker might communicate, and even to pre-encode how this might be said. This could happen, for instance, when a hearer has sufficient time to look at all the pictures in a picture-matching task before hearing the speaker’s utterance. The suggestion is that computing an implicature is effortful without pre-encoding, and that children have difficulty using top-down cues and so pre-encode less than adults in contexts that permit it. This results in difficulty with implicatures that reduces over development as they become more able to process multiple cues.

These two proposals can be integrated: the top-down route, which enables adults to be fast and flexible in implicature inferencing across contexts, requires early integration of multiple sources of information – knowledge stored in long-term memory, and information in short-term or working memory from the immediate discourse and visual context. The bottom-up route, on the other hand, can rely on the literal meaning of the utterance to cue the search for other relevant pragmatic information (as could be happening in word learning by exclusion, or felicity judgement tasks), although this is likely to be more effortful and potentially slower, or altogether unsuccessful. Both proposals were made specifically for SIs, but it is possible to see how they can be extended to other types of implicature as well.

4. Future directions

Our understanding of how children acquire implicatures, and other pragmatic skills, has grown hugely over the past two decades. Here we highlight some additional questions and avenues for future research.

Firstly, recent research suggests that listeners adapt their expectations of informativeness, relevance and conventionality in a speaker-specific way (Pogue, Kurumada and Tanenhaus 2016; Yildirim, Degen and Jaeger 2016). We know that children are also sensitive to speakers’ characteristics in word learning by exclusion: 3- and 4-year-olds are sensitive to their reliability or accuracy in naming (Sobel et al. 2012), and 4- but not 3-year-olds to their expertise about objects (Sobel and Corriveau 2010). However, we do not yet know how and when children learn to adjust their expectations of co-operativity in a speaker-specific way at different

rates for different aspects of co-operativity, when it comes to implicatures. We might expect, for example, that it would be harder to detect a speaker who is further from the norm of conventionality than one who is further from the norm of informativeness, because the former requires more linguistic experience to gauge and has potentially less severe consequences for communication. Borrowing experimental designs from the research on speaker-specific traits in word learning inferences could be a way forward to investigate children's response to speaker-specific traits for implicature comprehension.

Secondly, there is the question of how more general cognitive functions underpin the acquisition of implicature, especially Executive Functions, which include working memory, inhibition and cognitive flexibility. Specifically, it might be hypothesised that working memory is essential for understanding implicatures, as it requires manipulation of different pieces of information, such as the literal meaning and alternatives. Inhibition, too, might be needed to prevent salient interpretations, like the literal meaning, from being chosen as the intended meaning. Indeed, some links between working memory and implicature derivation have been found in adults, as increased cognitive load has been found to decrease implicature rates (e. g., De Neys and Schaeken 2007) although there is also evidence to the contrary (Scrafton 2009). However, no such link has yet been found in children for working memory (Scrafton 2009; Janssens, Fabry and Schaeken 2014; Antoniou 2015) or inhibition (Antoniou 2015; Nordmeyer, Yoon and Frank, 2016). Part of the challenge here is that Executive Functions are not simple constructs and nor is there just one accepted way to measure them, making correlational studies difficult to interpret.

Finally, much of the research on children's acquisition of implicatures has concentrated, as we have seen, on SIs and on comprehension. We still know relatively little about other types of implicature, and about children's production of implicatures, and how it relates to their developing comprehension. In addition, while SIs have been investigated in several different languages, more cross-linguistic work and studies of bilingual children might help us to identify the factors that are particularly important for different sub-types of implicature. They might also reveal other factors, such as cultural or educational factors, that affect children's acquisition of implicatures. Another less explored but potentially fruitful avenue is to look at implicatures alongside other types of inference. For example, children do not always succeed with entailment relations when these are tested alongside implicatures (Sullivan, Davidson, Wade and Barner 2019), suggesting that this prerequisite skill may not be in place for certain lexical relations. Nordmeyer, Yoon and Frank (2016) compared processing difficulty in children for negation, implicature and inhibition, where negation and implicature both require children to resist a salient interpretation, but found different developmental trajectories for each phenomenon. Likewise, Bill et al. (2014) compared presuppositions and SIs, but again found different developmental patterns for these two pragmatic phenomena.

There is still much to learn about the trajectory of children's acquisition of implicature, and its relationship with other pragmatic phenomena across development.

References

- Ambridge, Ben and Elena V. M. Lieven
 2011 *Child Language Acquisition: Contrasting Theoretical Approaches*. Cambridge: Cambridge University Press.
- Anagnostopoulou, Nefeli, Kirsten Abbot-Smith, Cornelia Schulze and Danielle Matthews
 2017 Relevance inferencing in 3-year-olds: Real world knowledge matters. Poster presented at the International Congress for the Study of Child Language, Lyon, France.
- Andrés-Roqueta, Clara and Napoleon Katsos
 2017 The contribution of grammar, vocabulary and theory of mind in pragmatic language competence in children with Autistic Spectrum Disorders. *Frontiers in Psychology* 8: 996.
- Antoniou, Kyriakos
 2015 The Effects of Childhood Bilingualism and Bilectalism on Executive Control and Implicature Understanding. PhD dissertation. University of Cambridge.
- Antoniou, Kyriakos and Napoleon Katsos
 2017 The effect of childhood multilingualism and bilectalism on implicature understanding. *Applied Psycholinguistics* 38(4): 787–833.
- Bale, Alan and David Barner
 2013 Grammatical alternatives and pragmatic development. In: Anamaria Fălăuş (ed.), *Alternatives in Semantics*, 238–266. (Studies in Pragmatics, Language and Cognition.) New York: Palgrave Macmillan.
- Barner, David, Neon Brooks and Alan Bale
 2011 Accessing the unsaid: The role of scalar alternatives in children's pragmatic inference. *Cognition* 118(1): 87–96.
- Baron-Cohen, Simon
 1995 *Mindblindness: An Essay on Autism and Theory of Mind*. Cambridge, MA: The MIT Press.
- Baron-Cohen, Simon, Alan M. Leslie and Uta Frith
 1985 Does the autistic child have a 'theory of mind'? *Cognition* 21(1): 37–46.
- Behne, Tanya, Malinda Carpenter, Josep Call and Michael Tomasello
 2005 Unwilling versus unable: Infants' understanding of intentional action. *Developmental Psychology* 41(2): 328.
- Bergen, Leon and Daniel J. Grodner
 2012 Speaker knowledge influences the comprehension of pragmatic inferences. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 38(5): 1450–1460.
- Bill, Cory, Jacopo Romoli, Florian Schwarz and Stephen Crain
 2014 Scalar implicatures versus presuppositions: The view from acquisition. *Topoi* 35(1): 1–15.

- Breheny, Richard, Heather J. Ferguson and Napoleon Katsos
2013 Taking the epistemic step: Toward a model of on-line access to conversational implicatures. *Cognition* 126(3): 423–40.
- Breheny, Richard
2006 Communication and folk psychology. *Mind and Language* 21(1): 74–107.
- Brosseau-Liard, Patricia É. and D. Geoffrey Hall
2011 Explaining the disambiguation effect in lexical development: New evidence favoring lexical constraints over social-pragmatic knowledge. In: Nick Danis, Kate Mesh and Hyunsuk Sung (eds.), *Proceedings of the 35th Annual Boston University Conference on Language Development*. 85–96. Somerville, MA: Cascadilla Press.
- Carston, Robyn
2008 *Thoughts and Utterances: The Pragmatics of Explicit Communication*. Oxford: Blackwell.
- Chemla, Emmanuel and Raj Singh
2014a Remarks on the experimental turn in the study of scalar implicature, Part I. *Language and Linguistics Compass* 8(9): 373–386.
- Chemla, Emmanuel and Raj Singh
2014b Remarks on the experimental turn in the study of scalar implicature, Part II. *Language and Linguistics Compass* 8(9): 387–399.
- Chierchia, Gennaro, Stephen Crain, Maria Teresa Guasti, Andrea Gualmini and Luisa Meroni
2001 The acquisition of disjunction: Evidence for a grammatical view of scalar implicatures. In: Anna H.-J. Do, Laura Domínguez and Aimee Johansen (eds.), *Proceedings of the 25th Boston University Conference on Language Development*, 157–168. Somerville, MA: Cascadilla Press.
- Chierchia, Gennaro, Danny Fox and Benjamin Spector
2008 The grammatical view of scalar implicatures and the relationship between semantics and pragmatics. In: Paul Portner, Claudia Maienborn and Klaus von Stechow (eds.), *Semantics: An International Handbook of Natural Language Meaning*, Volume 3, 2297–2331. New York: Mouton de Gruyter.
- Clark, Eve V.
1990 On the pragmatics of contrast. *Journal of Child Language* 17(2): 417–31.
- Clark, Eve V.
2009 *First Language Acquisition*. Cambridge: Cambridge University Press.
- Cummings, Louise
2005 *Pragmatics: A Multidisciplinary Perspective*. Edinburgh: Edinburgh University Press.
- Cummins, Chris and Hannah Rohde
2015 Evoking context with contrastive stress: Effects on pragmatic enrichment. *Frontiers in Psychology, Special issue on Context in Communication: A Cognitive View* 6 (1779): 1–11.
- Davies, Catherine and Napoleon Katsos
2010 Over-informative children: Production/comprehension asymmetry or tolerance to pragmatic violations? *Lingua* 120(8): 1956–1972.
- De Neys, Wim and Walter Schaeken
2007 When people are more logical under cognitive load. *Experimental Psychology* 54(2): 128–133.

- Diesendruck, Gil and Lori Markson
2001 Children's avoidance of lexical overlap: A pragmatic account. *Developmental Psychology* 37(5): 630.
- Eiteljoerge, Sarah, V., Nausicaa Pouscoulous and Elena Lieven
2018 Some pieces are missing: Implicature production in children. *Frontiers in Psychology* 9: 1928.
- Foppolo, Francesca, Maria Teresa Guasti and Gennaro Chierchia
2012 Scalar implicatures in child language: Give children a chance. *Language Learning and Development* 8(4): 365–94.
- Franke, Michael
2009 Signal to act: Game theory in pragmatics. PhD thesis. Universiteit van Amsterdam.
- Franke, Michael and Gerhard Jäger
2016 Probabilistic pragmatics, or why Bayes' rule is probably important for pragmatics. *Zeitschrift für Sprachwissenschaft* 35(1): 3–44.
- Gathercole, Virginia C.
1989 Contrast: A semantic constraint? *Journal of Child Language* 16(3): 685–702.
- Geurts, Bart and Paula Rubio-Fernández
2015 Pragmatics and processing. *Ratio* 28(4): 446–469.
- Goodman, Noah D. and Andreas Stuhlmüller
2013 Knowledge and implicature: Modeling language understanding as social cognition. *Topics in Cognitive Science* 5(1): 173–84.
- Gotzner, Nicole
2017 *Alternative Sets in Language Processing: How Focus Alternatives are Represented in the Mind.* (Palgrave Studies in Pragmatics, Language and Cognition.) Cham, Switzerland: Palgrave Macmillan.
- Graham, Susan A., Diane Poulin-Dubois and Rachel K. Baker
1998 Infants' disambiguation of novel object words. *First Language* 18(53): 149–64.
- Grassmann, Susanne
2013 Word learning by exclusion: Pragmatics, logic and processing. In: Frank Liedtke and Cornelia Schulze (eds.), *Beyond Words: Content, Context, and Inference.* 67–89. (Mouton Series in Pragmatics.) Berlin: Walter de Gruyter.
- Grassmann, Susanne, Cornelia Schulze and Michael Tomasello
2015 Children's level of word knowledge predicts their exclusion of familiar objects as referents of novel words. *Frontiers in Psychology* 6: 1200.
- Grice, H. Paul
1975 Logic and conversation. In: Peter Cole and Jerry L. Morgan (eds.), *Syntax and Semantics.* Volume 3: *Speech Acts,* 41–58. New York: Academic Press.
- Grosse, Gerlind and Michael Tomasello
2012 Two-year-old children differentiate test questions from genuine questions. *Journal of Child Language* 39(1): 192–204.
- Grosse, Gerlind, Cornelia Schulze, Ira Noveck, Michael Tomasello and Napoleon Katsos
in prep. Three-year-olds make some, but not all inferences based on informativeness.
- Guasti, Maria Teresa, Gennaro Chierchia, Stephen Crain, Francesca Foppolo, Andrea Gualmini and Luisa Meroni
2005 Why children and adults sometimes (but not always) compute implicatures. *Language and Cognitive Processes* 20(5): 667–696.

- Halberda, Justin
2003 The development of a word-learning strategy. *Cognition* 87(1): B23–34.
- Hirschberg, Julia
1991 *A Theory of Scalar Implicature*. New York: Garland Press.
- Hochstein, Lara, Alan Bale, Danny Fox and David Barner
2016 Ignorance and inference: Do problems with Gricean epistemic reasoning explain children's difficulty with scalar implicature? *Journal of Semantics* 33(1): 107–135.
- Hollich, George J., Kathy Hirsh-Pasek, Roberta Golinkoff, Rebecca J. Brand, Ellie Brown, He Len Chung, Elizabeth Hennon, Camille Rocroi and Lois Bloom
2000 *Breaking the Language Barrier: An Emergentist Coalition Model of the Origins of Word Learning*. (Monographs of the Society for Research in Child Development 65:3.) Hoboken: Wiley.
- Horn, Laurence
1984 Toward a new taxonomy for pragmatic inference: Q-based and R-based implicature. In: Deborah Schrifin (ed.), *Meaning, Form, and Use in Context: Linguistic Applications*, 11–42. Washington, DC: Georgetown University Press.
- Horowitz, Alexandra C. and Michael C. Frank
2014 Preschoolers infer contrast from adjectives if they can access lexical alternatives. *Proceedings of the 36th Annual Meeting of the Cognitive Science Society*. 625–30. Austin, TX: Cognitive Science Society.
- Horowitz, Alexandra C., Rose M. Schneider and Michael C. Frank.
2018. The trouble with quantifiers: Exploring children's deficits in scalar implicature. *Child Development* 89(6): E572–93.
- Huang, Yi Ting and Jesse Snedeker
2009 Semantic meaning and pragmatic interpretation in 5-year-olds: Evidence from real-time spoken language comprehension. *Developmental Psychology* 45(6): 1723–1739.
- Janssens, Leen, Iris Fabry and Walter Schaeken
2014 'Some' effects of age, task, task content and working memory on scalar implicature processing. *Psychologica Belgica* 54(4): 374–388.
- Jary, Mark
2013 Two types of implicature: Material and behavioural. *Mind and Language* 28(5): 638–660.
- Kalashnikova, Marina, Karen Mattock and Padraic Monaghan
2014 Disambiguation of novel labels and referential facts: A developmental perspective. *First Language* 34(2): 125–135.
- Katsos, Napoleon
2014 Scalar implicatures. In: Danielle Matthews (ed.), *Pragmatic Development*, 183–198. (TiLAR Book Series.) Amsterdam: John Benjamins.
- Katsos, Napoleon and Dorothy V. M. Bishop
2011 Pragmatic tolerance: Implications for the acquisition of informativeness and implicature. *Cognition* 120(1): 67–81.
- Katsos, Napoleon and Elspeth Wilson
2014 Convergence and divergence between word learning and pragmatic inferencing. In: Judith Degen, Michael Franke, and Noah Goodman (eds.), *Proceedings of the Formal and Experimental Pragmatics Workshop*, 14–20. Tübingen: FDSL.

- Kissine, Mikhail
2016 Pragmatics as metacognitive control. *Frontiers in Psychology* 6: 2057.
- Kurumada, Chigusa
2013 Contextual inferences over speakers' pragmatic intentions: Preschoolers' comprehension of contrastive prosody. In: Markus Knauff, Michael Pauen, Natalie Sebanz and Ipke Wachsmuth (eds.): *Proceedings of the 35th Annual Meeting of the Cognitive Science Society*, 852–857. Austin, TX: Cognitive Science Society.
- Levinson, Stephen C.
2000 *Presumptive Meanings: The Theory of Generalized Conversational Implicature*. Cambridge, MA: MIT Press.
- Lewis, Shevaun
2013 Pragmatic enrichment in language processing and development. PhD dissertation. University of Maryland.
- Loukusa, Soile, Eeva Leinonen and Nuala Ryder
2007 Development of pragmatic language comprehension in Finnish-speaking children. *First Language* 27(3): 279–296.
- Marchena, Ashely de, Inge-Marie Eigsti, Amanda Worek, Kim Emiko Ono and Jesse Snedeker
2011 Mutual exclusivity in Autism Spectrum Disorders: Testing the pragmatic hypothesis. *Cognition* 119(1): 96–113.
- Marneffe, Marie-Catherine de and Judith Tonhauser
2015 On the role of context and prosody in the generation of scalar implicatures of adjectives. Paper presented at the Formal and Experimental Pragmatics Workshop: Methodological Issues of a Nascent Liaison, Zentrum für Allgemeine Sprachwissenschaft, Berlin, 1–3 June.
- Mascaro, Olivier and Dan Sperber
2015 Pragmatic inference in infancy. In: Fabienne Salfner and Uli Sauerland (eds.), *Pre-Proceedings of Trends in Experimental Pragmatics*. 95–102. Berlin: Zentrum für Allgemeine Sprachwissenschaft.
- Miller, Karen, Cristina Schmitt, Hsiang-Hua Chang and Alan Munn
2005 Young children understand some implicatures. In: Alejna Brugos, Manuella R. Clark-Cotton and Seungwan Ha (eds.), *Proceedings of the 29th Annual Boston University Conference on Language Development*, 389–400. Somerville, MA: Cascadilla Press.
- Morisseau, Tiffany, Catherine Davies and Danielle Matthews
2013 How do 3- and 5-year-olds respond to under- and over-informative utterances? *Journal of Pragmatics* 59, Part A: 26–39.
- Nordmeyer, Ann E., Erica J. Yoon and Michael C. Frank
2016 Distinguishing processing difficulties in inhibition, implicature, and negation. In: Anna Papafragou, Daniel Grodner, Daniel Mirman and John C. Trueswell (eds.), *Proceedings of the 38th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- Noveck, Ira A.
2001 When children are more logical than adults: Experimental investigations of scalar implicature. *Cognition* 78(2): 165–188.

- Okanda, Mako, Kosuke Asada, Yusuke Moriguchi and Shoji Itakura
 2015 Understanding violations of Gricean maxims in preschoolers and adults. *Frontiers in Psychology* 6: 901
- O'Neill, Daniela K.
 1996 Two-year-old children's sensitivity to a parent's knowledge state when making requests. *Child Development* 67: 659–677.
- Onishi, Kristine and Renée Baillargeon
 2005 Do 15-month-old infants understand false beliefs? *Science* 308(5719): 255–258.
- Ozturk, Ozge and Anna Papafragou
 2015 The acquisition of epistemic modality: From semantic meaning to pragmatic interpretation. *Language Learning and Development* 11(3): 191–214.
- Papafragou, Anna, Carlyn Friedberg and Matthew Cohen
 2018 The role of speaker knowledge in children's pragmatic inferences. *Child Development* 89(5): 1642–1656.
- Papafragou, Anna and Julien Musolino
 2003 Scalar implicatures: Experiments at the semantics–pragmatics interface. *Cognition* 86(3): 253–282.
- Papafragou, Anna and Dimitrios Skordos
 2016 Scalar implicature. In: Jeffrey Lidz, William Snyder and Joe Pater (eds.), *Oxford Handbook of Developmental Linguistics*, 611–632. Oxford: Oxford University Press.
- Papafragou, Anna and Niki Tantalou
 2004 Children's computation of implicatures. *Language Acquisition* 12(1): 71–82.
- Perner, Josef, Susan R. Leekam and Heinz Wimmer
 1987 Three-year-olds' difficulty with false belief: The case for a conceptual deficit. *British Journal of Developmental Psychology* 5(2): 125–137.
- Pogue, Amanda, Chigusa Kurumada and Michael K. Tanenhaus
 2016 Talker-specific generalization of pragmatic inferences based on under- and over-informative pronominal adjective use. *Frontiers in Psychology* 6: 2035.
- Pouscoulous, Nausicaa, Ira A. Noveck, Guy Politzer and Anne Bastide
 2007 A developmental investigation of processing costs in implicature production. *Language Acquisition* 14(4): 347–375.
- Roberts, Craige
 1996 Information structure in discourse: Towards an integrated formal theory of pragmatics. *Working Papers in Linguistics, Ohio State University, Department of Linguistics* 49: 91–136.
- Schulze, Cornelia, Susanne Grassmann and Michael Tomasello
 2013 3-year-old children make relevance inferences in indirect verbal communication. *Child Development* 84(6): 2079–2093.
- Schulze, Cornelia and Michael Tomasello
 2015 18-month-olds comprehend indirect communicative acts. *Cognition* 136: 91–98.
- Scrafton, Susan
 2009 Experimental Investigations into how Children and Adults Process the Implicature Associated with the Scalar Term Some. PhD thesis. Durham University.

- Scrafton, Susan and Aidan Feeney
2006 Dual processes, development, and scalar implicature. In: *Proceedings of the 28th Annual Conference of the Cognitive Science Society*, 774–779. Austin, TX: Cognitive Science Society.
- Sekerina, Irina A. and John C. Trueswell
2012 Interactive processing of contrastive expressions by Russian children. *First Language* 32(1–2): 63–87.
- Siegal, Michael, Laura Iozzi and Luca Surian
2009 Bilingualism and conversational understanding in young children. *Cognition* 110(1): 115–122.
- Skordos, Dimitrios and Anna Papafragou
2016 Children’s derivation of scalar implicatures: Alternatives and relevance. *Cognition* 153: 6–18.
- Snedeker, Jesse
2016 Accounting for children’s scalar implicature failures and successes: an examination of the lexical alternatives hypothesis. Paper presented at Trends in Experimental Pragmatics xprag.de workshop, Zentrum für Allgemeine Sprachwissenschaft, 18–20 January.
- Sobel, David M. and Kathleen H. Corriveau
2010 Children monitor individuals’ expertise for word learning. *Child Development* 81(2): 669–679.
- Sobel, David M., Julie Sedivy, David W. Buchanan and Rachel Hennessy
2012 Speaker reliability in preschoolers’ inferences about the meanings of novel words. *Journal of Child Language* 39(01): 90–104.
- Sperber, Dan and Deirdre Wilson
1995 *Relevance: Communication and Cognition* (2nd edition). Oxford: Blackwell.
- Stiller, Alex J., Noah D. Goodman and Michael C. Frank
2015 Ad-hoc implicature in preschool children. *Language Learning and Development* 11(2): 176–190.
- Sullivan, Jessica and David Barner
2011 Number words, quantifiers, and principles of word learning. *Wiley Interdisciplinary Reviews: Cognitive Science* 2(6): 639–645.
- Sullivan, Jessica, Kathryn Davidson, Shirlene Wade and David Barner
2019 Differentiating scalar implicature from exclusion inferences in language acquisition. *Journal of Child Language* 46(4): 733–759.
- Tieu, Lyn, Jacopo Romoli, Peng Zhou and Stephen Crain
2015 Children’s knowledge of free choice inferences and scalar implicatures. *Journal of Semantics* 3(2): 269–298.
- Tomasello, Michael
2003 *Constructing a Language: A Usage-Based Theory of Language Acquisition*. Cambridge, MA: Harvard University Press.
- Tomasello, Michael
2008 *Origins of Human Communication*. Cambridge, MA: MIT Press.
- Tomasello, Michael, Malinda Carpenter and Ulf Liszkowski
2007 A new look at infant pointing. *Child Development* 78(3): 705–722.

- Tribushinina, Elena
 2012 Comprehension of relevance implicatures by pre-schoolers: The case of adjectives. *Journal of Pragmatics* 44(14): 2035–2044.
- van Tiel, Bob, Emiel Van Miltenburg, Natalia Zevakhina and Bart Geurts
 2016 Scalar diversity. *Journal of Semantics* 33(1): 137–175.
- Verbuk, Anna
 2012 Developmental evidence against the theoretical distinction between Horn and pragmatic scales. *Journal of Pragmatics* 44(12): 1680–1700.
- Verbuk, Anna and Thomas Shultz
 2010 Acquisition of Relevance implicatures: A case against a Rationality-based account of conversational implicatures. *Face in Interaction* 42(8): 2297–2313.
- Wellman, Henry M., David Cross and Julianne Watson
 2001 Meta-analysis of theory-of-mind development: The truth about false belief. *Child Development* 72(3): 655–684.
- Wilson, Deirdre and Dan Sperber
 2012 *Meaning and Relevance*. Cambridge: Cambridge University Press.
- Wilson, Elspeth
 2017 Children’s development of Quantity, Relevance and Manner implicature understanding and the role of the speaker’s epistemic state. PhD thesis. Cambridge, UK: University of Cambridge.
- Wilson, Elspeth, Rebecca Lawrence and Napoleon Katsos
 2018 The development of perspective-taking in pragmatic inferencing. Paper presented at the Child Language Symposium, University of Reading, 25–26 June.
- Yildirim, Ilker, Judith Degen, Michael K. Tanenhaus and T. Florian Jaeger
 2016 Talker-specificity and adaptation in quantifier interpretation. *Journal of Memory and Language* 87: 128–143.
- Yoon, Erica J. and Michael C. Frank
 2019 The role of salience in young children’s processing of ad hoc implicatures. *Journal of Experimental Child Psychology* 186: 99–116.
- Zufferey, Sandrine
 2010 *Lexical Pragmatics and Theory of Mind: The Acquisition of Connectives*. (Pragmatics and Beyond New Series 201.) Amsterdam/Philadelphia: John Benjamins.
- Zufferey, Sandrine
 2015 *Acquiring Pragmatics: Social and Cognitive Perspectives*. Abingdon/New York: Routledge.

6. Acquiring irony

Deirdre Wilson

Abstract: This paper considers what the literature on irony acquisition can tell us about the distinctive features of verbal irony, and how far they are explained by traditional and more modern theories of irony. Among the widely recognised features of typical cases of verbal irony are (a) the expression of a characteristic (mocking, scornful or contemptuous) attitude, (b) the existence of a so-called normative bias in the uses of irony, and (c) the ironical tone of voice. After surveying some findings on how these features develop, I consider how they might be explained in terms of three current theories of irony: the echoic account, the pretence account, and a much broader approach now frequently used in the literature on irony acquisition, which treats a range of disparate phenomena, including hyperbole, banter, understatement, jokes and rhetorical questions, as forms of irony. I end by suggesting some possible directions for future research.

1. Introduction: Theories of irony

1.1. Traditional theories

Typical examples of verbal irony such as (1) and (2) are widely used not only in literary works but in informal dialogue types (e. g. newspaper interviews, political commentaries and conversation among friends):

- (1) Maria (of a friend arriving late): *Punctual as always.*
- (2) Sue (tripping over her own feet): *I'm so graceful.*

Irony is traditionally defined as a matter of saying one thing and meaning the opposite. According to classical rhetoric, metaphor and irony are tropes, utterances in which the literal meaning is replaced by a related figurative meaning; with metaphor, the figurative meaning is a related simile or comparison, while with irony, it is the contrary or contradictory of the literal meaning, so that (1)–(2) are interpreted as conveying (3)–(4):

- (3) *Late as always.*
- (4) *I'm so clumsy.*

<https://doi.org/10.1515/9783110431056-006>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 149–175. Berlin/Boston: De Gruyter Mouton.

A hearer who fails to recognise the ironical intention behind (1) or (2) will have misunderstood these utterances. A speaker who doubts her hearer's ability to recognise her ironical intention using background knowledge alone may provide additional cues (e. g. an ironical tone of voice, a wry facial expression, a resigned shrug, a weary shake of the head). The ability to understand simple forms of irony is thought to be present from around the age of five or six (e. g. Winner 1988; Capelli, Nakagawa and Madden 1990; Nakassis and Snedeker 2002; Pexman and Glenwright 2007) and to be impaired in a variety of conditions including autism, Asperger's syndrome, schizophrenia and certain forms of right hemisphere damage (Happé 1993; McDonald 2000; MacKay and Shaw 2004; Wang et al. 2006; Pexman et al. 2011; Persicke et al. 2013). One of the goals of pragmatics is to describe this ability and thus explain how irony is understood (and occasionally misunderstood).

Grice's brief discussion of tropes (Grice 1967/1989: 34) reanalyses what classical rhetoric called the "figurative meanings" of metaphorical and ironical utterances as conversational implicatures triggered by blatant violation of his first Quality maxim ("Do not say what you believe to be false"). This pragmatically oriented account shares with classical rhetoric the assumption that figurative utterances are cut to the same pattern. Both accounts treat metaphor and irony as violating a maxim, norm or convention of literal truthfulness, and both see figurative meanings (or implicatures) such as (3)–(4) as derivable from literal meanings by standardised procedures describable in the form of transfer of meaning rules. To the extent that these accounts have implications for the processing of figurative utterances, they suggest that metaphor and irony should involve similar processes, show similar developmental patterns and break down in similar ways.

In the last twenty or thirty years, these traditional theories have run into serious problems. In the first place, they do not explain why figurative utterances exist at all. According to the standard Gricean account, for instance, the ironical utterances in (1)–(2) convey no more than could have been conveyed by directly asserting (3)–(4). Yet on this account, interpreting (1) or (2) necessarily involves rejecting its literal meaning as blatantly false and constructing the appropriate implicatures. It should follow that (1)–(2) cost more to process than their literal counterparts, but yield no extra benefit, which makes their use irrational and a waste of effort. Moreover, experimental studies suggest that at least some figurative interpretations are no more costly to construct than literal interpretations, contrary to the predictions of this *literal-first model* (Gibbs 1986, 1994; Giora 2003; Glucksberg 2001; Gibbs and Colston 2012; Spotorno and Noveck 2014). These traditional theories reduce verbal irony to a simple matter of following a rule and offer no explanation for why it seems to arise spontaneously in culture after culture, without being taught or learned.¹

¹ Here is a comment from an internet forum for people with Autism Spectrum disorders which underlines the irrationality of "transfer of meaning" accounts: "Sarcasm is easy

1.2. Echoic and pretence theories

In response to these and other problems, new, more explanatory theories of irony have been developed, most of which can be seen as variants of, or reactions to, the *echoic* theory proposed by Sperber and Wilson (1981) and elaborated in a series of later works (e. g. Wilson and Sperber 2012; Wilson 2013).² According to the echoic account, the speaker of an ironical utterance is not saying the opposite of what she means, but echoing a thought (which may or may not have been explicitly expressed in an utterance) that she attributes to an individual, a group, or to people in general, and expressing her own dismissive (e. g. mocking, scornful or contemptuous) attitude to this thought. Echoing a thought is a matter of showing that one has that thought in mind and expressing one's attitude or reaction to it. This attitude may be positive, as in (5b), questioning, as in (5c), or dismissive, as in (5d):

- (5) a. Teenager: *I've tidied my room*
 b. Parent (happily): *You've tidied your room. Great!*
 c. Parent (cautiously): *You've tidied your room, hmm. What do you mean by tidy?*
 d. Parent (dismissively): *You've tidied your room. I'll believe that when I see it.*

(5d) is, of course, a typical case of verbal irony. When the speaker of (5d) says *You've tidied your room*, she is echoing a prior thought (e. g. a belief, a hope or a norm-based expectation) that the teenager would tidy the room, and expressing a mocking, scornful or contemptuous attitude to that thought (and hence, indirectly, to the teenager for failing to live up to expectations, and to herself for expecting anything else). This approach was tested by Jorgensen, Miller and Sperber (1984), which introduced a new paradigm for experimental research on irony.

Under the direct or indirect influence of these two papers, most current theories of irony reject the traditional definition of irony as a matter of saying one thing and meaning the opposite, along with the classical and Gricean theories that underlie it. What the speaker of an ironical utterance is now generally taken to communicate is neither the proposition literally expressed by the ironical utterance, nor the opposite of that proposition, but an attitude to that proposition and to those who have

once you understand the 'rule'. Basically, think of what you mean, find words that express the opposite, and speak them with a bit of edginess in your voice." <https://wrongplanet.net/forums/viewtopic.php?t=164106>

² In early work, Sperber and Wilson used *mention* (in an extended sense) to describe what they later called *interpretive use*, of which echoic use is a subtype. Since *Relevance: Communication and Cognition* (Sperber and Wilson 1986), they have talked of the *echoic* theory rather than the *mention* theory of irony.

accepted or might accept it. For instance, Kreuz and Glucksberg (1989) propose an “echoic reminder theory of verbal irony” which adds to Sperber and Wilson’s account the idea that an ironical utterance has to remind the hearer of the thought it echoes.³

By far the most influential variation on the echoic account, and also the most critical one, is the *pretence theory* proposed by Clark and Gerrig (1984) in their response to Jorgensen, Miller and Sperber (1984). According to pretence theories, the speaker of an ironical utterance is not seriously performing a speech act (e. g. making an assertion or asking a question), but merely pretending to perform one, while expecting her audience to see through the pretence and detect the mocking or contemptuous attitude behind it. On this account, the speaker of (5d) is merely pretending to assert that the room has been tidied, while expressing her own dismissive attitude to the speech act itself, and to anyone who would perform it or take it seriously (see Currie 2006 for an alternative version of the pretence account).

Echoic and pretence theories have much in common. Both offer a rationale for irony, and both take ironical utterances as crucially involving the expression of a characteristic (mocking, scornful or contemptuous) attitude, in the one case to a speech act and in the other to a tacitly attributed thought. Partly for this reason, the two theories are sometimes seen as empirically or theoretically indistinguishable, and several hybrid versions containing elements of both have been produced (e. g. Kumon-Nakamura, Glucksberg and Brown’s 1995 *allusional pretence theory*). Some of the implications of these accounts have been tested in studies of irony comprehension in adults (e. g. Jorgensen, Miller and Sperber 1984; Gibbs 1986, 1994; Gerrig and Goldvarg 2000; McDonald 2000; Giora 2003). In developmental and clinical studies, with a few notable exceptions (e. g. Happé 1993; Keenan and Quigley 1999; Creusere 1999, 2000; Chevallier et al. 2011; Aguert et al. 2018), the links between theoretical and experimental work have been rather less direct. As Marlena Creusere (1999: 256–257) puts it,

While many of the studies related to children’s understanding of irony may be consistent with and possibly influenced by theories of adults’ understanding of verbal irony, few developmental investigations have specifically tested the claims made within these perspectives.

She sees this as a wasted opportunity, and suggests that closer collaboration between irony theorists and experimentalists may be of benefit to both:

³ While echoic utterances indeed often act as reminders, this is not invariably the case. For instance, the parent in (5) who echoes the teenager’s immediately preceding utterance *I’ve tidied my room* is not trying to *remind* the teenager of an utterance that has only just been produced.

Just as consideration of theories concerning adults' use and processing of irony and sarcasm is likely to inform researchers interested in pragmatic language development, attention to the results of developmental studies of non-literal speech-act comprehension is certain to enlighten those interested in pragmatic theory. (Creusere 1999: 258)

However, again with a few notable exceptions, collaborations between irony theorists and experimentalists have, if anything, decreased during the last ten or fifteen years.

1.3. "No theory" accounts

Classic literary studies of irony (e. g. Booth 1974; Muecke 1969) tacitly acknowledge the inadequacy of the classical and Gricean accounts of irony by including in the data to be explained not only regular ironical declaratives such as (1)–(2), but also ironical interrogatives and imperatives such as (6)–(7), and ironical hyperboles such as (8), which can be used to express the characteristic ironical attitude without necessarily saying anything false or expressing the opposite of what they mean:

(6) (to an obsessively cautious driver): *Did you remember to check the rear-view mirror?*

(7) (to someone who has knocked over a cup of coffee): *Go ahead and ruin my carpet.*

(8) (after a boring lecture): *I was on the edge of my seat.*

Most rhetoricians would regard (6)–(8) as genuine cases of verbal irony, and hence as counterexamples to the classical and Gricean accounts. In the last ten or fifteen years, however, the range of data investigated in experimental studies of irony has been extended much further, to include examples that many rhetoricians would not regard as cases of verbal irony at all. For instance, in a corpus of informal conversations among college students, Gibbs (2000/2007: 339), whose pioneering studies of figurative utterances set the standard for much work in the field, reports finding "five main forms of irony", which include "jocularity, sarcasm, hyperbole, rhetorical questions and understatements". As his discussion makes clear, he is using irony in a very general sense, to refer to any utterance which evokes "some contrast between expectation and reality" (Gibbs 2000/2007: 346). Gibbs sees this extended sense of irony as presenting "an important challenge for cognitive science theories of irony. Is it necessarily the case that a single theory will account for the multiple forms and functions of irony in ordinary speech?". He concludes:

Irony is not a single category of figurative language, but includes a variety of types, each of which is motivated by slightly different cognitive, linguistic, and social factors, and conveys somewhat different pragmatic meanings. My analysis of the college student corpus did not even distinguish irony from sarcasm, hyperboles, understatement, and so on, but sees irony as a more general category under which various subtypes of irony exist. (Gibbs 2000/2007: 356)

This broadened notion of irony, which is now very widely used in the developmental and clinical literature, raises an interesting question: having abandoned the traditional definition of irony, how do we decide where to draw the line between utterances that are genuine cases of verbal irony and those that are not?

As Gibbs points out, in the course of its history, the term “irony” has been applied to a very wide range of loosely related phenomena, not all of which fall squarely within the domain of pragmatics, defined as a theory of overt (or ostensive) communication (for instance, situational irony, dramatic irony, romantic irony and irony of fate do not; see Colston and Gibbs 2007). Of those that are properly pragmatic, some are easily seen as cases of echoic use, others indeed seem to involve pretence, while still others have no more in common with (1)–(2) than the presence of a mocking attitude or the evocation of a discrepancy between representation and reality. It should not be taken for granted that all these phenomena work in the same way, or that in developing a theory of irony, we should be aiming to capture the very broad and vague extension of the common meaning of the term. Instead, we should be aiming to identify mechanisms and trying to establish what range of phenomena they explain. In discussing studies of irony acquisition below, I will consider how far echoic and pretence mechanisms might help us distinguish genuine cases of verbal irony from those that are not.

The chapter is organised as follows. In the next section, I outline three distinctive properties of typical cases of verbal irony and consider how they might be explained in terms of echoic and pretence mechanisms. In section 3, I illustrate the broader range of examples now widely treated as ironical in developmental studies and consider (a) to what extent these examples share the distinctive properties of typical cases of verbal irony, and (b) to what extent their interpretation involves the same mechanisms used in interpreting such cases. I will argue that many of these examples are not genuine cases of irony, and that including them in the data to be investigated in studies of irony acquisition is a mistake.

2. Distinctive properties of typical cases of verbal irony

Typical cases of verbal irony such as (1)–(2), (5d) and (6)–(8) above have three distinctive properties not found in other types of figurative utterance. Each has been investigated in the developmental literature and found to be present quite early. None is explained by the classical or Gricean accounts. An adequate theory

of verbal irony should explain why they exist. In discussing these properties, I will consider how they can be explained in terms of echoic and pretence mechanisms, looking first at the echoic account and later at the pretence account.

2.1. The ironical attitude

As noted above, verbal irony (unlike metaphor) is traditionally seen as expressing a characteristic attitude, which Grice (1967/1989: 53) describes as involving a “hostile or derogatory judgement or a feeling such as indignation or contempt”. Although Grice mentions this attitude in passing, he makes no attempt to explain why it exists or to integrate it into his account. By contrast, most post-Gricean accounts see the expression of a characteristic mocking, scornful or contemptuous attitude as the main point of verbal irony. According to the echoic account, this attitude is primarily to a thought (which may or may not have been explicitly expressed) which the speaker tacitly attributes to some person or group, or to people in general, and which she regards as ludicrously false or inadequate in the circumstances. In the self-critical (9), this ironical attitude might be to the failure of the speaker’s own hopes of appearing elegant, while in the sarcastic (10), it might be to the failure of a general norm-based expectation about how people will behave:

(9) Maria (knocking over a glass of wine): *I’m so elegant.*

(10) Sue (to someone elbowing her aside): *You’re so kind.*

If the main point of irony is to express a mocking, scornful or contemptuous attitude to an echoed thought, a hearer who fails to recognise this attitude should miss the point of the utterance, and interpret it instead as a lie, a mistake or a joke. Consider (11):

(11) Maria to Sue (pointing at someone with an empty glass): *His glass is full.*

This utterance is clearly false and could well be intended to draw attention to the fact that the glass in question was empty. It thus seems to fit the classical and Gricean accounts of irony as a matter of saying one thing and meaning the opposite; yet without further scene setting, it is impossible to interpret it as ironical at all. As soon as an echoic element is added, however, the possibility of irony appears. Suppose, for instance, that the person being pointed out had promised Maria and Sue not to drink, and to keep a full glass in his hand all evening; then Maria in (11) could be seen as ironically echoing his promise that the glass would still be full, and the irony would have a point.

According to the echoic account, not only is echoing essential to irony, but the more salient the echoic element, the more likely the irony is to be perceived.

Keenan and Quigley (1999) tested this prediction in 6-, 8- and 10-year olds using stories such as the following, containing one or other of the italicised sentences:

Red shoes story

One night, Lucy was going to a party. Lucy was all dressed up in her new party dress, ready to go, but she didn't have her party shoes on. Lucy didn't want to run upstairs with her nice dress on, so she called to her brother Linus who was upstairs reading. She yelled, "Linus, please bring me my nice red party shoes! [*I want to look pretty for the party / I have to hurry or I'll be late*]." So Linus, who was still reading his book, went to Lucy's closet and by mistake, he picked up Lucy's dirty old running shoes. When he went downstairs to hand them to Lucy, she looked at them and said, "Oh great. Now I'll really look pretty."

Half the children in each age group were assigned to a vocal intonation condition in which Lucy's final utterance was delivered in a sarcastic tone of voice, while the other half heard the same utterance with neutral intonation. The results showed that sarcastic intonation significantly increased irony comprehension across all three age groups, and in both versions of the story (this result will be discussed in section 2.3). In the neutral intonation condition, by contrast, the children performed significantly better when Lucy's final utterance was preceded by the comment *I want to look pretty for the party* – which it could be understood as ironically echoing – than by the unrelated comment *I have to hurry or I'll be late*. Thus, increasing the salience of the echoic element by adding an explicit assertion that Lucy could be seen as echoing increased the children's ability to recognise Lucy's ironical intent.

In studies of irony acquisition, the role of attitude in irony has been approached in two ways. Verbal irony (and sarcasm in particular) often has a specific target or victim: the person who is indirectly the object of the speaker's mocking, scornful or contemptuous attitude. One way of testing children's ability to recognise this attitude is to ask them how "nice" or "mean" the speaker is being. In a study by Dews et al. (1996), for instance, 5–6 year olds, 8–9 year olds and adults saw cartoon clips showing scenarios such as the following, ending in remarks interpretable as literal criticisms, literal compliments or ironic criticisms:

Teenage Mutant Ninja Turtles

The turtles try to get a computer expert to show them how he did something on a computer. The computer expert just walks away. One turtle remarks, *Helpful, isn't he?*

Participants who passed a comprehension question (e. g. *Did the turtle mean that the man was helpful and nice, or selfish and not co-operating?*) then indicated how mean they thought the speaker was by circling one of four faces representing different degrees of meanness: *very very mean*, *very mean*, *a teeny bit mean*, and *not mean at all*. In all three groups, ironic criticisms were ranked as meaner than literal compliments but less mean than literal criticisms, with the difference between literal compliments and ironic criticisms increasing with age. This is sometimes known as the *muting* function of irony (on the pragmatic and social functions of

irony, see Colston 1997; Glenwright and Pexman 2003; Harris and Pexman 2003; Filippova and Astington 2010)

However, eliciting judgements about whether the speaker is being nice or mean is a rather blunt tool for tracking the child's ability to recognise the mocking, scornful or contemptuous attitude characteristic of irony. Although all ironical utterances express such an attitude, only some have a definite person as a target or victim and are therefore likely to be perceived as hurtful or mean. Consider (12), said in a downpour – a typical case of verbal irony:

(12) *It's lovely weather.*

If someone other than the speaker has wrongly predicted good weather, (12) would have a definite target or victim (the person who made the prediction and anyone who took it seriously), and the utterance might well be perceived as mean. Often, though, the speaker would merely be commenting ironically on the general frailty of human hopes: in that case, (12) would have no definite target or victim, and the remark would not be appropriately described as hurtful or mean. But whether or not there is a definite target or victim, (12) still expresses the characteristic ironical attitude, which is directed not at a person but at a thought. It would be interesting to investigate whether targeted forms of irony are acquired earlier than non-targeted forms.

A second line of research takes seriously the suggestion of the echoic account that irony involves the expression of an attitude to a thought (or, in other words, that it expresses a thought about a thought), and should therefore require a higher order of "mindreading" ability than metaphor. In a classic paper, Francesca Happé (1993) tested this prediction by studying metaphor and irony comprehension in typically developing children and young people with autism, using stories such as the following:

David is helping his mother make a cake. She leaves him to add the eggs to the flour and sugar. But silly David doesn't break the eggs first – he just puts them in the bowl, shells and all. What a silly thing to do! When mother comes back and sees what David has done, she says:

"Your head is made out of wood!"

Q1: What does David's mother mean? Does she mean that David is clever or silly?

Just then father comes in. He sees what David has done and he says:

"What a clever boy you are, David!"

Q2: What does David's father mean? Does he mean David is clever, or silly?

The stories were interrupted at two points with comprehension questions: Question 1 tests the comprehension of metaphor and Question 2 tests the comprehension of irony. Participants also took standard first- and second-order false-belief tests, which are generally seen as revealing orders of mindreading ability, and a significant correlation emerged: participants who passed no false-belief tests understood

neither metaphorical nor ironical utterances; those who passed only first-order false belief tests understood some metaphorical but no ironical utterances, and those who passed both first-order and second-order false-belief tests understood both metaphorical and ironical utterances. On the assumption that standard false-belief tasks test orders of mindreading ability, it should follow that irony requires a higher order of mindreading ability than metaphor, thus confirming the prediction of the echoic account that irony involves a thought about a thought. This fits with the consensus in the developmental literature that irony comprehension develops considerably later than metaphor comprehension – typically, between the ages of five and six, when the ability to pass standard second-order false belief tasks has just emerged. The correlation between irony comprehension and success in standard second-order false-belief tasks has proved quite robust (e. g. Capelli, Nakagawa and Madden 1990; Creusere 1999, 2000; Keenan and Quigley 1999; Nakassis and Snedeker 2002; Pexman and Glenwright 2007; Spotorno 2012; Spotorno et al. 2012), and is again not explained by the classical or Gricean accounts.⁴ However, it is straightforwardly explained by the echoic account.

2.2. The normative bias in irony

Verbal irony (unlike metaphor) is traditionally described as involving a so-called *normative bias*: that is, the most common use of irony is to criticise or complain when a situation, event or performance does not live up to some norm-based expectation (people are supposed to be punctual and not to trip over their own feet, rooms are supposed to be tidy, and so on). Only in special circumstances can irony be used to praise or reassure, or to point out that some proposition lacking in normative content is false. So when a friend lets one down, it is always possible to say ironically, *She's so reliable*, but when a friend lives up to her promises, it is only possible to say ironically, *She's so unreliable*, if some prior doubt about her reliability has been entertained or expressed. This normative bias is not explained by the classical or Gricean accounts, which predict that any blatantly false utterance should be capable of being used ironically.

The presence of this normative bias in irony comprehension in adults was experimentally confirmed by Kreuz and Glucksberg (1989) using alternative versions of stories such as the following, with the italicised sentence either present or absent:

⁴ Later studies suggest that, if anything, the orders of ability required for metaphor comprehension should be revised downwards: while some metaphors presuppose the ability to pass standard first-order false-belief tests, others are understood by people who do not pass standard false-belief tests at all (e. g. Langdon, Davies and Coltheart 2002; Norbury 2005).

Nancy and her friend Jane were planning a trip to the beach.

“It’s probably going to rain tomorrow”, said Jane, who worked for a local TV station as a meteorologist.

The next day was a warm and sunny one.

As she looked out of the window, Nancy said, “This certainly is awful weather.”

The results showed that participants were more likely to judge the ironical comment appropriate when it was preceded by the explicit prediction that the weather would be bad. By contrast, in positive versions such as the one below, the ironical comment was judged equally appropriate whether or not the italicised sentence was present:

Nancy and her friend Jane were planning a trip to the beach.

“The weather should be nice tomorrow”, said Jane, who worked for a local TV station as a meteorologist.

The next day was a cold and stormy one.

As she looked out of the window, Nancy said, “This certainly is beautiful weather.”

There has been some discussion in the experimental literature about whether this normative bias is inherent to irony or simply reflects the fact that positive ironical utterances (*It’s lovely weather*) are statistically more frequent than negative ones (*It’s awful weather*). Interestingly, developmental studies suggest that the normative bias is present from the earliest stages of irony comprehension, in children as young as five or six. Hancock, Dunham and Purdy (2000) tested 5- and 6-year old children on their comprehension of “ironic criticisms” and “ironic compliments”, using videotaped stories showing exchanges such as the following, containing one or other of the words in brackets, i. e. [*good/bad*]:

Weight-Lifter Story (critical version)

A: *I’m [good/bad] at lifting weights.* [A fails to lift weight]

B: *You really are good at lifting weights.* [“Ironic criticism”]

Weight-Lifter Story (complimentary version)

A: *I’m [good/bad] at lifting weights.* [A lifts weight]

B: *You really are bad at lifting weights.* [“Ironic compliment”]

Here, the sarcastic comment *You really are good at lifting weights*, said to someone who has failed, was understood equally well whether it was preceded by a boastful remark (*I’m good at lifting weights*) or a self-critical one (*I’m bad at lifting weights*). By contrast, the “ironic compliment” *You really are bad at lifting weights* was understood significantly more often when preceded by the self-critical remark *I’m bad at lifting weights* – which it could be seen as ironically echoing – than by the boastful remark *I’m good at lifting weights* (see also Creusere 2000; Glenwright and Pexman 2003; Pexman et al. 2005; Filippova and Astington 2010).

Although the normative bias in irony was described and discussed at length in classical rhetoric, it was never properly explained. The echoic account provides a

simple and plausible explanation. Norms are socially shared ideas about how things should be. We are all aware that people should be kind, helpful, stylish, trustworthy, actions should achieve their goal, the weather should be good, and so on. So when a particular event or action fails to live up to the norm, it is always possible to say ironically *That was helpful!*, *How elegant!*, *Well done!*, *Lovely weather!* and be understood as echoing a norm-based expectation that should have been met. By contrast, it is not always possible to say ironically, *How unhelpful!* when someone has been kind, *You look terrible!* when someone looks stunning, *What a liar!* when someone has told the truth, *What awful weather!* when the weather is lovely, and so on. For irony to succeed in these cases, there must have been some manifest doubt or suspicion that the person in question might be unhelpful, look terrible or fail to tell the truth, and so on. Otherwise there will be no identifiable thought that the speaker can be understood as ironically echoing, and the utterance may simply be interpreted as a lie, a mistake, or an attempt at a joke (on jokes and banter, see section 3.2 below). The echoic account predicts that this normative bias is inherent to irony and should therefore be present from the outset, and this is what Hancock, Dunham and Purdy's (2000) results suggest.

2.3. The ironical tone of voice

A third distinctive property of irony that has been much discussed in the literature is the ironical tone of voice. This typically involves a flat or deadpan intonation, slower tempo, lower pitch level and greater intensity than are found in the corresponding literal utterances (Ackerman 1983; Rockwell 2000; Bryant and Fox Tree 2002; Bryant 2010), and is generally seen as an optional cue to the speaker's mocking, scornful or contemptuous attitude. Thus, Rockwell (2000: 485) treats the vocal cues to sarcasm – a subtype of irony which she defines as “a sharply mocking or contemptuous ironic remark intended to wound another” – as closely related to those for contempt or disgust, and suggests that they may be the prosodic counterparts of facial expressions such as “a sneer, rolling eyes, or deadpan expression.”

There has been some debate in the developmental literature about how far the ironical tone of voice contributes to irony comprehension in children, but several studies suggest that it can play a significant facilitating role. For instance, in a study discussed earlier in this section, Keenan and Quigley (1999) tested irony comprehension in 6-, 8- and 10-year old children, using the Red Shoes Story quoted above. Half the children in each age group were assigned to a vocal intonation condition in which Lucy's final utterance was delivered in a sarcastic tone of voice, while the other half heard the same utterance with neutral intonation. The results showed that sarcastic intonation significantly facilitated irony comprehension across all three age groups, and in both versions of the story (see also Milosky and Ford 1997; Nakassis and Snedeker 2002; Laval and Bert-Erboul 2005).

It is also occasionally noted that apart from the regular ironical tone of voice, the ironical speaker can optionally use a perceptibly different tone of voice, described by Laval and Bert-Erboul (2005: 612) as follows:

Several types of intonation can be used to express sarcasm (...) A person may use a monotonic intonation (e. g., saying *won-der-ful* in an exaggerated monotone to reply to an addressee who tells you about a mandatory meeting at 8.00 p.m. when you have a tennis match scheduled) or an intonation that conveys excessive enthusiasm (e. g., using an overly enthusiastic tone of voice to say, *Hey, you should drive faster!* to a person who is going 60 miles an hour when the speed limit is 30).

Here the first, monotonic, type of intonation is the traditional ironical tone of voice. The challenge for theories of irony is to explain why the ironical speaker can optionally use not only this tone of voice but also a second, overly enthusiastic one.

Most studies of irony mention only a single ironical tone of voice, and it is not always clear which one the experimenters have in mind. For instance, Keenan and Quigley (1999: 87) describe the tone of voice used in their sarcastic intonation condition as an “exaggerated, mocking” one, which seems to have more in common with the overly enthusiastic tone described by Laval and Bert-Erboul (2005) than the regular monotonic one. An interesting attempt to link these different tones of voice to distinct pragmatic or social functions was made by Anolli, Ciceri and Infantino (2002: 276), who asked participants to read out passages containing ironical utterances in a “spontaneous” and “natural way”. The results showed that participants used two main types of intonation: one with a “very high and changeable pitch, a strong energy, and a slow rate of articulation”, corresponding to Laval and Bert-Erboul’s (2005) overly enthusiastic tone, and the other with a “low and not very changeable pitch as well as a slow rate of articulation”, corresponding to the standard “ironical tone of voice”. Anolli, Ciceri and Infantino (2002:page?) describe the first tone of voice as “bantering” and as used to mitigate the harsher effects of irony, while the second was associated with “blame”, “cold anger” and “scorn”.

According to the echoic account, the regular, deadpan ironical tone of voice is an optional cue to the particular type of dismissive attitude – amused, tolerant, scornful, bitter, vicious – that the speaker intends to convey to the echoed thought; it should therefore vary to some extent depending on the particular type of attitude (or blend of attitudes) involved. However, as Sperber points out in his response to Clark and Gerrig (1984), the ironical speaker can also use a markedly different tone, which corresponds to Laval and Bert-Erboul’s (2005) overly enthusiastic tone of voice:

Imagine that Bill keeps saying, *Sally is such a nice person*, and that Judy totally disagrees. Judy might express a derogatory attitude to Bill’s judgement on Sally in two superficially similar, but quite perceptibly different, ways. She might imitate Bill and say herself, *Sally is such a nice person!* with an exaggerated tone of enthusiasm or even worship. Or she might utter the same sentence but with a tone of contempt, so that there

will be a contradiction between the literal content of what she says and the tone in which she says it. The first tone of voice is (...) one of pretence and mockery. The second tone of voice is the ironic tone, the nuances of which have been described by rhetoricians since classical antiquity. (Sperber 1984: 135)

This suggests that the two distinct tones of voice used in irony may be linked to different mechanisms: the regular, monotonic ironical tone of voice is linked to the echoic mechanism, whereas the overly enthusiastic tone of voice involves an element of pretence. And indeed, this overly enthusiastic tone of voice is just what Clark and Gerrig (1984: 122) predict that ironical speakers will use in their version of the pretence account:

In pretence or make-believe, people generally leave their own voices behind for new ones. An actor playing Othello assumes a voice appropriate to Othello. An ironist pretending to be S' might assume a voice appropriate to S'. To convey an attitude about S', however, the ironist will generally exaggerate, or caricature, S's voice, as when an ironist affects a heavily conspiratorial tone of voice in telling a well-known piece of gossip. (...) With pretence, there is a natural account of the ironic tone of voice.

Thus, what the pretence account explains is not the regular, monotonic ironical tone of voice, which expresses the speaker's own dismissive attitude to an echoed thought, but a parodic tone of voice, which is used in imitating a (real or imaginary) speech act, caricaturing the intonation, form of words, etc. that someone genuinely performing that speech act might use.⁵

If pretence accounts fail to explain the ironical tone of voice, what light can they shed on the other two distinctive properties of verbal irony discussed in this section: the mocking, scornful or contemptuous attitude to an attributed thought, and the normative bias? Certainly, pretence or imitation can be naturally used to convey a mocking, scornful or contemptuous attitude towards the kind of act one is pretending to perform, or the kind of people who would perform it. One can pretend to be an absent-minded professor in order to make fun of academics. One can imitate the way a politician smiles or speaks in order to make him look silly: impressionists do it all the time. However, this is parody, not irony. The mocking, scornful or contemptuous attitude conveyed is not to the content of an echoed thought but to a piece of observable behaviour. For a pretend speech act to be a genuine case of irony, an echoic element must be present. One morning, Peter looks out of the window and says *What a lovely day*. When it starts to rain soon after, Mary says with exaggerated enthusiasm, *What a lovely day*, simultaneously parodying Peter's utterance and expressing an ironical attitude to its content. But

⁵ For further discussion of parody and its relation to irony see Sperber and Wilson (1981); Wilson (2006); Wilson and Sperber (2012a).

most ironical utterances do not imitate any real-life speech act. What would be the point of expressing a mocking, scornful or contemptuous attitude to a speech act that no one has performed and that, in many cases, no reasonable person would perform? Echoic-pretence accounts (e. g. Kumon-Nakamura, Glucksberg and Brown 1995) could of course explain why irony is necessarily echoic, but it is the echoic element, not the pretence element of these accounts that is doing all the work.

As we have seen, one can pretend to perform a speech act without imitating and targeting any actual speech act. If irony were achievable simply by performing such a pretend speech act with a mocking attitude, as claimed by non-echoic versions of the pretence account, nothing in the mechanism of irony so understood would explain the normative bias which is not only a distinctive property of irony but is present from the earliest stages of irony comprehension (as shown by Hancock, Dunham and Purdy 2000). As before, echoic-pretence accounts could explain this normative bias, but it is the echoic mechanism, not the pretence mechanism, that is doing all the work (for more detailed discussion of these points, see Wilson and Sperber 2012a).

Having outlined the distinctive properties of typical cases of verbal irony and discussed how they might be explained by the echoic and pretence accounts, I return in the next section to the broader notion of irony and consider whether jocularity, hyperbole, understatements, ironical compliments and rhetorical questions should be seen as genuine cases of verbal irony or not.

3. “No theory” theories

3.1. Examples often treated as ironical in experimental studies

The generalised notion of irony used in much of the recent experimental literature is well illustrated in a paper on “Emotional reactions to verbal irony” by Leggitt and Gibbs (2000: 5–6), who give the following operational definitions of a range of phenomena they label as cases of verbal irony:

Irony: “The speaker’s observation of a contradictory state of affairs, but not directly critical of the addressee.”

Sarcasm: “A statement that clearly contradicts the knowable state of affairs, and is harshly critical toward the addressee.”

Hyperbole/Overstatement: “A description of the state of affairs in obviously exaggerated terms.”

Understatement: “A description of a state of affairs as clearly less important than it appeared in context.”

Satire: “A statement that appears to support the addressee, yet the speaker actually disagrees and mocks the addressee.”

Rhetorical question: “A question that is obviously false in a given context.”

They illustrate these definitions with the following examples (Leggitt and Gibbs 2000: 24):

You are presenting an important project at a business meeting. Dean, another employee, claims your ideas have a lot of problems. He says that the same thing was tried last year, and it failed. He says that you should research the problem before speaking, and:

<i>Ironic:</i>	The company communicates very well
<i>Sarcastic:</i>	You are a real professional
<i>Overstatement</i>	My three-year-old could do better
<i>Understatement</i>	A little more time might have helped
<i>Satire/Parody:</i>	We should try it just like last year
<i>Rhetorical question</i>	Do you know anything about preparation?

Similar operational definitions and examples are regularly used in experimental studies of irony, as will be illustrated below.

Gibbs (2000/2007: 350) describes utterances such as (13)–(14) as cases of “ironic jocularity” or banter, where “speakers tease one another in humorous ways”.

“Ironic jocularity”

(13) (to someone who has just solved a difficult problem): *Dumb bitch!*

(14) (by someone known to be a good lover): *I’m not all that good in the sack anyways, so you’re not missing out on much.*

He notes that jocularity, which is often greeted by laughter, figures much more prominently in conversation among college friends than typical cases of verbal irony such as sarcasm. In a paper on “Issues in conversational joking”, Norrick (2003) makes a similar connection between irony, jocularity and laughter, and a recent corpus analysis of irony in political exchanges by Partington (2007) used indications of laughter in the transcripts as an initial guide to the potential presence of irony. Playfulness, jokes and teasing are also treated as forms of irony in developmental studies. For instance, Pexman et al. (2005) compare children’s comprehension of what they call “ironic criticisms” and “ironic compliments”, as in (15)–(16):

“Ironic criticism”

(15) (to someone who looks dishevelled): *You look gorgeous.*

“Ironic compliment”

(16) (to someone who looks stunning): *You look terrible.*

Whereas (15) is a typical case of sarcasm, “ironic compliments” such as (16) would often be understood on similar lines to (13)–(14), as cases of jocularity, banter or teasing.

Recchia et al. (2010) use a similarly broadened notion of irony in analysing

children's production and understanding of verbal irony in family conversations. They take verbal irony to cover sarcasm, hyperbole, understatement and rhetorical questions. Here are some of their examples, with the operational definitions they propose given immediately below:

“Ironic hyperbole”

(17) (child, picking up sandwich): *I have the biggest sandwich in the world.*

“Ironic understatement”

(18) (mother, to child): *I'm just a tiny bit angry at you right now.*

“Ironic rhetorical question”

(19) (mother, to child throwing toys around): *How many times do I have to tell you to stop?*

“Ironic hyperbole and understatement” (Recchia et al. 2010: 356)

The literal and intended meanings of hyperbole and understatement differ in strength, but not valence. Compared to the intended meaning, the literal meaning of hyperbole is exaggerated (e. g. *You never give me a sandwich, even when I'm good*) and the literal meaning of understatement is muted (e. g. *I think you guys are being just a wee bit on the silly side*).

“Ironic rhetorical question” (Recchia et al. 2010: 356)

A question for which an explicit answer was not expected (most often, a behavioural response was expected in its place), or for which the content of the question was incongruent with the interaction context (e. g. *Do you want soap in your mouth?*)

Recchia et al.'s results revealed that children can understand hyperbole and rhetorical questions at around the age of four. Since children do not normally understand typical cases of irony until around the age of five or six, this study attracted considerable media attention. For instance, the *Daily Telegraph* (September 2010) ran the headline, “Children can understand irony from the age of four”, and went on to report that Recchia and her colleagues had found that “children gain a full working knowledge of irony by the age of six, but certain forms of irony – hyperbole in particular – could be understood by kids as young as four.” This is true, of course, only on the assumption that hyperbole is indeed a form of irony.

According to the operational definition of irony used by Recchia and her colleagues, an utterance is ironical if its literal meaning differs from its intended meaning in either strength or valence. This covers not only typical cases of irony such as (1)–(2), where the literal meaning is the opposite of the intended meaning (a difference in valence) but also all cases of hyperbole and understatement, where the literal meaning is invariably stronger or weaker than the intended meaning. Indeed, the operational definitions of ironic hyperbole and understatement proposed both by Recchia and her colleagues and by Leggitt and Gibbs (2000) coincide with the definitions of hyperbole and understatement used in classical rheto-

ric. So the claim is not just that hyperbole and understatement can occasionally be put to ironical use, but that they are inherently ironical.

One point on which Recchia and her colleagues differ from other psycholinguists is in the treatment of jocular utterances. Whereas Gibbs et al. treat jocularity, banter and teasing as important forms of irony, Recchia et al. (2010: 356) note that their operational definition of irony is designed to exclude “mocking imitation, teasing, joking and playful personification of objects”. Here, Recchia et al. (2010) are in line with Jorgenson, Miller and Sperber (1984: 117), who treat suggestions from participants that the speaker of a potentially ironical utterance was “joking, teasing, fooling, humouring, amusing or playing a game” as failures to perceive irony. These experimental studies based on a generalised notion of irony thus raise an important question: what is the justification for treating jocularity, hyperbole, understatement or rhetorical questions as genuine cases of irony? Intuitions are not enough.

Recall that the goal of a theory is to identify mechanisms. The goal of a theory of irony should be to identify the mechanisms used in interpreting typical cases of irony such as (1)–(2), (5d) and (6)–(8), which would be regarded as genuine examples of verbal irony in any framework, and to investigate what further types of phenomena they explain. Here, the distinctive properties of typical cases of irony discussed in section 2 above, and the explanations of these distinctive properties in terms of the echoic and pretence mechanisms, are a useful guide.

3.2. How far does verbal irony extend?

It is easy to show (and is argued in detail in Wilson and Sperber 2012a) that echoing and pretence are distinct mechanisms, which can be used independently of each other. For instance, (20b) is an echoic utterance which involves no element of pretence. The speaker, while echoing Bill’s assertion in (20a), is not pretending to ask a question but genuinely asking one:

- (20) a. Bill: *I saw three films yesterday.*
 b. Sue (encouragingly): *You saw three films?*

Conversely, (21) is a straightforward case of pretence, which need involve no element of echoing or irony:

- (21) (child, putting on toy crown): *I’m a princess!*

What these examples show is that although echoing and pretence can occasionally combine – as they do in parodic forms of irony – they do not necessarily combine; hence, typical examples of irony such as (1)–(2), (5d) and (6)–(8) can be straightforwardly analysed as cases of echoic use which need not involve any element of pretence.

What are the implications of this account for the broader notion of irony used in many recent experimental studies? Consider Gibbs' examples of "ironic jocularity" (repeated here for convenience):

(13) (to someone who has just solved a difficult problem): *Dumb bitch!*

(14) (by someone known to be a good lover): *I'm not all that good in the sack anyways, so you're not missing out on much.*

As Gibbs points out, among the jocular utterances in his corpus, there were significantly more negative statements such as (13)–(14) which were used to convey a positive meaning than positive statements used to convey a negative meaning. In other words, jocular utterances of this type do not exhibit the normative bias widely noted in discussions of irony (and confirmed in experimental studies by Kreuz and Glucksberg 1989 and Hancock, Dunham and Purdy 2000; see section 2.2 above). Gibbs sees this result as presenting a challenge to current cognitive science theories of irony. But as I have tried to show, the normative bias follows from the fact that irony is inherently echoic, and is also a feature of a wide range of indisputably ironical utterance types, including declaratives, such as (1)–(2) and (5d), interrogatives or imperatives such as (6)–(7), or exclamatives such as *How elegant!*, *I'm so graceful!* discussed in section 2.2. Given this normative bias, for (13)–(14) to be genuine cases of irony, the speaker would have to be ironically echoing a manifest doubt or suspicion that someone had previously entertained or expressed. While it is easy to think of contexts in which (13)–(14) could indeed be ironical echoes, there is no evidence from Gibbs's (2000) discussion that his examples were echoic, and the fact that this type of negative comment occurs so frequently in his corpus suggests that some different, non-echoic mechanism is involved.

In fact, (13) is straightforwardly analysable as a case of banter or teasing, which shows clear parallels with standard examples of banter discussed in the literature, such as (22):

(22) (to a close friend who has just come in): *Here comes trouble!*

Both (13) and (22) fit the definition proposed in Leech's Banter Principle:

In order to show solidarity to the hearer, say something which is (i) obviously untrue, and (ii) obviously impolite to the hearer (Leech 1983: 149).

Although banter may occasionally be echoic and ironical, in many cases it exhibits none of the distinctive features of irony: it does not express a mocking, scornful or contemptuous attitude to an echoed thought, it does not show a normative bias, and it does not use the regular monotonic ironical tone of voice. In fact, many of Gibbs' (2000) cases of banter are probably best seen as non-echoic forms of pre-

tence. If so, including them in experimental studies of irony sheds no light on how the mechanisms for irony comprehension are acquired.

Or consider the type of examples labelled “ironic compliments” in the developmental literature. In Hancock, Dunham and Purdy’s (2000) “Weight-Lifter Story” (repeated below for convenience), B’s remark *You’re really bad at lifting weights* was classified as an “ironic compliment” regardless of whether it was preceded by a boast (*I’m good at lifting weights*) or an expression of self-doubt (*I’m really bad at lifting weights*):

Weight-Lifter Story (complimentary version)

A: *I’m [good/bad] at lifting weights.* [A lifts weight]

B: *You really are bad at lifting weights.* [“Ironic compliment”]

But because of the normative bias shown by genuine cases of irony, a negative remark such as *You’re really bad at lifting weights* is only properly regarded as ironical if it echoes a doubt or fear about A’s performance that has previously been entertained or expressed. For instance, if uttered in response to A’s self-critical remark *I’m bad at lifting weights*, it would be a genuine case of irony. By contrast, if uttered in response to A’s boastful remark *I’m good at lifting weights*, it would exhibit none of the distinctive features of irony and would be better analysed as a case of banter or teasing. Yet in developmental studies, the remark *You’re really bad at lifting weights* is quite generally regarded as an “ironic compliment” in either condition (see e. g. Filippova and Astington 2010).

A similar point can be made about Pexman et al.’s (2005) “ironic compliment” in (16) above (repeated here for convenience):

“Ironic compliment”

(16) (to someone who looks stunning): *You look terrible.*

With an echoic element added (e. g. if the addressee had previously expressed a worry that she would not look good that day), this could indeed be a genuine case of irony; otherwise it would be a simple case of (non-ironic) playfulness, banter or teasing. It would be interesting to investigate possible developmental differences between the two types of cases. More generally, what these examples show is that, while jocularity, playfulness, banter and teasing may occasionally be put to ironical use, they are not inherently ironical, contrary to the widespread assumption in the experimental literature.

By the same token, consider hyperbole, which is often seen as inherently ironical not only in the experimental literature but in some treatments of rhetoric in the US. It is certainly possible for hyperbole to be used ironically, as in (8) above (repeated here for convenience), which implicates that the film was very boring indeed:

(8) (after a boring film): *I was on the edge of my seat.*

Here, the use of hyperbole is naturally seen as a cue to the speaker's mocking, scornful or contemptuous attitude (e. g. to the expectation that the film would be really exciting). The idea that hyperbole might facilitate the perception of irony was experimentally tested by Kreuz and Roberts (1995), who gave adult participants alternative versions of scenarios such as the following, containing one or other of the italicised sentences, and asked them to judge how likely it was that the italicised sentence was being used ironically:

Harry was helping Pat move into her new apartment. *Don't worry, I can move this grandfather clock by myself,* said Harry, who was very muscular.

Harry only managed to tip the clock over, and it crashed to the floor.

Pat looked up from some boxes she was moving, and said [*Thanks for helping me out / I'll never be able to repay you for your help!*]

The results showed that the hyperbolic version *I'll never be able to repay you for your help* was judged more likely to be ironical than the non-hyperbolic version *Thanks for helping me out*. Genuine cases of ironic hyperbole like the one in (8) above show all three distinctive features of irony: normative bias, expression of the characteristic ironical attitude to an attributed thought, and possibility of using the regular ironical tone of voice. And indeed, what I have been describing as a typical case of irony in (1) above (repeated here for convenience) also involves an element of hyperbole:

(1) Maria (of a friend arriving late): *Punctual as always.*

But hyperbole is not necessarily ironical. In classical rhetoric, it is seen as much closer to metaphor than to irony, and a recent corpus analysis of the uses of hyperbole in English by Claridge (2011) shows clear links between hyperbole and metaphor but barely mentions any connection with irony (see also Carston and Wearing 2015). Consider (23) and (24), for instance:

(23) *You're incredibly kind.*

(24) *You're a saint.*

These utterances would be interpreted in very similar ways, and while (23) is a clear case of hyperbole, there is room for debate about whether (24) should be classed as a case of metaphor or one of hyperbole (Wilson and Carston 2007; Sperber and Wilson 2008). Although it is easy to think of circumstances in which (23) and (24) could be both echoic and ironical (e. g. if the addressee had done something particularly mean), in the absence of such an echoic element, they exhibit none of the distinctive features of irony. With Recchia et al.'s (2010: 356) examples

of ironic hyperbole (*This is the biggest sandwich in the world, You never give me a sandwich even when I'm good*), it is hard to find even a trace of echoing, and hence of irony. Similar points apply to understatements and rhetorical questions: for instance, Recchia et al.'s examples of understatement (*I'm just a tiny bit angry at you right now*) and rhetorical questions (*Do you want soap in your mouth?*) are not obviously either echoic or ironical, and including them in the data for developmental studies of irony is more likely to confound than enhance the results.

4. Concluding remarks

For a few years in the nineteen-eighties and -nineties, experimental studies of irony made a valuable contribution to research on the nature of irony by testing theoretical predictions based on the Gricean, echoic or pretence accounts. I have tried to show that the operational definitions used in more recent experimental studies of irony are too gross to pick up important differences in the underlying mechanisms involved: for instance, between regular and parodic irony, or between ironical and non-ironical uses of hyperbole, understatements, compliments, rhetorical questions, or instances of banter or playfulness. Yet these underlying mechanisms may give rise to significant differences in both developmental trajectory and pragmatic or social effects, and new paradigms for experimental research on irony could make a crucial contribution to pinning them down.⁶

References

- Ackerman, Brian
1983 Form and function in children's understanding of ironic utterances. *Journal of Experimental Child Psychology* 35: 487–508.
- Aguert, Marc, Coralie Le Vallois, Karine Martel and Virginie Laval
2018 "That's really clever!" Ironic hyperbole understanding in children. *Journal of Child Language* 45: 260–272.
- Anolli, Luigi, Rita Ciceri and Maria Giaele Infantino
2002 From "blame by praise" to "praise by blame": Analysis of vocal patterns in ironic communication. *International Journal of Psychology* 37: 266–76.
- Booth, Wayne
1974 *A Rhetoric of Irony*. Chicago, IL: Chicago University Press.

⁶ For an experimental study that maintains a careful distinction between echoic and non-echoic hyperboles in children, see Aguert et al. (2018). Ingrid Lossius Falkum of the University of Oslo is directing a research project on irony acquisition which explores several issues touched on in this chapter, and I have benefited greatly from discussions with her.

- Bryant, Greg
2010 Prosodic contrasts in ironic speech. *Discourse Processes* 47: 545–66.
- Bryant, Greg and Jean Fox Tree
2002 Is there an ironic tone of voice? *Language and Speech* 48: 257–277.
- Capelli, Carol, Noreen Nakagawa and Cary Madden
1990 How children understand sarcasm: The role of context and intonation. *Child Development* 61: 1824–1841.
- Carston, Robyn and Catherine Wearing
2015 Hyperbolic language and its relation to metaphor and irony. *Journal of Pragmatics* 79: 79–92.
- Chevallier, Coralie, Ira Noveck, Francesca Happé and Deirdre Wilson
2011 What's in a voice? Prosody as a test case for the Theory of Mind account of autism. *Neuropsychologia* 49: 507–517.
- Claridge, Claudia
2011 *Hyperbole in English: A Corpus-Based Study of Exaggeration*. Cambridge: Cambridge University Press.
- Clark, Herbert and Richard Gerrig
1984 On the pretense theory of irony. *Journal of Experimental Psychology: General* 113: 121–126.
- Colston, Herbert
1997 Salting a wound and sugaring a pill: The pragmatic functions of ironic criticisms. *Discourse Processes* 23: 24–53. (Reprinted in: Raymond Gibbs and Herbert Colston (eds.). 2007. *Irony in Language and Thought: A Cognitive Science Reader*, 319–338. Hillsdale, NJ: Lawrence Erlbaum.)
- Colston, Herbert and Raymond Gibbs
2007 A brief history of irony. In: Raymond Gibbs and Herbert Colston (eds.), *Irony in Language and Thought: A Cognitive Science Reader*, 3–21. Hillsdale, NJ: Lawrence Erlbaum.
- Creusere, Marlena
1999 Theories of adults' understanding and use of irony and sarcasm: Applications to and evidence from research with children. *Developmental Review* 19: 213–262.
- Creusere, Marlena
2000 A developmental test of theoretical perspectives on the understanding of verbal irony: Children's recognition of allusion and pragmatic insincerity. *Metaphor and Symbol* 15: 29–45.
- Currie, Gregory
2006 Why irony is pretence. In: Shaun Nichols (ed.), *The Architecture of the Imagination*, 111–33. Oxford: Oxford University Press.
- Dews, Shelly, Ellen Winner, Joan Kaplan, Elizabeth Rosenblatt, Malia Hunt, Karen Lim, Angela McGovern, Alison Qualter and Bonnie Smarsh
1996 Children's understanding of the meaning and functions of verbal irony. *Child Development* 67: 3071–3085.
- Filippova, Eva and Janet Astington
2010 Children's understanding of social-cognitive and social-communicative aspects of irony. *Child Development* 81: 913–928.

- Gerrig, Richard and Yevgeniya Goldvarg
2000 Additive effects in the perception of sarcasm: situational disparity and echoic mention. *Metaphor and Symbol* 15: 197–208.
- Gibbs, Raymond
1986 On the psycholinguistics of sarcasm. *Journal of Experimental Psychology: General* 115: 3–15. (Reprinted in: Raymond Gibbs and Herbert Colston (eds.). 2007. *Irony in Language and Thought: A Cognitive Science Reader*, 173–200. Hillsdale, NJ: Lawrence Erlbaum.)
- Gibbs, Raymond
1994 *The Poetics of Mind: Figurative Thought, Language and Understanding*. Cambridge: Cambridge University Press.
- Gibbs, Raymond
2000 Irony in talk among friends. *Metaphor and Symbol* 15: 5–27. (Reprinted in: Raymond Gibbs and Herbert Colston (eds.). 2007. *Irony in Language and Thought: A Cognitive Science Reader*, 339–360. Hillsdale, NJ: Lawrence Erlbaum.)
- Gibbs, Raymond and Herbert Colston (eds.)
2007 *Irony in Language and Thought: A Cognitive Science Reader*. Hillsdale, NJ: Lawrence Erlbaum.
- Gibbs, Raymond and Herbert Colston
2012 *Interpreting Figurative Language*. New York: Cambridge University Press.
- Glenwright, Melanie and Penny Pexman
2003 Children's perception of the social functions of verbal irony. *Discourse Processes* 36: 147–165. (Reprinted in: Raymond Gibbs and Herbert Colston (eds.). 2007. *Irony in Language and Thought: A Cognitive Science Reader*, 447–464. Hillsdale, NJ: Lawrence Erlbaum.)
- Grice, H. Paul
1967 Logic and conversation. William James Lectures. (Reprinted in H. Paul Grice. 1989. *Studies in the Way of Words*, 1–143. Cambridge, MA: Harvard University Press.)
- Giora, Rachel
2003 *On our Mind: Salience, Context and Figurative Language*. New York: Oxford University Press.
- Glucksberg, Sam
2001 *Understanding Figurative Language: From Metaphors to Idioms*. Oxford: Oxford University Press.
- Hancock, Jeffrey, Philip Dunham and Kelly Purdy
2000 Children's comprehension of critical and complimentary forms of verbal irony. *Journal of Cognition and Development* 12: 227–240. (Reprinted in: Raymond Gibbs and Herbert Colston (eds.). 2007. *Irony in Language and Thought: A Cognitive Science Reader*, 425–445. Hillsdale, NJ: Lawrence Erlbaum.)
- Happé, Francesca
1993 Communicative competence and theory of mind in autism: A test of relevance theory. *Cognition* 48: 101–119.
- Harris, Melanie and Penny Pexman
2003 Children's perceptions of the social functions of verbal irony. *Discourse Processes* 36: 147–165.

- Jorgensen, Julia, George Miller and Dan Sperber
1984 Test of the mention theory of irony. *Journal of Experimental Psychology: General* 113: 112–120.
- Keenan, Thomas and Kathleen Quigley
1999 Do young children use echoic information in their comprehension of sarcastic speech? A test of echoic mention theory. *British Journal of Developmental Psychology* 17: 83–96.
- Kreuz, Roger and Sam Glucksberg
1989 How to be sarcastic: The echoic reminder theory of verbal irony. *Journal of Experimental Psychology: General* 118: 374–386.
- Kreuz, Roger and Richard Roberts
1995 Two cues for verbal irony: Hyperbole and the ironic tone of voice. *Metaphor & Symbolic Activity* 10: 21–31.
- Kumon-Nakamura, Sachi, Sam Glucksberg and Mary Brown
1995 How about another piece of pie: The allusional pretense theory of discourse irony. *Journal of Experimental Psychology: General* 124: 3–21. (Reprinted in: Raymond Gibbs and Herbert Colston (eds.). 2007. *Irony in Language and Thought: A Cognitive Science Reader*, 57–95. Hillsdale, NJ: Lawrence Erlbaum.)
- Langdon, Robyn, Martin Davies and Max Coltheart
2002 Understanding minds and understanding communicated meanings in schizophrenia. *Mind and Language* 17: 68–104.
- Laval, Virginie and Alain Bert-Erboul
2005 French-speaking children's understanding of sarcasm: The role of intonation and context. *Journal of Speech, Language, and Hearing Research* 48: 610–620.
- Leech, Geoffrey
1983 *Principles of Pragmatics*. London: Longman
- Leggitt, John and Raymond Gibbs
2000 Emotional reactions to verbal irony. *Discourse Processes* 29: 1–24.
- MacKay, Gilbert and Adrienne Shaw
2004 A comparative study of figurative language in children with autistic spectrum disorders. *Child Language, Teaching and Therapy* 20: 13–32.
- McDonald, Skye
2000 Neuropsychological studies of sarcasm. *Metaphor and Symbol* 15: 85–98. (Reprinted in: Raymond Gibbs and Herbert Colston (eds.). 2007. *Irony in Language and Thought: A Cognitive Science Reader*, 217–230. Hillsdale, NJ: Lawrence Erlbaum.)
- Milosky, Linda and Janet Ford
1997 The role of prosody in children's inferences of ironic intent. *Discourse Processes* 23: 47–61.
- Muecke, Douglas
1969 *The Compass of Irony*. London: Methuen.
- Nakassis, Constantine and Jesse Snedeker
2002 Beyond sarcasm: Intonation and context as relational cues in children's recognition of irony. In: Barbora Skarabela, Sarah Fish and Anna H.-J. Do (eds.), *Proceedings of the Twenty-Sixth Boston University Conference on Language Development*, 429–440. Somerville, MA: Cascadilla Press.

- Norbury, Courtenay
2005 The relationship between Theory of Mind and metaphor: Evidence from children with language impairment and autistic spectrum disorder. *British Journal of Developmental Psychology* 23: 383–399.
- Norrick, Neal
2003 Issues in conversational joking. *Journal of Pragmatics* 35: 1333–1359.
- Partington, Alan
2007 Irony and reversal of evaluation. *Journal of Pragmatics* 39: 1547–1569.
- Persicke, Angela, Jonathan Tarbox, Jennifer Ranick and Megan St. Clair
2013 Teaching children with autism to detect and respond to sarcasm. *Research in Autism Spectrum Disorders* 7: 193–198.
- Pexman, Penny and Melanie Glenwright
2007 How do typically developing children grasp the meaning of verbal irony? *Journal of Neurolinguistics* 20: 178–196.
- Pexman, Penny, Melanie Glenwright, Andrea Krol and Tammy James
2005 An acquired taste: Children's perceptions of humor and teasing in verbal irony. *Discourse Processes* 40: 259–288.
- Pexman, Penny, Kristin Rostad, Carly McMorris, Emma Climie, Jacqueline Stowkowy and Melanie Glenwright
2011 Processing of ironic language in children with high-functioning autism spectrum disorder. *Journal of Autism and Developmental Disorders* 41: 1097–1112.
- Recchia, Holly, Nina Howe, Hildy Ross and Stephanie Alexander
2010 Children's understanding and production of verbal irony in family conversations. *British Journal of Developmental Psychology* 28: 255–274.
- Rockwell, Patricia
2000 Lower, slower, louder: Vocal cues of sarcasm. *Journal of Psycholinguistics Research* 29: 483–495.
- Sperber, Dan
1984 Verbal irony: Pretense or echoic mention? *Journal of Experimental Psychology: General* 113: 130–136.
- Sperber, Dan and Deirdre Wilson
1981 Irony and the use–mention distinction. In: Peter Cole (ed.), *Radical Pragmatics*, 295–318. New York: Academic Press. (Reprinted in: Steven Davis (ed.), 1991. *Pragmatics: A Reader*, 550–563. Oxford: Oxford University Press.)
- Sperber, Dan and Deirdre Wilson
1986 *Relevance: Communication and Cognition*. Oxford: Blackwell. (Second edition with a new Postface. 1995).
- Sperber, Dan and Deirdre Wilson
2008 A deflationary account of metaphors. In: Raymond Gibbs (ed.), *The Cambridge Handbook of Metaphor and Thought*, 84–105. New York, NY: Cambridge University Press. (Reprinted in Wilson and Sperber 2012b, 97–122.)
- Spotorno, Nicola
2012 An ironic turn of events – Theory of Mind in language processing. Ph.D. thesis, Université Lumière Lyon 2.

- Spotorno, Nicola and Ira Noveck
2014 When is irony effortful? *Journal of Experimental Psychology: General* 143:1649–1665.
- Spotorno, Nicola, Eric Koun, Jérôme Prado, Jean-Baptiste Van Der Henst and Ira Noveck
2012 Neural evidence that utterance-processing entails mentalizing: The case of irony. *NeuroImage* 63: 25–39.
- Wang, A. Ting, Susan Lee, Marian Sigman and Mirella Dapretto
2006 Neural basis of irony comprehension in children with autism: the role of prosody and context. *Brain* 129: 932–943.
- Wilson, Deirdre
2006 The pragmatics of verbal irony: Echo or pretence? *Lingua* 116: 1722–1743.
- Wilson, Deirdre
2013 Irony comprehension: A developmental perspective. *Journal of Pragmatics* 59: 40–56.
- Wilson, Deirdre and Robyn Carston
2007 A unitary approach to lexical pragmatics: Relevance, inference and ad hoc concepts. In: Noel Burton-Roberts (ed.), *Pragmatics*, 230–259. Basingstoke: Palgrave-Macmillan.
- Wilson, Deirdre and Dan Sperber
2012a Explaining irony. In: Deirdre Wilson and Dan Sperber 2012b, *Meaning and Relevance*, 123–145. Cambridge: Cambridge University Press.
- Wilson, Deirdre and Dan Sperber
2012b *Meaning and Relevance*. Cambridge: Cambridge University Press.
- Winner, Ellen
1988 *The Point of Words: Children's Understanding of Metaphor and Irony*. Cambridge, MA: Harvard University Press.

7. Acquiring prosody

Tim Wharton

Abstract: During the past 50 or so years there has been a huge amount of work into the relationship between prosody and meaning. Much of this has been done by researchers working from a phonological perspective, and the result is detailed analyses of prosodic structures and systems, as well as concrete proposals on how they relate to meaning. Recent years have seen an increase in the amount of research into prosody by cognitively oriented approaches to pragmatics, who concern themselves with the role of prosody in pragmatic inference. This has allowed researchers to conceive of prosody in innovative and exciting ways, as well as to suggest original hypotheses as to how it works. When it comes to work on the acquisition of prosody, however, people working in pragmatics – in contrast to those working in phonology – have been rather quiet. This chapter, therefore, is an overview of work on prosodic acquisition with special attention paid to the ways in which it might be informed by work on the pragmatics of prosody. As it stands, it is far from easy to see how findings from the phonological literature might be integrated into more pragmatic approaches and what is needed, I argue, is genuine, bi-directional interdisciplinary collaboration. I hope this chapter goes some way to laying the foundations for such work.

1. Introduction

The way we say the words we say makes a substantial contribution to how they are understood. In the most intuitively obvious cases, a particular tone of voice might indicate that we want to dissociate ourselves entirely from the proposition we are expressing; that we mean the opposite of what we are saying. But the melodic contours and rhythmic patterns of speech work in other, more subtle ways. In English, for example, the way words are grouped together into intonation phrases conveys information about constituency relations and grammatical structure. Within these phrases, differences in the volume, length and pitch of syllables help direct a listener's attention to the words the speaker regards as the most salient.

During the past 50 or so years there has been a huge amount of work into the relationship between prosody and meaning, most of which has been done by researchers working from a phonological perspective (Halliday 1967; O'Connor and Arnold 1973; Brazil 1975; Ladd 1978, 1996; Bolinger 1983a, 1983b; Ward and Hirschberg 1988; Hirschberg and Ward 1995; Pierrehumbert and Hirschberg 1990; Gussenhoven 1984, 2002, 2004, 2006; Chen and Gussenhoven 2003). This

<https://doi.org/10.1515/9783110431056-007>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 177–208. Berlin/Boston: De Gruyter Mouton.

has resulted in detailed analyses of prosodic structures and systems in a range of different languages as well as concrete proposals on how they relate to meaning.

Since the effects of prosody are highly context-dependent, and since, rather than expressing full concepts or propositions, prosody typically conveys information about emotions or attitudes, or alters the salience of linguistically possible interpretations rather than expressing full concepts or propositions in its own right, it would be natural to assume that pragmatic theory would form a central thread running through these proposals. This, however, has not always been the case. In Wharton (2012: 567) I wrote:

An observation, rather than a criticism, of this body of work is that while much of it talks – to take one example – of ‘systems of rich interpretive pragmatics’ (Ladd 1996, p. 39), virtually none of it utilises a recognised theoretical pragmatic framework. Pragmatic theory is appealed to regularly, but rarely rigorously applied. In 1996, D. Robert Ladd – attempting to assess the merits of competing accounts of intonational meaning – wrote: ‘There has been very little real debate on this issue. I think this is primarily because we know too little about pragmatic inference for the debate to be conclusive.’

In that paper, I went on to paint what I hope was a more positive picture. Work on pragmatic inference within cognitively oriented approaches to pragmatics has allowed us to conceive of prosody in innovative and exciting ways, as well as to suggest original hypotheses as to how it works. There is now a huge literature that considers prosodic contributions to meaning from a pragmatic rather than just a phonology-based perspective (Clark and Lindsey 1990; Escandell-Vidal 1998; Imai 1998; Fretheim 2002; Wichmann 2002; Wilson and Wharton 2006; Clark 2007, 2012, 2013; House 2006, 2007, 2009; Wharton 2009, 2012; Nadeu and Prieto 2011; Scott 2017).

However, when it comes to work on the *acquisition* of prosody, the pragmatics literature has been rather quiet. Naturally, there is a good deal of work from phonetic and phonological perspectives (see, for example, Vihman 1996; Wells, Peppé and Goulandris 2004; Kehoe 2013). As was the case with the literature on prosodic meaning, not only are distinctions that are important from a pragmatic view often unexplored but when the notion of pragmatics *is* invoked, it is not invoked consistently: for Halliday (1975), a “pragmatic” utterance is simply one that requires a response; for Speer and Ito (2009) “linguistic pragmatic” prosody equals contrastive prosody; Wells, Peppé and Vance (1995) appear to equate the domain of pragmatics only with that of speech acts and illocutionary force; Galligan (1987) argues that the development of prosody is characterised by a shift from “pragmatic” to “linguistic” use. And so on...

In this chapter I will present an overview of work on prosodic acquisition, but will not attempt a comprehensive survey (see Kehoe 2013 for such a survey). Instead, my main aim will be to suggest ways in which work on the pragmatics

of prosody might inform future research into prosodic acquisition. This work has resulted in some important insights. However, as it stands, it is hard to see how findings might be integrated into pragmatic theory. What is needed is genuine, bi-directional interdisciplinary work: those working on prosodic meaning within pragmatics have been greatly influenced by work in phonology; my sense is that the reverse has not been the case. I hope, then, that this paper might lay the foundations for such work, and while there may be no clear answers in what follows, I hope it might at least to prompt some new questions. The focus in this paper is very much on first language (L1) acquisition, but work in pragmatics is increasingly informing research into L2 acquisition (Ifantidou 2014; Madella 2017) and acquiring prosody is increasingly being studied as part of acquiring pragmatic, rather than linguistic, L2 competence.

In the next section I provide an overview of some of the key characteristics of prosody from a theory neutral perspective. In section 3 I summarize findings from the phonological literature on the acquisition of prosody and in section 4 turn to the theoretical framework of prosody that researchers have been developing from the perspective of relevance theory. Broadly speaking, this work has revolved around three questions:

- How should the different types of prosody be characterised?
- What is the relationship between prosody and *intentional* communication?
- What kind of meaning does prosody encode (if anything)?

These questions are addressed in section 4. In section 5 I address the implications the answers to these questions have for how the kind of genuinely interdisciplinary research mentioned above might be begun.

2. Elements of prosody

The melodic contours and rhythmic patterns of speech involve a range of different prosodic parameters including phrasing, prominence, pitch (both the contours and the span those contours trace), tempo, rhythm and voice quality. In English phoneticians and phonologists focus on three distinct aspects of prosodic structure that contribute to what a speaker means. These are: *tonality*, the way in which words are chunked into identifiable intonation phrases (or “word groups”); *tonicity*, the location within that phrase of the pitch accent, or *tonic*, the prominent *nuclear* syllable which typically highlights new information; and *tone*, the type of melodic contour placed on that accent (a rise, a fall, a rise-fall or a fall-rise). It should also be added that choice of *nuclear tone* will at least partially dictate the kind of intonation contour that comes before and after the tonic syllable and consequently falls across the whole intonation phrase.

One point upon which there is broad agreement is that as well as serving a variety of different functions, prosody is not all cut from the same cloth. Some elements of prosody are grammatical, or language specific. Examples are the prosodic distinctions which exist between English words such as suspect and suspect, or below and billow, which seem to be best analysed as properly linguistic; or the difference between the Burmese word /k^ha/ said in a low tone (in which case it means ‘shake’) or a high tone (in which case it means ‘be bitter’): in English, lexical contrasts cannot be made by altering tone, but in true tone languages they can. Others are arguably best described as “natural” (Wilson and Wharton 2006, Wharton 2009), or “affective” or *paralinguistic* (Ladd 1996; Gussenhoven 2004, 2006; Peppé 2009), and might be universal across languages: an example is emotionally charged tone of voice, which tends to be recognisable irrespective of which language you speak.

Any discussion of the relationship between these elements, which are, on the face of it, quite clearly contrasting, is complicated by the fact that the border-zone between what is natural and what is properly linguistic is a notoriously difficult area to chart: Dwight Bolinger (1964: 282) famously describes all prosody as existing “around the edge of language”. The complication has had knock-on effects in theoretical work. It has led some theorists to propose that the distinction between natural and linguistic prosody is not black and white. Rather, it is proposed, there is a continuum between the two extremes (Gussenhoven 2002; Pell 2002; Wilson and Wharton 2006; Peppé 2009; Kehoe 2013). Notice, however, that irrespective of the existence of a continuum, people tend to favour *either* a natural view *or* the linguistic one. Bolinger subscribes to the natural view, according to which even linguistic/conventional elements retain a degree of naturalness:

Intonation ... assists grammar – in some instances may be indispensable to it – but it is not ultimately grammatical ... If here and there it has entered the realm of the arbitrary, it has taken the precaution of blazing a trail back to where it came from. (Bolinger 1983a: 106–108)

By contrast, Halliday’s (1963, 1967) famous account is based on the idea that the notion of language should be extended to incorporate all prosody: that prosody requires a *semantic*, rather than pragmatic explanation. This idea persists in more modern accounts. For example, other more linguistically oriented accounts of prosody can be found in the works of Sag and Liberman (1975) and Gussenhoven (1984). A further complication, of course, is that different people use the terms “semantics” and “pragmatics” to mean different things. There’s more than a little irony in that.

3. Acquisition of prosody

3.1. Beginnings

The remarkable phonological precocity exhibited by extremely young children is well documented. Eimas et al. (1971) demonstrate that one-month-old children are already distinguishing phonemes, and the neonate's suprasegmental abilities are even more startling. Evidence suggests that a child can recognise its native language from prosodic cues alone *by the time it is three days old* (Mehler et al. 1988; Jusczyk, Cutler and Redanz 1993). Indeed, recent research proposes that at least part of this precocity is due to what the infant hears before it is born. Studies demonstrate that neonates who received specifically controlled phonetic stimuli *in utero* performed better in recognition tasks than those in a control group who received no stimuli (Moon, Lagercrantz and Kuhl 2013; Partanen et al. 2013). Since they are sensitive to segmental contrasts in the womb, it comes as no surprise that they can also hear the prosodic patterns of speech (Peppé and Wells 2014). As a result of what they hear in the womb, children are born with a sensitivity to prosody, perhaps even its functions:

Babies in the womb can hear low-frequency sounds [...] that are louder than internal noises [...] This gives them the ability to hear some features of conversational speech [...] which] suggests that when babies are born they are well-placed to start to identify speech in what they hear. Moreover, being able to distinguish pitch and duration gives infants an indication of where phrases begin and end, and the intonation of utterances. This gives them a handle on more global aspects of communication, such as the existence of grammatical phrasing, the association of intonation with emotion, and conversational turn-taking. (Peppé and Wells 2014: 584)

Four-to-six-month-old children have an awareness of tonality, and use prosodic cues to help them segment speech (the so-called Prosodic Bootstrapping Hypothesis, see Soderstrom et al. 2003; Kehoe 2013). By the time the child is one, they can be shown to recognise different patterns of lexical stress (Curtin 2009, 2010).

As far as prosodic production is concerned, infants follow a fairly predictable trajectory for the first few months. Progress is primarily influenced by the utterances they hear, but also by social interaction, as well as segmental and syntactic development. The first sounds infants make are reflexive ones, burping and crying, and between two and four months they coo and laugh. From about six months onwards they start to babble. The function of babbling is still disputed: is it Skinnerian vocal play, or a general maturational process, or does it serve a specifically linguistic function? Holowka and Petitto (2002) demonstrate that infants' babbling shows the kind of right mouth asymmetry typically correlated with the performance by adults of linguistic rather than non-linguistic tasks. Moreover, children have at least partial control of the acoustic correlates of stress during the pre-lin-

guistic stage (Kehoe 2013). The jury, however, is still out. Engstrand, Williams and Lacerda (2003) report no detectable differences between the babbling of English and Swedish infants.

As regards the prosodic dimension to babbling, evidence is also mixed. Of course, during this early stage, few adults can resist attributing communicative intentions to babies that may not, in fact, be there. However, there is some evidence that babbling begins to take on prosodic characteristics associated with the language they are acquiring. Davis et al. (2000) studied the acoustic correlates of those syllables uttered by children between seven and ten months old which adults perceived as stressed. They concluded that “infants control the acoustic correlates of stress in an adult-like manner already in the pre-linguistic period” (Kehoe 2013: 38). What is clear is that during this pre-linguistic stage carers and infants engage in “communicative” exchanges during which infants echo the stylised pitch-patterns of child-directed speech, exchanges that may lay the foundations for turn-taking in conversation (Peppé and Wells 2014). By about nine months of age, the child is generally thought to be able to use pitch to give an indication of whether an utterance is a request or a description/labelling and children appear to use intonation to communicate affect very early (Kehoe 2013).

What happens next is disputed. Some research suggests that the arrival of words in the infant’s communicative repertoire disrupts prosodic acquisition (Scolton 1976; Levitt 1993). The idea is that segmental advancement somehow results in supra-segmental regression. According to this view, the development of language-specific intonation contours is suspended for a short while and early words are often tied to a particular contour. So while a nine-month-old pre-linguistic infant might have been able to “request” something with the associated rising intonation contour, her first uses of, say, the word *ball* might also use a rising contour. At this one-word stage there are, of course, only one or two prosodic options. Peppé and Wells (2014: 586) describe these as requesting and labelling:

Towards the end of this period, around the age of 1;6, words may be used consistently with different pitch-patterns for associated communicative purposes, usually directed to others. There is, however, no clear association, for example, of rising tones for questioning/requesting and falling tones for labelling or undirected speech.

Snow (2006) proposes a “regression-organisation” theory, according to which the apparent regression reflects a fundamental shift from prosody-as-emotional-response to prosody-as-linguistic-system. Contra Snow, there are studies that suggest the use of pitch is context dependent before the age of one (Halliday 1975; Flax et al. 1991; Balog, Roberts and Snow 2009).

The relationship between the acquisition of prosody and the acquisition of words is an interesting one. The Internet is awash with videos of pre-linguistic children babbling with apparently authentic language-specific prosody; we might therefore be forgiven for taking for granted the fact that the rhythmic patterns and

melodic contours of speech come *before* the words. Snow and Balog (2002) question this as received wisdom. They review the literature on three components of intonation, which broadly reflect those responsible for tonicity, tonality and tone, and conclude that while aspects of intonation are in place before children produce two-word combinations, they are not available to the child before their first words.

Intonation is rooted in emotions and in physiological events like respiration that are also linked to emotion. However, during the single-word period, children seem to shift from an affective basis for intonation that is pre-intentional and pre-linguistic to an equally subjective basis that is purposeful and linguistic. At that time, intonation represents the first expressive feature of the grammar that single-word children use. It is provocative that this milestone in grammatical development occurs when children are on the threshold of combinatorial speech. (Snow and Balog 2002: 1055)

It is indeed provocative, but the suggestion that at a given developmental stage all prosody suddenly shifts from being “affective” to being “linguistic” does not sit well with the fact that prosody continues to have an affective dimension in adult speakers. I return to this point in section 5.

3.2. Eighteen months to five

Frustratingly, there has been relatively little research on prosodic development during this period of life. Frustratingly because these years are central to the child’s pragmatic development: at some time during this period the child becomes aware that they are living in a world populated not just by other people, but by other minds. According to Snow’s “regression-organisation” theory, the burst of intonation that follows so-called prosodic regression is associated with a parallel burst in the development of syntax from around eighteen months.

Once a Mean Length of Utterance of three words has been reached, English children begin accenting the nuclear syllable in an intonation phrase. In general, this is the stressed syllable on the final content word in the intonation phrase (see (1)):

(1) She loves CHOColate.

Hearing accents in this position may help young children with tonality (breaking speech into manageable chunks), and this in turn may provide them with cues as to the presence of syntactic boundaries. It may also possibly help them establish when a speaker’s turn has come to an end.

As is well known, the nuclear tone does not *have* to be on the stressed syllable of the final content word. In cases of so-called “contrastive” stress, a different syllable might be accented to mark information as new rather than old or given. Consider (2), uttered in response to (1):

(2) She HATES chocolate!

Peppé and Wells (2014) suggest that some 19-month-olds are capable of manipulating accent for contrastive purposes but they do point out that the processing demands caused by such phenomena may be one of the reasons why two-year-olds tend to speak relatively slowly. Nonetheless the growing child's understanding of the subtleties of prosody becomes more and more sophisticated as they approach five. They begin to use tonicity, tonality and tone to organize utterances, point listeners to the salient points of their messages and express attitudes to the propositions and their own internal emotional state.

3.3. Five to puberty

This period of prosodic development is better explored. There is evidence showing that the intonation contours used by children become more complex during their school years, building on the relatively simple patterns they use early on (Crystal 1986). Local (1980) reports that the number of words in each intonation phrase also increases, a fact probably causally linked to the complexity of the contours accompanying those words, and that between the ages of eight and nine their use of nuclear tones closely reflects that of adult speakers. A study by Beach et al. (1996) found that a group of five-year-olds performed at adult level. But again the evidence is mixed. Cruttenden (1985) undertook a study comparing prosodic phrasing between ten-year-old children and 20-year-old adults. He found that the ability of ten-year-olds did *not* match that of adults.

Wells, Peppé and Goulandris (2004) undertook a comprehensive study of the performance of children between the ages of five and thirteen on a battery of tasks designed to test the development of various aspects of prosody: “affect”, “chunking” (tonality), “focus” (tonicity) and “interaction”. According to the study, five-year-old children are capable of both understanding affective tone of voice and expressing it. Children at this age are able to chunk information reasonably well. They do, however, have problems disambiguating potentially conflicting constituency relations from the chunking of speech by others. Between the ages of eight and 13 they improve, and by that age scored at adult levels of competence in the chunking section of the tasks. When it comes to tone and focus, five-year-olds have some problems de-accenting the tail of utterances containing narrow focus (see (2)) and scores in this part of the tests were variable. But again, by the age of 13, children were performing at ceiling levels. Finally, on the interaction tasks, younger children failed to use high-rising nuclear tones to convey meanings such as “requesting clarification” (Wells et al. 2004: 773). Wells et al. suggest that this is because “rising pitch accents may not yet be fully incorporated into the functional intonation system” (Wells et al. 2004: 773).

Broadly speaking, Wells et al. conclude that while five-year-old children are

reasonably competent users of prosody, they do, nonetheless, continue to develop until about the age of 13, by which time most children have mastered it. They are keen to point out, however, that each separate facet of prosody seems to develop independently: “[O]ur study suggests that it is unrealistic to examine one aspect of prosody (such as focus/accents) and assume that ability in this area is representative of all aspects of prosody” (2004: 776). As well as this, they also note that their tests reveal considerable variation in abilities within age groups: developmental generalisations should be made with extreme caution.

4. Prosody: A theoretical framework

4.1. Prosodic meaning

Any explanatory account of the acquisition of prosody will eventually aim to show how it is that children develop the complex ability to attach phonological phenomena with “meanings”, whether they are hearing them in the utterances of others or producing them. That much is given. But the assumption that elucidating a statement such as ‘P prosodically means *p*’ by simply identifying ‘P’ and correlating it with *p* is an unrealistic one. What “prosodic meaning” is remains a highly complex issue, and it is not clear that we can get far at all without thinking seriously about what it is. As such, one of the main conclusions I draw in this paper is that while investigation of prosodic development should be predicated on phonological description, phonological description should also be embedded within a solid pragmatic framework. As I said in my introduction, genuine, bi-directional interdisciplinary work is needed.

In previous work I have attempted to provide some theoretical answers to the questions that surround prosodic meaning (Wilson and Wharton 2006; Wharton 2009, 2012). Broadly speaking, this work has revolved around the three questions I mention in the introduction (and repeat below for ease of exposition):

- How should the different types of prosody be characterised?
- What is the relationship between prosody and *intentional* communication?
- What kind of meaning does prosody encode (if anything)?

In the next three subsections, I will address these questions. In section 5 I address the implications the answers to these questions have for accounts of the acquisition of prosody.

4.2. Natural signs and signals

Wilson and Wharton (2006) propose that the distinction most commentators on prosody recognise between *natural* and linguistic prosodic effects is best thought of in terms of philosopher Paul Grice's (1957) distinction between *natural* meaning (meaning_N) (3) and *non-natural* meaning (meaning_{NN}) (4):

(3) That black smoke means_N the tyre factory is on fire.

(4) That white smoke means_{NN} the Vatican Conclave has elected a new Pontiff.

It is clear that the “natural” prosodic elements discussed in section 2 carry natural meaning in Grice's sense, but Wilson and Wharton (2006) recognise a further distinction between natural behaviours that are *signs* and those that are *signals*. The sign–signal distinction, which comes originally from studies of non-human animal communication (Hauser 1996), is most easily illustrated by comparing natural human behaviours such as shivering and smiling. The function of shivering is to generate heat by rapid muscle movement. While a person's shivering may indeed provide evidence to an observer that they are feeling cold, that is not its function: it is not a signal but a *sign*. In contrast, smiling has evolved as an activity the function of which *is* to convey information to others (van Hooff 1972; Ekman 1989, 1992, 1999; Fridlund 1994). In the same way as bee dances, bullfrog calls and other communicative systems that do not involve the complex metapsychology of Gricean non-natural meaning, they are *signals* rather than signs.

It is not hard to think of prosodic counterparts to shivering and smiling. A speaker's mental or physical state may affect the way they speak, enabling a hearer with the knowledge to infer whether she is, for example, calm or anxious, alert or tired etc. As with shivering, these prosodic properties carry information about the speaker's mental or physical state, but it is not their function to do so: they are natural signs, which are worked out rather than decoded. On the other hand, affective tones of voice, in the same way as affective facial expressions, may well be natural signals, interpreted by innately determined *natural codes*.

Such codes are found in animals with no capacity for inferential intention recognition. Honeybees and bullfrogs both lack the ability to infer the intentions of others, but they can still communicate with each other by means of their dance-based or vocal code. Communication among humans, by contrast, not only requires the capacity for inferential intention recognition, but may be achieved in the absence of any code at all – such as when I nudge my empty plate toward you and you infer that I'd like another piece of cake. Human linguistic communication exploits the human ability to understand the behaviour of others in terms of the intentions behind it – sometimes known as the “mindreading” ability. A speaker produces linguistically coded evidence of her intention to convey a certain meaning and the hearer must use this as a starting point from which to infer that intention. As

I discuss in the next section, linguistic communication involves *both coding and inferential intention recognition*.

4.3. Meaning: showing and meaning_{NN}

Another controversial feature of the account of intentional communication offered in Grice (1957) is the line he draws between meaning_{NN} and *showing*. Consider (5):

- (5) Feeling faint, a girl lets her mother see how pale she is (hoping that she may draw her own conclusions and help).

In this example, Grice's *M*-intention – a higher-order intention that an intention to convey a particular piece of information is not only recognised, but also plays a role in the audience inferring that piece of information – is largely redundant. The fact that the little girl is pale is evidence enough to the mother that she needs help: any intentions the little girl might have play no causal role in the mother arriving at the conclusion she reaches. According to Grice, then, the kind of intentional communication in (5) does not count as one of meaning_{NN}. (For fuller discussion see Wharton 2008).

This distinction has had important effects on the evolution of pragmatics. Following Grice, pragmatists have focused on the notion of meaning_{NN} and the consequence has been that there is a tendency to abstract away from cases of showing. But the distinction is much easier to conceive of than it is actually to apply in communicative exchanges. Utterances are complex things. Yes, they involve linguistic expressions that clearly do involve non-natural meaning, but there also seem to be cases where the open showing of a spontaneously produced natural behaviour makes a difference to the speaker's meaning. Natural signs and signals can both be exploited in inferential communication. To develop an example used in Wilson and Wharton (2006):

- (6) Jack is late.

If the speaker of (6) utters this sentence while making no attempt to conceal the spontaneous anger in her facial expression and tone of voice, then she would naturally be understood to mean not only that Jack was late but also that she was angry that he was late. Moreover, intended strong implicatures may depend on this: the degree of anger the speaker shows might warrant the hearer inferring that the speaker is going to take a particular course of action against Jack (give him a slight dressing down or fire him, tell him off in a joking manner or end their relationship).

Supposing a speaker utters (7), and makes no attempt to conceal the spontaneous excitement and happiness in her tone of voice.

(7) I'm so happy!

The natural tone of voice the speaker *shows* to the hearer will not only help him establish the implicit content of her utterance, but will also contribute to the proposition he takes her to be expressing. The truth conditions of her utterance of (7) will vary according to the type or degree of “happiness” she intends to communicate (*happy* is a degree term), and hence reflects in her natural behaviour.

In my 2009 book I present a detailed defence of an approach which argues that the key to developing an account of pragmatics in which the full range of human expressive behaviours can be captured is recognising that the domain of pragmatics should not just be restricted to cases of meaning_{NN}: we must also embrace those cases of overt intentional communication that Grice would have classified as showing. Moreover, there is a continuum of cases from showing to meaning_{NN}, which provides a theoretical tool allowing us to conceptualise more clearly the observation made above that communicative stimuli are often highly complex composites of different, yet inter-related behaviours.

4.4. Coded or uncoded?

4.4.1. *Relevance and interpretation*

Much of the inspiration for the ideas in this section comes from relevance theory (Sperber and Wilson 1986/1995; Blakemore 2002; Carston 2002). Since aspects of the sub-section presuppose a little theoretical background, a brief exposition is in order.

According to the theory, utterance interpretation is a two-phase process. The linguistically encoded logical form that is the output of the mental grammar (language) is simply a starting point for rich inferential processes guided by the expectation that speakers conform to certain standards of communication (as is the case with other post-Gricean and neo-Gricean accounts). In intuitive terms, an audience faced with a piece of overtly communicative behaviour is entitled to assume that the communicator has a good reason for producing this particular stimulus as evidence not only of their intention to communicate, but of *what* they want to communicate.

But relevance theory takes the psychology seriously, and aims to provide an account of *how* pragmatic inference works. It follows work in cognitive science and evolutionary psychology which sees the mind as an “adaptive toolbox”, a set of dedicated cognitive mechanisms which have evolved in small steps towards greater cognitive efficiency (Hirschfeld and Gelman 1994; Barkow, Cosmides and Tooby 1995; Sperber 2002). Cognitive efficiency involves making the right choices in selecting which available new information is relevant enough to attend to and which available past information it is relevant to process it with. The right choices

in this respect consist in bringing together inputs and memory information, the joint processing of which will provide as much cognitive effect as possible for as little effort as possible (Sperber 1996).

The human disposition to search for relevance is routinely exploited in human communication. Since speakers know that listeners will pay attention only to stimuli that are relevant enough, in order to attract and hold an audience's attention, they should make their communicative stimuli appear at least relevant enough to be worth processing. More precisely, the *Communicative Principle of Relevance* claims that by overtly displaying an intention to inform – producing an utterance or other ostensive stimulus – a communicator creates a presumption that the stimulus is at least relevant enough to be worth processing, and moreover, the most relevant one compatible with her own abilities and preferences. This Communicative Principle motivates the following relevance-theoretic comprehension procedure, taken from Wilson and Sperber (2002: 13).

Relevance theoretic comprehension procedure

- (a) Follow a path of least effort in computing cognitive effects:
Test interpretive hypotheses (disambiguations, reference resolutions, implicatures, etc.) in order of accessibility,
- (b) Stop when your expectations of relevance are satisfied.

Consider again the utterances in example (6) and (7). There are many degrees of anger or happiness that that speaker might have intended to convey, and each of these would yield different implications and be relevant in a different way. While a neutral tone of voice would cause the hearer least phonological processing effort, it would give him very little guidance on the type of cognitive effects he was expected to derive. By contrast, any departure from neutral prosody would increase the hearer's phonological processing effort, but would thereby encourage him to look for extra (or different) effects. Which effects should he derive? According to the comprehension procedure above, he should follow a path of least effort, deriving whatever effects are made most accessible in the circumstances by the type of prosodic input used, and stopping when he has enough effects to justify the extra effort caused by the departure from the "expected" prosody. Thus, the utterance of, say, (7) in an excited, enthusiastic tone of voice, with a wide pitch range and an extremely high melodic contour on *happy* (or even *so*), should indicate a degree and type of happiness that would warrant the derivation of a particular range of positive communicative effects via the automatic working of the relevance-theoretic comprehension procedure. But some elements *do* convey information by encoding it, and I turn now to discussion of them.

4.4.2. *Concepts and procedures*

If linguistic communication typically involves a combination of decoding and inference, then linguistic signals might be expected to encode information of two distinct types. First, there is regular *conceptual* encoding, where a word (e. g. *dog*) encodes a concept (e. g. DOG). Concepts such as these figure as constituents of the logical form of sentences in which that word occurs. Second, we might expect to find a form of *procedural* encoding, where a word (or other linguistic expression) encodes information specifically geared to guiding the hearer during the inferential phase of comprehension. The function of such “procedural” expressions would be to facilitate the identification of the speaker’s meaning by narrowing the search space for inferential comprehension, increasing the salience of some hypotheses and eliminating others, thus reducing the overall effort required. This distinction draws on the distinction made in cognitive science between the representational and computational aspects of cognition (see, for example, Thagard 2005).

Properly linguistic expressions that have been analysed in procedural terms include discourse connectives, mood indicators and discourse particles (e. g. Blakemore 1987, 2002; König 1991; Wilson and Sperber 1993; Hall 2007). So a discourse connective such as *but* encodes a procedure which inhibits a conclusion that might otherwise be drawn; mood indicators (e. g. imperative morpho-syntax) encode procedures which facilitate the retrieval of a range of speech-act or propositional-attitude descriptions associated with imperatives; discourse particles such as *please* encode a procedure which facilitates the retrieval of a range of speech-act or propositional-attitude descriptions associated with requests. Properly linguistic prosodic signals (e. g. lexical stress, lexical tone and fully grammaticalised aspects of prosody – perhaps nuclear tones) might be analysed on similar lines, as facilitating the retrieval of certain types of syntactic, semantic or conceptual representation. Thus, the notion of procedural encoding applies straightforwardly to properly linguistic prosodic elements.

Turning to natural signals, there has been some debate about whether interjections such as *oh*, *ah* and *wow* are properly linguistic. Wharton (2003) surveys the literature and concludes that interjections are best analysed as falling on the natural rather than the properly linguistic side. However, it is also argued that interjections are natural signals rather than signs, and that they share with discourse connectives and discourse particles the property of encoding procedural rather than conceptual information. On this approach, the function of an interjection such as *wow* might be to facilitate the retrieval of a range of speech-act or propositional-attitude descriptions associated with expressions of surprise or delight, which might be narrowed in context by information derived from prosody, facial expressions, background assumptions, discourse context, etc., and contribute to the speaker’s meaning in the regular way, by falling under the relevance-theoretic comprehension procedure.

The idea can be extended to affective tone of voice. On this approach, the func-

tion of affective tone of voice, a natural signal, would be to facilitate the retrieval of similar propositional-attitude descriptions to those activated by interjections. This approach makes it possible, on the one hand, to capture the fact that natural signals, interjections and other procedural items all have a coded element, and on the other, to explain why what they communicate can sometimes be so nebulous, contextually shaded and hard to pin down in conceptual terms.

5. The pragmatics of prosodic acquisition

5.1. An inferential model

5.1.1. *Contrastive stress*

There is a huge amount of insightful and revealing work in the phonological literature on the acquisition of prosody. However, it pays very little attention to the question of how prosody fits into a model of communication within which communication is conceived as more than a strict coding–decoding process. There's much more to linguistic communication than mere coding and decoding and this observation is as absent from the phonological literature on prosodic acquisition as it traditionally has been on the phonological literature on prosody and meaning.¹

Accounts of *lexical* acquisition are increasingly set against a backdrop of the developing meta-psychological abilities of the child. There is now considerable evidence against the traditional view that word learning is the result of associative learning mechanisms, by which children form reliable associations between words and their meanings as a result of their sensitivity to statistical co-occurrences between what they see and what they hear (Bloom, L. 1994). Paul Bloom's alternative view (2001) argues that rather than just being sensitive to statistical correlations, children are sensitive to the referential intentions of speakers. Under this view, acquiring the meanings of words is largely a matter of working out, using a range of cues (including prosody), what it is that people intend to refer to when they use them. He provides a whole range of convincing arguments to support a mind-reading model over an associationist one. When children hear a word for the first time, their route to the meaning of that word almost inevitably involves what the child thinks the speaker meant by that word. And far from requiring full-blown Theory of Mind (which typically develops by the time the child is around four), this sensitivity to referential intentions seems to be in place at a very young age.

¹ A notable exception to this is Jill House (see House 1990, 2006, 2007, 2009), who has consistently addressed the interface between pragmatics and prosody in her work. Barth-Weingarten, Dehé and Wichmann (2009) is another excellent example of work which charts the interface between the two disciplines.

There are a number of studies that suggest children use speakers' prosodic expressions of emotion to aid them in inferring the referential intentions of others (Akhtar, Carpenter and Tomasello 1996) but, as far as I know, none on whether mindreading abilities might actually help the child with the later stages of their prosodic development (that period between eighteen months and five years, which is so under-explored). Most people now accept that understanding prosody is central to mindreading, but why not the other way round? If children are using inferences about the intentions of others to learn new words, why would they not be used to learn facts about tonality, tonicity and tone?

An account of prosodic acquisition needs to be embedded within an account of the development of the child's inferential abilities. So if, as Peppé and Wells (2014) suggest, nineteen-month-olds are using contrastive stress, it might be interesting to explore how that correlates with the development of the child's meta-psychological, pragmatic abilities. Liebal et al. (2009), for example, demonstrate that between fourteen- and eighteen-months-old, something happens in the child's cognitive development that means that by the later age they can use shared experience with an adult to determine the meaning of pointing gestures. Contrastive stress has a flavour of "pointing" about it: by emphasising a particular word a speaker is, in effect, pointing it out. Grice himself held a view much like this (1967, Lecture III: 17–18): "We might start by trying to think of stress as a purely natural way of highlighting, or making prominent a particular word: compare putting some object (e. g. a new hat) in an obvious place in a room so that someone coming into the room will notice or pay attention to it." But these parallels are barely ever remarked on in the literature on the acquisition of prosody, largely because it is assumed that everything communicated is encoded.²

Another possible avenue of exploration of contrastive stress is the existence of pathologies such as autism-spectrum disorder (ASD), in which language is sometimes relatively intact but some aspects of prosody and Theory of Mind impaired. Peppé et al. (2007) find that aspects of prosody closer to the language end of the natural-to-linguistic continuum cause fewer problems for people with ASD. Chevalier et al. (2009) find that people with ASD have no problems with what they describe as "grammatical" prosody. Interpreting and producing affective prosody, however, remains hugely problematic, as is contrastive stress (McCann and Peppé 2003; Peppé et al. 2007). This is revealing. Many approaches to prosody treat cases of "contrastive stress" such as this as part of language proper (Halliday 1967). Some postulate extra layers of theoretical description such as *information structure* to accommodate it, and appeal to syntactically-determined "unmarked" (or default)

² Balog (2012) is an exception, albeit from an L2 perspective.

and “marked” accent positions (Steedman 2007; Calhoun 2009).³ But if contrastive stress *is* grammatical, as such accounts propose, then the findings reported by Peppé et al. would suggest we would not expect the kind of problems people with ASD tend to have with it.

An alternative to the grammatical view often found in the literature is that, like pointing, contrastive stress is actually a natural highlighting device, used to draw attention (or “point”) to a particular constituent in an utterance. This idea is explored from a relevance-theoretic perspective in Sperber and Wilson (1986/95, chapter 4), Wilson and Wharton (2006) and Scott (2017). Consider the following brief illustration. It follows from the Communicative Principle of Relevance that if two stress patterns differ in the amounts of processing effort required, the costlier pattern should be used more sparingly, and only in order to create extra, or different, effects. Thus, compare the effects on reference assignment of the neutral stress pattern in (8) and the costlier contrastive pattern in (9):

(8) Peter insulted John and then he 'hit him.

(9) Peter insulted John and then 'he hit 'him.

A hearer using the relevance-theoretic comprehension procedure in interpreting the second conjunct in (8) should follow a path of least effort in assigning reference, and interpret *he* as referring to Peter and *him* to John. This assignment is made easily accessible by syntactic parallelism, on the one hand, and encyclopaedic knowledge, on the other (see Scott 2017). Use of the costlier contrastive pattern in (9) should divert the hearer from this otherwise preferred interpretation towards the alternative, less accessible interpretation on which *he* refers to John and *him* to Peter. On this account, contrastive stress is a “natural” highlighting device, and its effects fall out from the automatic working of the relevance-theoretic comprehension procedure. It does not *encode* anything. In contrast to the grammatical account, this account predicts that people with ASD *would* have problems with it.

And it is curious, when there is a clear consensus in the phonological literature that at least some aspects of prosody are natural and *not* linguistic, that the issue is largely side-lined by those working on prosodic acquisition. Let's return to the relevant part of the quote from Snow and Balog mentioned earlier (repeated below for ease of exposition):

[D]uring the single-word period, children seem to shift from an affective basis for intonation that is pre-intentional and pre-linguistic to an equally subjective basis that is purposeful and *linguistic*. (Snow and Balog 2002: 1055 [my emphasis])

³ For other semantic takes on contrastive stress see the discussion of the ‘Givenness hierarchy’ (Gundel, Hedberg and Zacharski 1993; Gundel 2010) and Accessibility Theory (Ariel 1990, 2001) in Scott (2017).

Wells, Peppé and Goulandris (2004) consistently situate their study on prosodic development in a general theory of language development. But some prosody is *not* part of language. The relevance-based account of contrastive stress shows that its effects can be achieved via the workings of general cognitive heuristics. The acquisition of procedural expressions (linguistic or not) needs to take into account the different developmental stages of their pragmatic capacity and the relevant cognitive procedures that underlie them (see section 6).

5.1.2. *Tones*

Wells, Peppé and Goulandris (2004) report that in some of their interaction-based tasks younger children failed to use high-rising nuclear tones to convey meanings such as “requesting clarification” (773). They go on to suggest that this is because “rising pitch accents may not yet be fully incorporated into the functional intonation system” (Wells, Peppé and Goulandris 2004: 773). But as I pointed out in section 4.1, tones and “meanings” cannot be mapped together on a one-to-one basis in this way. Not only is it not clear that adult speakers always use high-rising nuclear tones when they want to request clarification, it is also not clear that when they do use high-rising nuclear ones, they are always requesting clarification. Moreover, very young children’s awareness that other people have their own ‘minds’ is still developing. It follows, therefore, that before a certain age they would not need to request clarification.

In any case, it is now recognised that prosody encodes something relatively imprecise, and hard to pin down in conceptual terms. So rather than a particular tone encoding a concept such as “detachedness” or “reservation”, the tone encodes information that indicates how the speaker intends the proposition she is expressing to fit in with what she believes the hearer knows or believes at a particular point in the conversation.

Building on the work of Imai (1998), and earlier proposals of his own (Clark 2012), Clark (2013) suggests an account of the nuclear tones of Southern “Estuary” English: a rise, for example, encodes information to the effect that “an explicature of the utterance is entertained as an interpretation of a thought of someone other than the speaker at the time of utterance.” The relevance-theoretic term “explicature”, so-named to parallel to Grice’s notion of “implicature”, is an overtly communicated assumption inferentially *developed* from the logical form encoded by the utterance (in the case of a declarative, the intended truth-conditional content of the utterance). Clark’s proposed minimal semantic analyses interact with a more general pragmatic principle of relevance. As Scott (2017: 331) puts it: “[H]ow... procedures contribute to the overall interpretation of the utterance will be determined by how they contribute to relevance. That is, the lion’s share of the interpretive work is left to the pragmatic inferential systems.”

5.2. Signs and signals revisited

In section 4 I argued that not only are some aspects of prosody natural, but also that “natural” prosodic inputs fall into two importantly different categories – natural signs and natural signals – which are worth distinguishing both from each other and from properly linguistic inputs. Prosodic inputs of all three types may be exploited in intentional communication. And when exploited in this way, they range along a continuum from *showing* to *meaning*_{NN}. Note that this differs from the kind of continua proposed by phonologists (Gussenhoven 2002; Pell 2002) and even those working in gestural studies (McNeill 1992; Kendon 2004) in two main respects: first, it includes only inputs exploited in overt communication; second, it includes not only natural and linguistic signals but also overtly used natural signs.

The sign–signal distinction has implications for accounts of the acquisition of the natural side of prosody. If some natural prosody takes the form of coded signals, we would predict that they are interpreted by specialised neural machinery and that they are, to some extent, innately-specified. There is evidence in support of both predictions: both non-human primates and humans have neural mechanisms dedicated both to recognising faces and to processing facial expressions (Gazzaniga and Smylie 1990) and human neonates do appear to be able to distinguish basic facial expressions of emotion (Phillips et al. 1990). It is unclear at precisely what age infants become sensitive to the emotional states of others. Some say six months (Walker-Andrews 1998), others 23 hours (Farroni et al. 2007). Personal experience suggests to me that the latter figure is probably closer to the truth.

And if some natural signals are innately specified, you would expect them to be universal among humans. Many people working from a phonological perspective (Ladd 1996; Gussenhoven 2002, 2004; Wichmann 2002) have suggested that the existence of cross-linguistic variation in the ways these “universal paralinguistic meanings” are realised, points to them being grammaticalised and part of language proper. But there are other possibilities: firstly, as we have seen, not all prosodic inputs are coded at all; but, crucially, the fact that prosodic patterns and their interpretations become stereotyped or vary from language to language is not conclusive evidence that they are *linguistically* coded.

Wilson and Wharton (2006) argue that some prosodic variation may be neither natural nor properly linguistic but *cultural* (Sperber 1996; Origgi and Sperber 2000; Sperber 2007). Examples of cultural prosodic inputs might include the stylised intonation patterns or “calling contours” discussed by Ladd (1978). To the extent that such inputs have a signalling function, they might be seen as falling into the category of what McNeill (1992: 32), discussing cultural signals such as the British two-fingered insult, calls *emblems*. Using evidence from Danish, Scheuer (1995: 446) suggests that “culture-specific mechanisms” might also be at work in the stabilisation of a range of prosodic phenomena. Just as some physical gestures stabilise in a culture without being part of language, so might aspects of prosody.

5.3. Emotional signals

In general, the more precise one's account of prosodic meaning is, the more open it is to criticism. Clark's proposals on nuclear tones are flexible enough to be worthy of serious attention. However, it is arguable that the effects achieved by affective prosody are even vaguer: typically, what is communicated by affective prosody is feelings, moods, even impressions. Moreover, it is sometimes communicated unintentionally (or *non-ostensively*, to use the relevance theoretic term – see Wharton and Strey 2019). Thus far, these findings from pragmatics have had absolutely zero effect on studies on the acquisition of affective prosody. Cruttenden's studies on affective meaning (1985) were built on the assumption that fall-rise tones are associated with "reservation". As we have seen, accounts based on such precise, one-to-one mappings are inadequate.

I have proposed that both the natural and linguistic elements of prosody that *do* encode information, encode procedural meaning. The function of these procedures is to facilitate the retrieval of a range of speech-act or propositional-attitude descriptions associated with expressions of surprise or delight. These in turn might be narrowed in context by information derived from prosody, facial expressions, background assumptions, discourse context etc., and contribute to the speaker's meaning in the regular way, by falling under the relevance-theoretic comprehension procedure.

In a recent paper that explores the past, present and future of procedural meaning, Wilson (2011) discusses how it was originally thought that the purpose of procedural meaning was to make inferential communication easier: to guide the hearer's path toward the intended interpretation. However, building on Sperber et al.'s (2010) work on "epistemic vigilance" (Sperber 2001), the range of cognitive strategies by which hearers avoid being either accidentally or intentionally misinformed, she proposes instead that their function is to "yield intuitions about evidential relations, and form part of the capacity for epistemic vigilance directed at the content of communicated information" (Wilson 2011: 7). So rather than expediting inferential communication by making it easier, procedural expressions activate domain-specific procedures in modules associated with communication, among them mind reading and emotion reading.

Crucially, these emotion-reading programs and procedures are sub-attentive and *unintentional* (Lieberman 2000), and will play a role in communication whether it is ostensive or non-ostensive. The procedural information encoded by linguistic expressives, interjections, facial expressions or tone of voice puts the user into a state in which emotional procedures are highly activated, and are therefore much more likely to be recognised and selected by an audience using the relevance-theoretic comprehension procedure.

In recent work, Dezecache, Mercier and Scott-Phillips (2013) have argued for a notion of "emotional vigilance" related to, but not entirely parallel with, epis-

temic vigilance. According to them “receivers are endowed with a suite of mechanisms designed to modulate their responses to emotional signals” (2013: 6). These mechanisms are non-ostensive and work at an unconscious level. They concede that a full analysis of precisely what emotional vigilance mechanisms involve is beyond the scope of their paper. Part of the answer, however, will involve a deeper understanding of not only the relationship between ostensive and non-ostensive communication, but also the relationship between decoding and inference in the way we read the emotions of others (see Wharton and de Saussure [forthcoming]).

The code model of communication works fine in the case of the honeybee. The stimulus produced by the dancing bee is the signal that encodes the message. The cognitive or affective state activated in the receiving animal is the decoded message. Of course, the encoding and decoding processes that govern the dance and its interpretation are automatic. They occur without either the sending or receiving animal consciously recognising that the signal means anything, and are similar to perceptual processes in that respect.

In one sense, human natural codes are the same. We read affective prosody automatically: it activates in us a particular mental or emotional state that correlates with the mental or emotional state of the communicator. But in another, crucial, sense, they are not. We not only read affective prosody automatically, but we reflect on its content too; moreover, we know that others can reflect on it too. As a result, when natural coded behaviours are put to use in ostensive-inferential communication, the automatic decoding processes that govern their interpretation are supplemented by other equally specialised and automatic processes: the inferential processes that govern the interpretation of ostensive stimuli.

What happens when epistemic meets emotional vigilance? We should not forget that the hearer’s weighing up of a speaker’s testimony – checking for coherence (Mercier 2012), evaluating communicated information in the context of background beliefs and deciding whether it is convincing and persuasive – plays out against the backdrop of other, unconscious, intuitive and emotional processes. Few would deny that sometimes we are at least swayed by how persuasive someone *sounds*. After all, an otherwise persuasive argument can lose its force when uttered in a faltering, hesitant tone of voice. History has shown that the emotional commitment of an orator, conveyed by the tone of voice and other paralinguistic cues she uses, plays a huge role in their audience being persuaded (see also Oswald, Maillat and de Saussure 2016). This discussion takes us a long way from the acquisition of prosody, but if the distinctions are important to accounts of how different types of prosody are interpreted, they are important to accounts of how prosody is acquired. Evidence from developmental experiments (Fitneva and Matsui 2009; Mascaro and Sperber 2009) suggests, for example, that the procedures responsible for children’s monitoring of how authoritative or reliable a speaker is starts very early in life.

6. Conclusion

At the end of Wharton (2014), I suggest how some of the insights in the recent pragmatic literature on prosodic meaning might be brought to bear on analyses of lexical acquisition. In current paradigms, acquisition experiments do not recognise the sign–signal distinction, and potentially interesting questions are overlooked. Can the ability to interpret natural signals be impaired independently of other parts of the mind-reading ability? It would also be informative to see whether the fact that a natural cue is used ostensively or non-ostensively would make any difference in a word-learning task.

What about *prosodic* acquisition? The distinctions I was discussing in Wharton (2014) are the same, but the subject is so different that it's not easy to see how experiments taking them into account might be designed. The prediction that some natural elements of prosody are governed by innately-specified codes, interpreted by specialised neural machinery, is a testable hypothesis. Moreover, while most work in the acquisition of prosody focuses on prosodic differences between languages, it predicts a degree of universality. As for how that meshes with the expression and recognition of emotion, I suggest that a more nuanced approach to what emotions are is required (see Cosmides and Tooby 2000; Dezecache, Mercier and Scott-Phillips 2013; Dezecache et al. 2013). How the unintentional, non-ostensive dimension of emotional communication interacts with the ostensive one is a complex question. But I can't believe that simply ignoring the question of intentionality (see Kendon 2005; Balog and Brentari 2008) is the right strategy, either in an L1 or L2 context.

It's a complex picture and, at the moment, perhaps less positive than the one that has emerged in work on prosodic meaning over the past twenty years. But there are pluses. Firstly, the chapters in this volume demonstrate that researchers working in pragmatics are committed to developing a clearer understanding of how pragmatic abilities develop. According to Sperber (1994) (see also Wilson 2000, Sperber et al. 2010) expectations of relevance created during the comprehension process may be underpinned by strategies that vary in sophistication according to how many levels of metarepresentation they require. At a relatively early stage in their development, the child adopting a strategy of "Naïve Optimism" will follow a path of least effort and accept the first interpretation they find relevant enough. Such children, however, will fail in cases requiring more sophisticated strategies: for example, where the speaker is mistaken about what they will find relevant enough ("Cautious Optimism"), or is engaged in some forms of deceit ("Sophisticated Understanding"). Typically, children become capable of Cautious Optimism (and hence of adjusting their interpretations to take account of the speaker's mistaken beliefs) at around the same time as they pass standard first-order belief tests. Accounts of prosodic acquisition need to be integrated within this work. Just how does prosodic development fit with general pragmatic development (see Zufferey,

this volume), or the acquisition of speech acts, or interactional competence, or irony (see Casillas and Hilbrink; Wilson, this volume)?

Secondly, since the publication of Noveck and Sperber (2004), there has been something of a boom in research looking at pragmatic issues from an experimental perspective. We now know a great deal about some of the developmental stages children go through on the way to being capable of engaging in full-blown intentional communication (Liebal et al. 2009; Moll et al. 2008; Song et al. 2008; Southgate, Senju and Csibra 2008). I am unaware as yet of any that focuses specifically on prosodic acquisition (in L1 or L2), but hope that some of the issues raised in this paper may encourage researchers to undertake such a programme.

Acknowledgements

I would like to thank Billy Clark, Pauline Madella, Kate Scott and three anonymous reviewers for insightful comments on earlier versions of this paper.

References

- Akhtar, Nameera, Malinda Carpenter and Michael Tomasello
 1996 The role of discourse novelty in children's early word learning. *Child Development* 67: 635–645.
- Ariel, Mira
 1990 *Accessing Noun Phrase Antecedents*. London: Routledge.
- Ariel, Mira
 2001 Accessibility theory: An overview. In: Ted Sanders, Joost Schliperoord and Wilbert Spooren (eds.), *Text representation: Linguistic and psycholinguistic aspects*, 29–87. Amsterdam: John Benjamins.
- Balog, Heather
 2012 Early prosodic production: Pragmatic and acoustic analyses for L2 language learners. In: Jesús Romero Trillo (ed.), *Pragmatics and Prosody in English Language Teaching*, 133–146. London: Springer.
- Balog, Heather and Diane Brentari
 2008 The relationship between early gestures and intonation. *First Language* 28: 141–163.
- Balog, Heather, Felicia Roberts and David Snow
 2009 Discourse and intonation development in the first-word period. *Enfance* 3: 293–304.
- Barkow, Jerome H., Leda Cosmides and John Tooby
 1995 *The Adapted Mind: Psychology and the Generation of Culture*. Oxford: Oxford University Press.
- Baron-Cohen, Simon
 1995 *Mindblindness: An Essay on Autism and Theory of Mind*. Cambridge MA: MIT Press.

- Barth-Weingarten, Dagmar, Nicole Dehé and Anne Wichmann (eds.)
2009 *Where Prosody Meets Pragmatics*. Bingley: Emerald.
- Beach, Cheryl, William Katz and Aire Skowronski
1996 Children's processing of prosodic cues for phrasal interpretation. *Journal of Acoustical Society of America* 99: 1148–1160.
- Blakemore, Diane
1987 *Semantic Constraints on Relevance*. Oxford: Blackwell.
- Blakemore, Diane
2002 *Relevance and Linguistic Meaning*. Cambridge: Cambridge University Press.
- Bloom, Lois
1994 Meaning and expression. In: Willis F. Overton and David S. Palermo (eds.), *The Ontogenesis of Meaning*, 215–235. Hillsdale, NJ: Erlbaum.
- Bloom, Paul
2000 *How Children Learn the Meanings of Words*. Boston, MA: MIT Press.
- Bloom, Paul
2001 Précis of 'How Children Learn the Meanings of Words'. *Behavioral and Brain Sciences* 24(6): 1095–1103.
- Bloom, Paul
2002 Mindreading, communication and the learning of names for things. *Mind and Language* 17: 37–54.
- Bolinger, Dwight
1964 Around the edge of language: Intonation. *Harvard Educational Review* 34: 282–296.
- Bolinger, Dwight
1983a The inherent iconism of intonation. In: John Haiman (ed.), *Iconicity in Syntax*, 97–109. Amsterdam: John Benjamins.
- Bolinger, Dwight
1983b Where does intonation belong? *Journal of Semantics* 2: 101–120.
- Brazil, David
1975 *The Communicative Value of Intonation in English*. Birmingham: University of Birmingham.
- Carston, Robyn
2002 *Thoughts and Utterances: The Pragmatics of Explicit Communication*. Oxford: Blackwell.
- Chen, Aojun and Carlos Gussenhoven
2003 Language-dependence in signalling of attitude in speech. In: Noriko Suzuki and Christoph Bartneck (eds.), *Proceedings of the Workshop on Subtle Expressivity for Characters and Robots, CHI 2003 Conference on Human Factors in Computing Systems*. Fort Lauderdale, FL.
- Chevallier, Coralie, Ira Noveck, Francesca Happé and Deirdre Wilson
2009 From acoustics to grammar: Perceiving linguistic prosody in adolescents with Asperger Syndrome. *Research in Autism Spectrum Disorders* 3: 502–516.
- Clark, Billy
2007 Blazing a trail: Moving from natural to linguistic meaning in accounting for the tones of English. In: Randi Nilsen, Nana Appiah Amfo and Kaja Borthen (eds.), *Interpreting Utterances: Pragmatics and its Interfaces*, 69–81. (Essays in Honour of Thorstein Fretheim.) Oslo: Novus.

- Clark, Billy
2012 The relevance of tones: Prosodic meanings in utterance interpretation and in relevance theory. *The Linguistic Review* 29(4): 643–661.
- Clark, Billy
2013 Procedures and prosody: Understanding weak communication. In: Frank Liedtke, Cornelia Schulze and Julia Protze (eds.), *Beyond The Words: Content, Context and Inference*, 151–182. Berlin: Mouton de Gruyter.
- Clark, Billy and Geoff Lindsey
1990 Intonation, grammar and utterance interpretation. *University College London Working Papers in Linguistics* 2: 32–51.
- Cosmides, Leda and John Tooby
2000 Evolutionary psychology and the emotions. In: Michael Lewis and Jeanette Haviland Jones (eds.), *Handbook of Emotions*, 91–115. New York: Guilford.
- Cruttenden, Alan
1985 Intonation comprehension in ten-year-olds. *Journal of Child Language* 12: 643–661.
- Crystal, David
1986 Prosodic development. In: Paul Fletcher and Michael Garman (eds.), *Language Acquisition: Studies in First Language Development*. Cambridge: Cambridge University Press.
- Curtin, Suzanne
2009 Twelve-month-olds learn novel word-object pairings differing only in stress pattern. *Journal of Child Language* 36: 1157–1165.
- Curtin, Suzanne
2010 Young infants encode lexical stress in newly encountered words. *Journal of Experimental Child Psychology* 105: 376–385.
- Davis, Barbara, Peter MacNeilage, Christine Matyear and Julia Powell
2000 Prosodic correlates of stress in babbling: An acoustical study. *Child Development* 71: 1258–1270.
- Dezecache, Guillaume, Laurence Conty, Michèle Chadwick, Léonor Philip, Robert Soussignan and Dan Sperber
2013 Evidence for unintentional emotional contagion beyond dyads. *PLoS ONE* 8 (6): e67371.
- Dezecache, Guillaume, Hugo Mercier and Thomas C. Scott-Phillips
2013 An evolutionary approach to emotional communication. *Journal of Pragmatics* 59: 221–233.
- Eimas, Peter, Einar Siqueland, Peter Jusczyk and James Vigorito
1971 Speech perception in infants. *Science* 171(3968): 303–306.
- Ekman, Paul
1989 The argument and evidence about universals in facial expressions of emotion. In: Hugh Wagner and Anthony Manstead (eds.), *Handbook of Social Psychophysiology*, 143–164. New York: Wiley.
- Ekman, Paul
1992 An argument for basic emotion. *Cognition and Emotion* 6 (3/4): 169–200.
- Ekman, Paul
1999 Emotional and conversational nonverbal signals. In: Lynn Messing and Ruth Campbell (eds.), *Gesture, Speech and Sign*, 45–57. Oxford: Oxford University Press.

- Engstrand, Olle, Karen Williams and Francisco Lacerda
 2003 Does babbling sound native? Listeners' responses to vocalizations produced by Swedish and American 12- and 18-month-olds. *Phonetica* 60: 17–44.
- Escandell-Vidal, Victoria
 1998 Intonation and procedural encoding: The case of Spanish interrogatives. In: Vili Rouchota and Andreas Jucker (eds.), *Current Issues in Relevance Theory*, 169–203. Amsterdam: John Benjamins.
- Farroni, Teresa, Enrica Menon, Silvia Rigato and Mark Johnson
 2007 The perception of facial expressions on newborns. *The European Journal of Developmental Psychology* 4(1): 2–13.
- Fitneva, Stanka and Tomoko Matsui
 2009 Knowing how we know: Evidentiality and cognitive development. *New Directions for Child and Adolescent Development* 125: 1–11.
- Flax, Judy, Margaret Lahey, Katherine Harris and Arthur Boothroyd
 1991 Relations between prosodic variables and communicative functions. *Journal of Child Language* 18: 3–19.
- Fretheim, Thorstein
 2002 Intonation as a constraint on inferential processing. In: Bernard Bel and Isabelle Marlien (eds.), *Speech Prosody 2002: Proceedings of the First International Conference on Speech Prosody*, 59–64. Aix-en-Provence: Université de Provence, Laboratoire Parole et Langage.
- Fridlund, Alan
 1994 *Human Facial Expression: An Evolutionary View*. San Diego: Academic Press.
- Galligan, Roslyn
 1987 Intonation with single words: Purposive and grammatical use. *Journal of Child Language* 14: 1–21.
- Gazzaniga, Michael and Charlotte Smylie
 1990 Hemispheric mechanisms controlling voluntary and spontaneous facial expressions. *Journal of Cognitive Neuroscience* 2: 239–245.
- Grice, H. Paul
 1957 Meaning. *Philosophical Review* 66: 377–388. Reprinted in Grice 1989: 213–223.
- Grice, H. Paul
 1967 *William James Lectures: I – VII*. Original typescripts.
- Grice, H. Paul
 1989 *Studies in the Way of Words*. Cambridge MA: Harvard University Press.
- Gundel, Jeanette K., Nancy Hedberg and Ron Zacharski
 1993 Cognitive status and the form of referring expressions in discourse. *Language* 69(2): 274–307.
- Gundel, Jeanette K.
 2010 Reference and accessibility from a Givenness Hierarchy perspective. *International Review of Pragmatics* 2(2): 148–168.
- Gussenhoven, Carlos
 1984 *On the Grammar and Semantics of Sentence Accents*. Dordrecht: Foris.
- Gussenhoven, Carlos
 2002 Intonation and interpretation: Phonetics and phonology. In: Bernard Bel and Isabelle Marlien (eds.), *Speech Prosody 2002: Proceedings of the First Inter-*

- national Conference on Speech Prosody*, 47–57. Aix-en-Provence: Université de Provence, Laboratoire Parole et Langage.
- Gussenhoven, Carlos
2004 *The Phonology of Tone and Intonation*. Cambridge: Cambridge University Press.
- Gussenhoven, Carlos
2006 Semantics of prosody. In: Keith Brown (ed.), *Encyclopedia of Language and Linguistics* (2nd edition), Volume 11, 170–172. Boston: Elsevier.
- Hall, Alison
2007 Do discourse connectives encode concepts or procedures? *Lingua* 117: 149–174.
- Halliday, Michael
1963 *Explorations in the Function of Language*. London: Arnold.
- Halliday, Michael
1967 *Intonation and Grammar in British English*. The Hague: Mouton.
- Halliday, Michael
1975 *Learning How to Mean: Explorations in the Development of Language*. London: Edward Arnold.
- Hauser, Marc
1996 *The Evolution of Communication*. Cambridge, MA: MIT Press.
- Hirschberg, Julia and Greg Ward
1995 The interpretation of the high-rise question contour in English. *Journal of Pragmatics* 24: 407–412.
- Hirschfeld, Lawrence and Susan Gelman (eds.)
1994 *Mapping the Mind: Domain Specificity in Cognition and Culture*. Cambridge: Cambridge University Press.
- Holowka, Siobhan and Laura Ann Petitto
2002 Left hemisphere cerebral specialization for babies while babbling. *Science* 297: 1515.
- Hooff, Jan van
1972 A comparative approach to the phylogeny of laughter and smiling. In: Robert A. Hinde (ed.), *Non-verbal Communication*, 209–238. Cambridge: Cambridge University Press.
- House, Jill
1990 Intonation structures and pragmatic interpretation. In: Susan Ramsaran (ed.), *Studies in the Pronunciation of English*, 38–57. London: Routledge.
- House, Jill
2006 Constructing a context with intonation. *Journal of Pragmatics* 38(10): 1542–1558.
- House, Jill
2007 The role of prosody in constraining context selection: A procedural approach. *Nouveaux Cahiers de Linguistique Française* 28: 369–383.
- House, Jill
2009 Prosody and context selection: A procedural approach. In: Dagmar Barth-Weingarten, Nicole Dehé and Anne Wichmann (eds.), *Where Prosody Meets Pragmatics*, 129–142. Bingley: Emerald.
- Ifantidou, Elly
2014 *Pragmatic Competence and Relevance*. Amsterdam: John Benjamins.

- Imai, Kunihiko
1998 Intonation and relevance. In: Robyn Carston and Seiji Uchida (eds.), *Relevance Theory: Applications and Implications*, 69–86. Amsterdam: John Benjamins.
- Jusczyk, Peter, Anne Cutler and Nancy Redanz
1993 Preference for the predominant stress patterns of English words. *Child Development* 64: 675–687.
- Kehoe, Margaret
2013 *The Development of Prosody and Prosodic Structure*. New York: Nova Science Publishers.
- Kendon, Adam
2004 *Gesture: Visible Action as Utterance*. Cambridge: Cambridge University Press.
- König, Ekkehard
1991 *The Meaning of Focus Particles: A Comparative Perspective*. London: Routledge.
- Ladd, Robert
1978 *The Structure of Intonational Meaning*. London: Indiana University Press.
- Ladd, Robert
1996 *Intonational Phonology*. Cambridge: Cambridge University Press.
- Levitt, Andrea
1993 The acquisition of prosody: Evidence from French- and English-learning infants. *Haskins Laboratories Status Report on Speech Research* SR-113: 41–50.
- Liebal, Kristin, Tanya Behne, Malinda Carpenter and Michael Tomasello
2009 Infants use shared experience to interpret pointing gestures. *Developmental Science* 12(2): 264–271.
- Lieberman, Matthew
2000 Intuition: A social-cognitive neuroscience approach. *Psychological Bulletin* 126: 109–137.
- Local, John
1980 Modelling intonational variability in children's speech. In: Suzanne Romaine (ed.), *Sociolinguistic Variation in Speech Communities*, 85–103. London: Edward Arnold.
- Madella, Pauline
2017 Prosodic pointing and gesture: Multi-modality in action. Paper presented at the *Beyond Meaning* conference, National and Kapodistrian University of Athens, Greece.
- McCann, Joanne and Susan Peppé
2003 Prosody in autism spectrum disorders: A critical review. *International Journal of Language and Communication Disorders* 38: 325–350.
- McNeill, David
1992 *Hand and Mind: What Gestures Reveal about Thought*. Chicago: University of Chicago Press.
- Mehler, Jacques, Peter Jusczyk, Ghislaine Lambertz, Nilofar Halsted, Josiane Bertoncini and Claudine Amiel-Tison
1988 A precursor of language acquisition in young infants. *Cognition* 29: 143–178.

- Moll, Henrike, Nadja Richter, Melinda Carpenter and Michael Tomasello
2008 Fourteen-month-olds know what 'we' have shared in a special way. *Infancy* 13 (1): 90–101.
- Moon, Christine, Hugo Lagercrantz and Patricia Kuhl
2013 Language experienced in utero affects vowel perception after birth: A two-country study. *Acta Paediatrica* 102: 156–160.
- Nadeu, Marianna and Pilar Prieto
2011 Pitch range, gestural information, and perceived politeness in Catalan. *Journal of Pragmatics* 43(3): 841–854.
- Noveck, Ira and Dan Sperber (eds.)
2004 *Experimental Pragmatics*. Abingdon: Palgrave Macmillan.
- O'Connor, Joseph and Gordon Arnold
1973 *Intonation of Colloquial English*. Harlow: Longman.
- Origg, Gloria and Dan Sperber
2000 Evolution, communication and the proper function of language. In: Peter Carruthers and Andrew Chamberlain (eds.), *Evolution and the Human Mind: Modularity, Language and Meta-Cognition*, 140–169. New York: Cambridge University Press.
- Oswald, Steve, Didier Maillat and Louis de Saussure
2016 Deceptive and uncooperative verbal communication. In: Andrea Rocci and Louis de Saussure (eds.), *Verbal Communication*, 509–534. Berlin: Mouton de Gruyter.
- Partanen, Eino, Teija Kujala, Risto Näätänen, Auli Liitola, Anke Sambeth and Minna Huottilainen
2013 Learning-induced neural plasticity of speech processing before birth. *Proceedings of the National Academy of Sciences* 10 (37): 15145–15150.
- Pell, Marc
2002 Surveying emotional prosody in the brain. In: Bernard Bel and Isabelle Marlien (eds.), *Speech Prosody 2002: Proceedings of the First International Conference on Speech Prosody*, 77–82. Aix-en-Provence: Université de Provence, Laboratoire Parole et Langage.
- Peppé, Susan
2009 Why is prosody in speech-language pathology so difficult? *International Journal of Speech-Language Pathology* 11: 258–271.
- Peppé, Susan, Joanne McCann, Fiona Gibbon, Anne O'Hare and Marion Rutherford
2007 Receptive and expressive prosodic ability in children with high-functioning autism. *Journal of Speech, Language and Hearing Research* 50: 1015–1028.
- Peppé, Susan and Bill Wells
2014 Speech prosody. In: Patricia J. Brooks and Vera Kempe (eds.), *Encyclopedia of Language Development*, 584–590. Thousand Oaks, CA: Sage Publications.
- Phillips, Roger D., Sheldon H. Wagner, Catherine A. Fells, and Michael Lynch
1990 Do infants recognise emotion in facial expressions? Categorical and "metaphorical" evidence. *Infant Behavior and Development* 13: 71–84.
- Pierrehumbert, Janet and Julia Hirschberg
1990 The meaning of intonational contours in the interpretation of discourse. In: Philip Cohen, Jerry Morgan and Martha Pollack (eds.), *Intentions in Communication*, 271–311. Cambridge, MA: MIT Press.

Sag, Ivan and Mark Liberman

- 1975 The intonational disambiguation of indirect speech acts. In: Robin E. Grossman, L. James San and Timothy J. Vance (eds.), *Papers from the Eleventh Regional Meeting of the Chicago Linguistics Society*, 487–497. Chicago: Chicago Linguistics Society.

Scheuer, Jann

- 1995 Relevance and prosody in spoken Danish. *Journal of Pragmatics* 23: 421–447.

Scollon, Ron

- 1976 *Conversations with a One Year Old: A Case Study of the Developmental Foundation of Syntax*. Honolulu: The University Press of Hawaii.

Scott, Kate

- 2017 Prosody, procedures and pragmatics. In: Ilse Depraetere and Raphael Salkie (eds.), *Semantics and Pragmatics: Drawing a Line*, 323–341. Springer International Publishing.

Snow, David

- 2006 Regression and reorganization of intonation between 6 months and 23 months. *Child Development* 77: 281–296.

Snow, David and Heather Balog

- 2002 Do children produce the melody before the words? A review of developmental intonation research. *Lingua* 112: 1025–1058.

Soderstrom, Melanie, Amanda Seidl, Deborah Kelmer Nelson and Peter Jusczyk

- 2003 The prosodic bootstrapping of phrases: Evidence from prelinguistic infants. *Journal of Memory and Language* 49: 249–267.

Song, Hyun-joo, Kristine Onishi, Renée Baillargeon and Cynthia Fisher

- 2008 Can an actor's false belief be corrected by an appropriate communication? Psychological reasoning in 18.5-month-old infants. *Cognition* 109: 295–315.

Southgate, Victoria, Atsushi Senju and Gergely Csibra

- 2007 Action anticipation through attribution of false belief by 2-year-olds. *Psychological Science* 7: 587–592.

Speer, Shari and Kiwako Ito

- 2009 Prosody in first language acquisition: Acquiring intonation as a tool to organize information in communication. *Language and Linguistics Compass* 3(1): 90–110.

Sperber, Dan

- 1994 Understanding verbal understanding. In: Jean Khalifa (ed.), *What is Intelligence?* 179–198. Cambridge: Cambridge University Press.

Sperber, Dan

- 1996 *Explaining Culture: A Naturalistic Approach*. Blackwell: Oxford.

Sperber, Dan

- 2001 An evolutionary perspective on testimony and argumentation. *Philosophical Topics* 29: 401–413.

Sperber, Dan

- 2002 In defense of massive modularity. In: Emmanuel Dupoux (ed.), *Language, Brain and Cognitive Development: Essays in Honor of Jacques Mehler*, 47–57. Cambridge, MA: MIT Press.

- Sperber, Dan
2007 Seedless grapes: Nature and culture. In: Stephen Laurence and Eric Margolis (eds.), *Creations of the Mind: Theories of Artifacts and their Representation*, 124–137. Oxford: Oxford University Press.
- Sperber, Dan and Deirdre Wilson
1995 [1986] *Relevance: Communication and Cognition* (2nd edition). Oxford: Blackwell.
- Sperber, Dan, Fabrice Clément, Christophe Heintz, Olivier Mascaro, Hugo Mercier, Gloria Origgi and Deirdre Wilson
2010 Epistemic vigilance. *Mind and Language* 25: 359–393.
- Thagard, Paul
2005 *Mind: Introduction to Cognitive Science*. Cambridge, MA: MIT Press.
- Vandepitte, Sophie
1989 A pragmatic function of intonation. *Lingua* 79: 265–297.
- Vihman, Marilyn
1996 *Phonological Development: The Origins of Language in the Child*. Oxford: Blackwell.
- Walker-Andrews, Arlene
1998 Emotions and social development: Infants' recognition of emotions in others. *Pediatrics* 102: 1268–1271.
- Ward, Gregory and Julia Hirschberg
1988 Intonation and propositional attitude: The pragmatics of L*+H L H%. In: Joyce Powers and Kenneth de Jong (eds.), *Proceedings of the Fifth Eastern States Conference on Linguistics*, 512–522. Columbus: Ohio State University Press.
- Wells, Bill, Susan Peppé and Nata Goulandris
2004 Intonation development from five to thirteen. *Journal of Child Language* 31: 749–778.
- Wells, Bill, Sue Peppé and Maggie Vance
1995 Linguistic assessment of prosody. In: Kim Grundy (ed.), *Linguistics in Clinical Practice*, 234–267. London: Whurr.
- Wharton, Tim
2003 Interjections, language, and the 'showing/saying' continuum. *Pragmatics and Cognition* 11(1): 39–91.
- Wharton, Tim
2008 Meaning and showing: Gricean intentions and relevance theoretic intentions. *Intercultural Pragmatics* 5(2): 131–152.
- Wharton, Tim
2009 *Pragmatics and Non-Verbal Communication*. Cambridge: Cambridge University Press.
- Wharton, Tim
2012 Pragmatics and prosody. In: Keith Allen and Kasia Jaszczołt (eds.), *The Cambridge Handbook of Pragmatics*, 567–584. Cambridge: Cambridge University Press.
- Wharton, Tim
2014 What words mean is a matter of what people mean by them. *Linguagem em (Dis)curso* 14(3): 473–488.

Wharton, Tim and Claudia Strey

- 2019 Slave to the passions: Making emotions relevant. In: Kate Scott, Billy Clark and Robyn Carston (eds.), *Relevance, Pragmatics and Interpretation*, 253–267. Cambridge: Cambridge University Press.

Wharton, Tim and Louis de Saussure

- (forthcoming) The pragmatics of emotion: Love, argument, conflict. In: Gesine Schiewer, Jeanette Altarriba and Bee Chin Ng (eds.), *Language and Emotion: An International Handbook*. Berlin: De Gruyter Mouton.

Wichmann, Anne

- 2002 Attitudinal intonation and the inferential process. In: Bernard Bel and Isabelle Marlien (eds.), *Speech Prosody 2002: Proceedings of the First International Conference on Speech Prosody*, 11–16. Aix-en-Provence: Université de Provence, Laboratoire Parole et Langage.

Wilson, Deirdre

- 2010 Metarepresentation in linguistic communication. In: Dan Sperber (ed.), *Meta-representations: A Multidisciplinary Perspective*, 411–448. Oxford: Oxford University Press.

Wilson, Deirdre

- 2011 The conceptual–procedural distinction: Past, present and future. In: Vicky Escandell, Manuel Leonetti and Aoife Ahern (eds.), *Procedural Meaning: Problems and Perspectives*, 3–31. Bingley: Emerald.

Wilson, Deirdre and Dan Sperber

- 1993 Linguistic form and relevance. *Lingua* 90(1): 1–25.

Wilson, Deirdre and Dan Sperber

- 2002 Truthfulness and relevance. *Mind* 111: 583–632.

Wilson, Deirdre and Tim Wharton

- 2006 Relevance and prosody. *Journal of Pragmatics* 38: 1559–1579.

8. Pragmatic development in the (middle and) later stages of life

Annette Gerstenberg

Abstract: Age-related factors are not a very prominent topic in pragmatic research, yet there are many approaches that show how such questions can be productively addressed. The article begins by providing an overview of relevant theories and models from the fields of discourse (accommodation theory), language change and sociolinguistics, as well as from the neighboring fields of variational pragmatics and corpus pragmatics. Furthermore, in the sense of “lifespan pragmatics”, social roles of middle and higher adulthood, related questions of identity and the challenges of old age are presented. For older age, a separate section describes how the psycholinguistic theory of compensation can be applied to re-understand how the individual use of language continues to be adaptive until old age. The areas of gestures and prosody show the need to take possible physiological and cognitive changes into account. Related phenomena as pauses, interruptions and fillers are often labeled with the negatively connotated term disfluencies. Here, pragmatic research can contribute to a better understanding of communicative functions and adaptive abilities in later life.

1. Introduction

Age issues are rarely dealt with in linguistic pragmatics. If “adult speakers” are presented, there is often no indication of their age. Due to the authors’ silence concerning the age of the persons cited in their research articles, one could come to the conclusion that their age, probably somewhere between 30 and 60, is simply considered by the researchers as “normal” (as the age of the researchers themselves, which often also falls within this age span, is equally seen as “normal”). “As a result, adulthood has been seen as a target for development, a target which other life stages should aspire to linguistically”, as Murphy (2010: 10) states. The same is true, to a lesser extent, for the variable “sex”. In order to give some first evidence for these observations, we refer only to the seminal textbook by Levinson (1983). Neither *age*, nor *sex/gender*, *man/woman* entries are listed in the index. Concerned more directly with socio-pragmatic features, Brown and Levinson’s work on politeness (1987) comprises several entries for *gender*, *genderlect*, *women’s speech*, *men’s speech*, with about 20 references. By contrast there is only one entry for *age*, referring to language acquisition. The fact that sociolinguistic factors, among them the variable age, have been widely neglected, has been iden-

<https://doi.org/10.1515/9783110431056-008>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 209–234. Berlin/Boston: De Gruyter Mouton.

tified as the subject of variational pragmatics, which is “the study of intra-lingual macro-social variation”; in some aspects, it is a field of research that has developed in parallel to what is labeled as socio-pragmatics (Schneider 2010: 250; 256).

From 1979 onwards, the *Journal of Pragmatics* has published some studies concerned with age questions. Most predominantly, more than 60 articles featured early age as a topic. When interactions between children and adults were under examination (as was the case in roughly a dozen articles), there was a significant discrepancy in the importance of the participants’ age. While the age of the children was regularly detailed, their respective mothers, fathers, grandmothers, grandfathers, caregivers or teachers appeared completely ageless. In some cases, even the sex of the interacting “adults” is not specified (e. g., Meng and Schrabback 1999). Due to the scarcity of research on age-related topics in pragmatics, we chose a systematic rather than a strictly age-related approach. Instead of sketching pragmatic features in early, middle and late adulthood, the most dynamic domains of age-related research in linguistic pragmatics will be presented.

In a first step, key theories and methods of age-related pragmatic research are outlined (section 2). In the third section, basic questions of what could be called “lifespan pragmatics” are explored and different life stages and lifespan developments are touched upon (section 3). The fourth section is dedicated to compensation theory, and a proposal to apply this psychological concept to issues in linguistic pragmatics (section 4), before we formulate some concluding remarks (section 5).

2. Theories and methods

2.1. Accommodation theory

In the early stages of linguistic aging research, competences, and their decline, were the main focus. Since the 1980s, the communicative dimension, and also the quality of communication and the impact of “attitudes and modified communication directed toward the aged”, with special regard to the possibly negative effects of self-fulfilling negative expectations, received increased attention (“communication predicament of aging”, Ryan et al. 1986: 2; 6). In the ongoing development of these approaches, increased attention was paid not only to behaviors toward older speakers, but to both sides of intergenerational encounters (Heinrichsmeier 2019). These developments were also meant to contribute to the fields of social work, administration and the formation of students in health sciences (Coupland et al. 1988: 35).

In the framework of Speech Accommodation Theory (SAT), phenomena identified as Painful Self-Disclosure (PSD) were analyzed by the authors as a result of stereotyped assumptions (Coupland et al. 1988: 5). The interactional

embedding of PSD has been observed to be of importance when the painful event was re-framed and recounted in a humorous manner by older Japanese women (Matsumoto 2009: 945). The use of PSD and other strategies as a resource in interaction has to be considered in the context of the underlying cultural norms and values. PSD can be considered as the reaction of an addressee to a perceived weaker position (Matsumoto 2019). The activation of presuppositions concerning the “weakness” of older persons was shown to be exploited as an efficient strategy, e. g., to get economic advantages (customers’ hotline, see Schnieders 2003: 128).

The behavior of a person who is in a perceived stronger position can be characterized as being patronizing. Following Ryan, Hummert and Boich (1995: 145; 147), it is a form of over-accommodation, guided by stereotypes of older adults’ weakness (emotional instability, dependency, cognitive decline, hearing deficit) – and at the same time a form of under-accommodation, when the actual needs of the addressee are not respected (as described in Sachweh 2003: 159).

Patronizing speech is an important issue in care institutions (Georgakopoulou and Charalambidou 2011: 40). Communication with older nursing home residents using a (secondary) “baby talk” or “elder-speak” has been described as a technique of making the residents acquiesce in the institution’s daily life, its vocal patterns being marked by prosodic phenomena such as high pitch and high pitch variety (Caporalet 1981: 883). Appropriate stress patterns have been shown to create positive effects in the communication with older persons (Cohen and Faulkner 1986: 97). While the studies on elder-speak of the late 20th century focused mainly on its negative, patronizing aspects, a new direction of research has highlighted the communicative functions of the related strategies as contributing to the creation of socially meaningful exchanges between care receivers and care givers. This new direction and increased attention on the positive effects of elder-speak sheds new light on the topic, emphasizing the level of solidarity rather than the manifestation of the level of power (Marsden and Holmes 2014: 20; 30).

2.2. Apparent time and age-grading

In theories of language change, age-grading refers to the individual linguistic behavior in contrast to communal change and generational change (Labov 1994: 84; 111–112); it has been discussed widely in the sociolinguistic literature on developments over the lifespan (Gerstenberg and Voeste 2015; Buchstaller and Wagner 2017). So called “pragmatic variables” can indicate real-time change and intergenerational variation (Schneider and Barron 2008: 12). The notion of a variable in pragmatics covers a wide range of linguistic features used to realize speech acts, such as the opening of a conversation, or the different functions of a discourse marker: they differ between different age groups (Schneider 2010: 251–252). Another important level of analysis is the perceived need for formality;

shifts in speech styles concern the definition of a situation as formal, which can vary between age groups (Helfrich 1979: 73).

To understand the dynamics in language change at the level of pragmatics, cultural changes (linked to economic and social changes) have to be taken into account. The transition from a formerly rural society, accompanied by a higher level of education, affects the relations of respect and family hierarchies – and their linguistic manifestations, e. g., in terms of address (for Romania, see Sfirlea 1989: 204). The very definition of generation may include not only the notion of age group, but also its historical experience expressed in emblematic labels as “the generation of 68” (Gerstenberg 2015a).

The term age-grading was introduced into linguistic theory by applying anthropologists’ observations that different age groups within a community are marked by the differentiation of economic function and ceremonial activity (Hockett 1950: 453). What this can mean in linguistic biographies has been defined as a “coming-of-age ritual”, as a “linguistic retrenchment” in adolescence (Chambers 2004: 358–360). Concerning old age, the concept of age-grading has not been applied consistently, even if in some approaches the idea of a *relâchement*, a more “relaxed” speech in old age, at the moment of retirement, has been formulated (Gadet 2003: 55). Linguistic norms are respected, negotiated or neglected with regard to the social expectations addressed to the different age groups within social communities. The notion of age-grading is traditionally also a function of biological age, e.g. marked by the end of reproductivity (Mattheier 1987: 81). This applies equally to the development of pragmatic competences over the lifespan; some of them may be related to cognitive or somatic factors of biological age, as in childhood (see Zufferey, this volume) and in old age. But not only biological or chronological age, more importantly social functions and prestige linked conventionally to different age-groups, or “social age” seem to represent a challenging correlation that should be taken into account in research on age-related features in pragmatics: the respective social roles and communicative dominance of the speakers in a society are to be considered when analyzing pragmatic features such as politeness or turn-taking. One of the early theories concerned with lifespan changes in the socio-communicative behavior is disengagement theory. The disengaging process is seen as primarily intrinsic and secondarily responsive, leading to “a more self-centered and idiosyncratic style of behavior among the ambulatory aged” (Cumming et al. 1960: 35). Today, social engagement is one of the major factors of “successful aging” – and at the same time one of its greater challenges: increasing age is – together with other factors such as the individual level of education, wealth, health, and the rural vs. urban area – one of the risk factors for social detachment (Jivraj, Nazroo and Barnes 2016: 933; 939).

2.3. Corpus pragmatics and variational pragmatics

While pragmatic analysis is highly sensitive to contextual and situational factors, corpus linguists identify and evaluate the different occurrences of more or less isolated structures or elements in the texts comprised in a corpus. Text, sound and video – individually or in combined approaches – can be represented and annotated in different types of corpora, which, in more recent approaches, not only include but also specialize in old age. As a result of this, gestures understood as “pragmatic constructions” (Bolly and Thomas 2015; Bolly and Boutet 2018) as well as prosodic features (Gerstenberg 2014) can be studied in pragmatically annotated corpora created especially for the study of language use in later life (see *CLARe* initiative). The challenge of corpus pragmatics, as defined by Rühlemann and Aijmer (2015: 9), lies in the integration of the horizontal (context-sensitive, pragmatic) and the vertical (e. g., concordances) analysis. As the pragmatic functions and the linguistic surface forms coincide only in a rough manner, a detailed corpus pragmatic analysis integrates the evaluation of the meaning in context and adds the relevant information to the linguistic annotation. The use of elements such as, e. g., “seg [segment] tags” marks the different voices (reporting modes as “free direct” vs. “direct”) and makes them retrievable in a corpus (Rühlemann and Aijmer 2015: 11). In the contributions edited by Rühlemann and Aijmer (2015), age differences are generally not discussed, but some recent work has been dedicated to the perspectives which are the results of corpus-based pragmatic research focused on age-related questions. Corpus pragmatics can be considered as one of the methods within the framework of variational pragmatics (Schneider 2010: 259).

Not only the problem of different forms and functions has to be resolved, but also the difference in meaning of different text types for different age groups. The choice of comparable text types is one of the basic criteria in developing a linguistic corpus (Sinclair 2005: 10). Yet comparability seems to be restricted, as adolescents, younger adults and older adults may behave in different ways in the very same communicative setting. For instance, in a study by Macaulay (2005: 26), adolescents talked half as much as the adults did. Age-related roles which are linked to social dominance, but also to the familiarity with certain settings, as demanded in the narrative interview, have to be better understood in order to ground age-comparative studies in pragmatic corpus linguistics: what does it mean to participate in a biographic interview for a middle-aged adult, compared with an older adult? Cross-sectional or “intra-group” comparison, the interest for one generation and its inner structures can be an intermediate solution (Gerstenberg 2011: 115).

In corpus linguistic approaches to examining sociolinguistic variables such as age, discourse markers differ remarkably between age groups. Discourse markers are subject to continuous pragmaticalization processes (Dostie 2004: 27). They develop different functions, but changes also take place on the level of form. Different age groups develop different preferences in the use of lexical items which

function as discourse markers. Among the younger generations, innovative forms are used. The “exclusive” use of innovative forms by younger adults can spread, to a greater or lesser extent, to older age groups, while the frequencies of established forms decreases. Therefore, apparent time approaches which compare different generations help to identify “younger” and “older” discourse markers. The measurement of frequencies often covers only the level of form, and not of the functions of different discourse markers, but on this level, significant differences between the age groups have been observed, for example by Macaulay (2005: 158, with a comparison between 12–13 year old adolescents and 40+ year old adults) and Beeching (2007: 89, with three age groups from 18–30; 31–65; 66+ years; with significant differences in the frequencies of *enfin* ‘that is’, *hein* ‘right?’, *c’est-à-dire* ‘I mean’, *quoi* ‘kind of’, measured as frequency in 10.000 tokens; see Beeching 2011 for translation equivalences). In both studies, the independent variable age was statistically significant, unlike the variables marking gender and social class/level of education. In Murphy’s corpus linguistic study (2010), the population is divided into younger (20s), mid (40s) and older (70s/80s) adults. Between these age groups, for some pragmatic elements, she finds remarkable differences e. g. for hedges, in quantitative terms (especially for *like*, widely preferred by younger female and male speakers), and in qualitative terms, as she observed a general decrease in the use of hedging in the speakers of the 70s/80s age group, both female and male (Murphy 2010: 61; 80). In Murphy (2010), the corpus linguistic quantitative methods are combined with qualitative approaches, contributing to the framework of Critical Discourse Analysis (CDA).

As Mauthner (2012: 93–94) shows, the analysis of contexts can help to reconstruct the image of aging or *the elderly*, by combining co-occurrences of lexemes such as *care*, *victims*, *disabled*, *sick*, *infirm*, *frail*, *handicapped* and apparently antonymous lexemes following *elderly but*; according to her results, *elderly* being *charismatic*, *imposing*, *sharp-minded*, *vigorous* or *libidinous* are not to be expected.

3. Lifespan pragmatics

3.1. Social roles in the lifespan

Age has rarely been analyzed as a truly independent variable (as in Longobardi et al. 2017), but mostly with regard to the interplay between age and other extra-linguistic conditions, as represented by the fulfillment of social roles. To our knowledge, a “lifespan pragmatics” has not yet been outlined (the term is used here for the first time, following Coupland, Coupland and Nussbaum 1993 proposing a “lifespan sociolinguistics”). A deeper analysis of social roles in the lifespan and a discussion of the underlying role models are widely lacking. Studies based on cross-cultural pragmatics (Guillot 2010) are particularly difficult to conduct,

because they confront the researcher with methodological difficulties such as translation and construct equivalence (Schrauf 2009: 117; Angel 2013).

Social roles in families as well as in societies are defined by different functions, but also by different levels of social status, and thus of power. In gender research, the linguistic negotiation of power has been a major issue. Gender has been considered as a “contributory factor in the perception of social asymmetry, power and authority” (Brown and Levinson 1987: 30). The individuals’ age can equally be analyzed as a factor contributing to the perception of a less or more powerful position: and as it is the case in the impact of gender differences, the relation between age and the perception of power is far from being unequivocal. Age can be related to powerful positions, as in multi-generational families, where the position of a ‘matriachal’ female grandmother and mother can be quite strong (Heidtmann 2003: 188). In institutional settings, age can be an indicator of a socially lower position as is the case with students and their teachers (Archakis 2012). In working environments, honorifics are an important indicator for the linguistic negotiation of power; their use in interactions between representatives of different professional roles (student – professor) varies, among other social factors, with the age of the speakers, as Hudson (2011: 3704) shows, based on Japanese data. In older adults, age can be linked to a loss of dominance and influence. In families, as well as at the level of society, the notion of power is often the direct result of an individual’s professional influence and economic background – a status that is deeply threatened with and after retirement, or when physical frailness and economic dependency is beginning to make an impact (Fiehler 2015: 110).

A number of studies are dedicated to different aspects of family communication. For instance, since the 1960s, family roles have been under examination, focusing on mothers talking to their children. For their speaking styles, the term *motherese* was introduced (Brown and Bellugi 1964: 135; Vorster 1975). Studies dedicated to adult-child communication usually refer implicitly and exclusively to mother-child-communication (e. g., in Wells, Montgomery and MacLure 1979); but there has also been an attempt to study *fatherese*, which has been shown, in a prosodic analysis, as being significantly different from typical *motherese* speech (British families; Shute and Wheldall 1999).

In more recent studies, the family roles are taken for granted to a lesser and lesser extent; the interest is focused on the strategies of negotiating the roles of “child” or “mother”. From this perspective, justifications are considered a sign of how social roles should be respected (Comparini 2013: 65; again, the age range of the children is indicated, mothers appear ageless in the presentation of the participants).

In marital communication in the lifespan, changing communicative patterns and topics (conflict management, noncommittal codes) have been studied; linguistic means have not been shown to be very different between younger and older couples. Only the frequency of *we* pronouns varied over the lifespan, with the

highest rates in the oldest group, retired couples (Sillars and Zietlow 1993: 246; 250). Even under the conditions of AD, *we* pronouns remain an important resource for positioning in couples (Hydén and Nilsson 2015).

The role expectancies accompanying intergenerational encounters can be influenced by familial experiences. It has been shown that grandparental roles and their positive connotations contrast with negative connotations associated with age and older persons not connected to the own family (Williams and Harwood 2004: 131). Sunakawa (2014) raises the question of how families manage their intra- and intergenerational relationships. The underlying question of social integration of older people seems to be crucial for many aspects of communication.

Underwood (2011: 2220) explains facework in intragenerational conversations with respect to the goal of self-heroicisation, a goal which is based on shared cultural ideals. The use of a heritage language can be a resource of intragenerational group identity, such as French in South Louisiana (Müller 2009: 154). The cultural foundation of linguistic strategies in all pragmatic fields is evident and expressed implicitly, by referring to the national or regional background of the speakers cited in research articles, or explicitly, by commenting on the importance of a particular cultural background for the linguistic phenomena reviewed. Thus, in the field of cross-cultural pragmatics (e. g., Wierzbicka 2003), aging issues do not play an important role.

3.2. Identities

The resources for identity construction may vary over the lifespan; and the notion of age and “feeling old” is only one and not necessarily the most important reality of later life (Thompson 1992: 44). In the analysis of “elderliness” construction in intergenerational encounters, six categories on two levels of identity construction have emerged, in a “pervasive” way: on the one hand, the “age-categorization process” marked by (1) disclosure of chronological age, (2) references to age-related categories and roles, (3) references to health, decrement, and death, and, on the other hand, the temporal framing process, marked by (1) the adding of a time-past perspective to current or recent-past states and topics, (2) the self-association with the past and (3) recognizing historical, cultural, and social change (Coupland et al. 1991: 92–96; 101).

For identity construction, as for many other aspects, the notions of *age* and *gender* show similarities. Both of them have a biological correlate that gives them the definition of being an “independent” variable, which means: as a “given”, “stable” variable in sociolinguistic research. The relevance of the “givenness” of sex has been questioned radically since the middle of the 20th century, and what has been shown for the category of gender has been widely applied to the category of age (Davis and MacLagan 2016: 227–229). As in gender discourse, issues of power played an important role in the evolution of the research field (Cameron

2005: 33–34), the reconstruction of social practices of “doing being old” aiming at analyzing the mechanisms of marginalization (Paoletti 1998: 7). As this implies the possibility of marking a distance between one’s own individual identity and the identity of a group seen as inferior or less prestigious, members of a “weaker” group of older people can contribute to perpetuating stereotypes about the negative aspects of aging (Barker, Giles and Harwood 2004: 142). In situations of dense, competitive communications, the negotiation of age is one of the crucial issues in constructing a professional identity, along with professional age and experience in the workplace (Angouri 2012: 270). In terms of “adult identity”, Fiehler focuses on the “marginal position” of older people, leading to a less individualistic and more socially orientated attitude. Pragmatic features such as phatic markers and communicative co-construction are, in this perspective, linked to an emerging identity of old age, in engaging with “adult identities” – but as he states, these features are not exclusive to older people (Fiehler 2001: 126; 128; 141). The (re-)construction of aging identities always has to deal with the challenge of not overgeneralizing observations concerning the factor age.

The analysis of narratives is one of the most important methods in research dedicated to identity construction. One central issue is the very notion of “narrative” or “story”. Not only in narratives as identifiable units, e. g., with an introduction and a coda (Labov and Waletzky 1967), but also in the broader sense in which autobiographical tellings make part of narration, can personal identity be expressed (Norrick 2012). Discursive practices of positioning are applied in “formulating the lifespan”: in this perspective, selfhood is affirmed by underlining “agency”, and making clear that the responsibility of an action is claimed, or one’s own point of view on what matters in one’s own world view is stressed; finally, storytelling in a narrower sense (episodes), referring to past events, is a form of positioning in so far that an evaluation of the past event makes it a part of one’s own biography (van Langenhove and Harré 1993: 84; 88).

Even under the conditions of Alzheimer’s Disease (AD), the function of narratives as “snapshots” (Hamilton 2008) can be preserved. For older speakers, the use of “the past” has been described as one of the major strategies of identity construction, as compared to younger speakers (Boden and Bielby 1983). The relation between storyteller and the past is multifaceted; when recalling past events, older speakers, or narrators, deal with multiple identities (Norrick 2009: 907).

Retellings of personal memories can also be seen as compensation for the fact that less new experience is integrated in the narrative repertoire. In AD, problems with episodic memory make it difficult to update retold stories, which remain an important resource for identity construction (Hamilton 2019, chap. 5). On the level of prosody, pre-fabricated patterns have been found, used for the marking of tellability (Barth-Weingarten, Schumann and Wohlfahrt 2012).

3.3. Old age

There are many different approaches to the question of when “old age” begins. Numerical age is only one of the indicators. Many classifications of “older adults” start with the age of 60, which is, in many Western societies, a (fuzzy) limit of professional activity; a group of “young olds” is then separated from the “old olds”, which is often motivated by theoretical, empirical and practical (obtaining subsamples of equal size) reasons at the same time (e. g. 60–74 / 75–90, as in Kemper 1992; 61–72 / 73–93, as in Gold and Arbuckle 1995; 70–77 / 78–100, as in Singer et al. 2003, n. 1).

The development of linguistic abilities forms part of the processes of cognitive aging (Schrauf and Mueller 2013). According to the classical distinction between crystalline and fluid intelligence (Horn and Cattell 1967), language forms part of “crystallized cognitive pragmatics”, i. e. the “culture-based ‘software’ of the mind”, as opposed to the neurophysiological “hardware”, reflected by the “fluid cognitive mechanics” (Baltes 1997: 373). Four major theories concern age-related changes in language processing, namely, (1) the decreasing efficiency of the working memory, (2) inhibition deficits so that information entering the working memory is not sufficiently filtered, (3) general slowing, affecting the processing speed, and (4) phenomena linked to the transmission deficit hypothesis, explaining e. g. the increase of tip-of-the-tongue (TOT) phenomena with a decreased strength in connecting the phonological and semantic systems (Abrams and Farrell 2011: 50–51).

At any level, cognitive aging is marked by intra-individual as well as inter-individual differences: the development of the different cognitive abilities is not uniform in individuals, and the pace of change or cognitive decline turns out to be very heterogeneous when different individuals or groups of individuals are compared (Lemaire 2015: 35). This general finding is due to the wide range of biographical factors as well as factors of health that are interrelated with cognitive aging; “the biological and the cultural [systems] [...] are seen as antecedents, correlates, and consequence of intellectual functioning” (Lindenberger and Baltes 1997: 423).

Still, longitudinal studies shed more light on the underlying dynamics of generational and cohort effects (Schaie 2006), and they help to identify patterns in the complex interplay of factors: in the 11.5-year follow-up of the Baltimore Epidemiologic Catchment Area Study, cognitive decline was shown to be continuously increasing with aging and to depend on the level of formal education (9 years and less, using Mini-Mental State; Lyketsos, Chen and Anthony 1999: 64). In the Berlin Aging Study (BASE, 6 years), the intellectual ability of knowledge (measured by Vocabulary and Spot-a-Word) remained relatively stable until the age of 90, and was closely related to sociobiographical markers such as income, occupational prestige, social class and years of education (Singer et al. 2003: 329).

One of the most challenging questions in research related to age is the very notion of “normality” mentioned in the first paragraph. Healthy aging implies an ongoing process of changes that should not be understood as a sharp breakdown, but, in many cases, consisting only of a slight decrease (Marini et al. 2005: 461). Where is the line to be drawn between “normal” aging and “pathological” aging (Schaie 2006), or in the developments and adaptations between healthy aging, Mild Cognitive Impairment (MCI) and Alzheimer’s Disease (AD) (cf. Hamilton, this volume)? To answer this question, genuinely pragmatic criteria can be used, such as whether the expectations of coherent adjacency pairs are fulfilled in interviews (“responsivity”, Gerstenberg 2015b). Intense research is being carried out concerning discourse coherence. This is not only a crucial topic in AD research, but also in research on the differences between younger and older adults: while in data from spontaneous speech, no differences between the middle-aged (mean 51.9 y.) and the older adults (mean 76.2 y.) were found on the level of micro-linguistic coherence, there were significant differences on the level of macro-linguistics (maintenance of an overall topic; Glosser and Deser 1992: 270). Also in the course of AD, a continuous development has been modeled, in terms of different stages with no sharp limits between one stage and the next; longitudinal studies allow one to find early indicators for MCI as well as for AD (Wendelstein and Sattler 2012: 492). The different stages of AD have correlates on the level of discourse, in terms of coherence (Hamilton 1994: 19–29). Results from neuroimaging studies suggest that alterations are rather quantitative than qualitative in nature and should therefore be situated along a continuum from aging to MCI to AD (medial temporal lobe structural and functional changes; Leal and Yassa 2013: 827).

Disfluencies are an issue that is particularly adapted to show how the formulation of research questions is stimulated by very different and even contradictory ideas of what happens in old age. One problem is the understanding of “old age”; the speakers included are often under 70 years – and therefore only the “young old” (Kemper 1992) are considered.

The term “disfluency” covers a wide range of features such as repeats, restarts, fillers and “editing expressions” like *I mean, that is*, as in a study that formulates the expectation to find effects of “age-related changes in cognitive, motor, and perceptual functioning” (Bortfeld et al. 2001: 128; 131). Prosodic features such as pauses and the use of pitch change as a function of the aging process in the vocal tract (Linville 1996: 198). Connected speech may be increasingly affected by more pauses at atypical linguistic points in older adults, but not in people with Parkinson’s Disease (Lee et al. 2019). Based on corpora of spoken language, Bolly, Christodoulides and Simon (2016) also find a slight increase in the use of disfluency traits. Disfluencies are one of the domains where significant differences between healthy aging and aging with AD occurs, e. g. the frequency of silent pauses, lengthenings, and hesitations (Gayraud, Lee and Barkat-Defradas 2011: 206).

Following a slightly similar approach, in a larger study based on conversational speech data, attenuated age differences in language use were found, with some discourse markers; fillers reduced and some increased. The authors discuss the different functions of the fillers and conclude that older speakers may benefit from their language experience and adjust their resources in the best way to achieve their communicative goals (Horton, Spieler and Shriberg 2010: 712), a path that will be followed (see below, section 4). Against this background, the negatively connotated concept of disfluency no longer seems appropriate to explain the complex interaction of pauses, fillers and similar traits.

Verbosity, or off-target verbosity (OTV; or off-topic speech, OTS) was shown to have a low positive correlation with increasing age; in contrast to talkativeness, it is defined by the lack of focusing on a narrative and on a logical sequence of topics (Gold et al. 1993: 68–69; 73). There is evidence that OTV is the result of difficulties with inhibition, i. e. the cognitive ability to suppress irrelevant information, resulting in a lack of maintaining focus and coherence (Arbuckle and Gold 1993: 230–231). In an alternative approach to OTS, differences in communicative goal setting as observed in older adults were labeled as Pragmatic Change hypothesis. It was tested with older adults if OTS occurred to the same extent in picture descriptions as in autobiographical topics; the authors found evidence that OTS was mostly restricted to the latter (James et al. 1998: 355; 364). OTS works on different levels of speech production and perception; in an experimental setting, younger and older evaluators rated speech as affected by traits of OTS in different ways. The older evaluators provided more overall positive evaluations (Odato and Keller-Cohen 2009: 468).

The capacity to manage different speech acts can be found, in case studies, until very old age (Cherubim and Hilgendorf 2003: 245), and high attention to stylistic features to be used in different text types (Taddei Gheiler 2005: 288). Attention must be paid to the change, possibly occurring in old age, concerning the communicative goals of older adults. Usually, a “socially interactive” communicative behavior is seen as “normal”, earlier, as in the case of AD, a more “ego-centered stage” takes place (Hamilton 1994: 162). There are many reasons for the fact that older speakers are not fully communicatively “socially interactive” in old age. Some of these reasons are practical, e. g. living in a nursing home instead of in a socially well connected neighborhood, difficulties with hearing devices or generally being bedridden. Some of these reasons may be psychological, a general retirement that affects communication and a (narrative) “foreclosure” (Freeman 2011). When measuring communicative competences, one should have a closer look at communicative goals. The results of psycholinguistic research, focused on what remains stable or where deficits can be identified, are to be taken into account in linguistic research on normal healthy aging. The challenge for “lifespan pragmatics” is not to reduce the research interest to competences and abilities, but rather to what makes older adults’ communication specific, in its own right.

4. Compensation and adaptation in old age

4.1. Compensation theory

Compensation theory plays a major role in psychological research on aging issues, but it has, until now, received less attention than it deserves. Wingfield and Stine-Morrow (2000: 390–391) state that compensation is one of the reasons “why language processing is so well maintained in late life”. Compensation is an ongoing, conscious and unconscious process that can help to explain pragmatic issues characterizing speech and communication in old age. Terminologically, *compensation* implicitly reflects the deficit theory, as it has its origins in decreasing competencies, but it does not stop there. Compensation has been described as the counterbalance of precise declines taking place in old age, working on different levels. Neural compensation refers to the activation of additional brain regions in old age, when fewer cortical resources are available (Wingfield and Grossman 2006: 2833). This has been shown by the measures of Blood-Oxygen-Level-Dependent (BOLD) and Functional Magnetic Resonance Imaging (fMRI; Wingfield and Grossman 2006: 2832).

In Baltes’ SOC-theory, C for *compensation* is, together with *selection* (S) and *optimization* (O), one of the main processes in old age, including active strategies such as asking other people for help or using hearing aids and glasses (Freund and Baltes 2002: 644). High levels of functioning in old age can be stabilized only with so-called “culture-based compensations (e. g., material, ethnical, social, economic, psychological)”, correlated with “biological decline” (Baltes 1997: 368).

Compensation is a central concept on the levels of functions, systems and strategies; it has been applied in empirical and theoretical approaches that also concern the language in later life (Bäckman and Dixon 1992). The Memory Compensation Questionnaire (MCQ) is a self-report instrument “assessing the variety and extent of means of compensating for memory losses” (de Frias, Dixon and Bäckman 2003: 14). Four main mechanisms have been identified, namely remediation (e. g., investing more time or effort in overcoming a loss), substitution (e. g., developing new, or using latent skills instead of declining or ineffective ones), accommodation (e. g., adjusting goals and criteria to be more concordant with current demand and one’s skills), and assimilation (e. g., modifying the environmental demands or expectations of others; de Frias, Dixon and Bäckman 2003: 12).

4.2. Levels of linguistic compensation

The following examples do not comprise an exhaustive list of features as possible signs of linguistic compensation, but they may illustrate that the compensation approach can be fruitfully applied in order to refine or to re-interpret pragmalinguistic research questions and results in order to integrate them into the compensatory framework.

In speech perception, the reliance on prosodic features can compensate for losses in working memory (Wingfield, Wayland and Stine 1992: 55). In speech production, the use of longer pauses (Gerstenberg 2011: 172–174) may also be seen as an adaptation to needing longer planning processes, contributing to maintaining a high level of syntactic complexity (Betten 2003: 138). In a seven-year comparison, in the French corpus LangAge, fillers were significantly reduced in the speech of older adults, a possible sign of preserving energy in speech processing (Gerstenberg 2015b).

Self-repetitions, as occurring in the discourse of Alzheimer's patients, can be seen as a means of doubling the amount of speech production without having to invest double the amount of energy (Hamilton 1994: 75). Repetitions are not an exclusive feature of speech in cognitively impaired adults, but a well-established feature in everyday discourse, as a creative “play between fixity and novelty”, and thereby a “resource of creativity” (Tannen 2007: 49). The study of repetition as a compensatory strategy, with new functions in older adults, could shed new light on its use in healthy aging.

In light of compensation theory, linguistic as well as metalinguistic comments in old age can be analyzed. Frequently, dealing with tip-of-the-tongue (TOT) phenomena or joking about “senior moments” (i. e., memory lapses in storytelling, Norrick 2009: 915) reveals a level of awareness and can be seen as a compensatory strategy. Taking time, making pauses, repeating, and restarting are strategies used for successful word retrieval; comments and jokes are employed to confront the face-threatening potential of these – perceived – deficits. They fit the idea of remediation. On the other hand, when word retrieval problems seem to be persistent or accepted, commenting on this process corresponds to the notion of assimilation: a mark-up such as *vous voyez, ça veut pas sortir* (‘you see, it doesn't get out’, Zellner-Keller 2007: 96) lowers the expectations of the interlocutor.

On the level of syntax, age-related changes are expected due to cognitive changes affecting the working memory. However, in this domain, too, quite a complex picture of age-related changes and compensatory strategies has to be drawn. For example, it has been observed that preferred syntactic structures of older adults are mostly right-branching, and these structures can be seen as a kind of adaptation: they help to preserve utterance length and to avoid disfluencies, even if their use can provoke errors (Kynette and Kemper 1986: 70; only partly confirmed in Maxim, Bryan and Thompson 1994).

While sentence length may be influenced by the decreasing strength of the working memory, the pragmatic function of these sentences may not be affected, or not to the same extent. Further hypotheses concerning the relationship between cognitive aging, syntax and discourse can be developed under the label of compensation theory.

4.3. Discourse strategies and meta-communicative events

Topic-management abilities and strategies change in older adults (e. g., the use of pronouns, Hendriks et al. 2008: 461–462), and they weaken in people suffering from Senile Dementia of the Alzheimer’s Type (SDAT; Mentis and Briggs-Whittaker 1995). The transition between what is called “healthy aging” and aging affected by pathological developments is, on the level of conversation, not sudden (cf. section 3.3. above). Difficulties in the related linguistic strategies were also observed in people with “dementia-like behaviour” (Korolija 2000: 435). In a Swedish Senior Citizen Center, the author found that the aged persons used idioms and formulaic expressions as well as frequent repetitions in order to maintain coherence; face-threatening and laborious devices were avoided. Thus, “topicality is sustained at the cost of renewal” (Korolija 2000: 455). Applying the idea of compensation to discourse coherence, the decrease of renewal can be seen as a form compensation for a potential lack in discourse coherence.

Meta-communicative comments are frequent in the discourse of older speakers, and they fulfill different functions. Strategies of Painful Self-Disclosure (PSD, cf. section 2.1.) focus on one’s perceived deficits such as the loss of memory capacity, the use of hearing devices or just being old. These PSD strategies are used by persons who see themselves as “weaker” than their interlocutors. Older adults often offer more information about themselves that is negative and intimate, and these strategies have potential benefits in terms of ego-protection. For example, they help to deal with the rupture of coherence caused by a lack of memory. So, in the following example, before starting a new utterance, the participant explains why she switches the topic: *j’essaie passer dans un autre / comme on peut dire / je ne trouve pas le terme euh // je suis maintenant si vous voulez euh seule hein je suis veuve je suis seule* (‘I try to get in another / how to say / I I don’t find the word uh // I am now if you like alone right / I am widow / I am alone’) (LangAge corpus, a037, f, 79y).

As an alternative set of strategies, non-painful self-disclosure seems to work even more efficiently by compensating the painful effects with pleasurable motives (Bonnesen and Hummert 2002: 277; 285; 295).

Another series of meta-communicative comments is really metalinguistic in nature, in that they can mark a distance between the language not used but “quoted” (e. g., German: *so sagte man damals*, i. e. ‘that’s what they called it at the time’; Cherubim 1998: 78). Their function is that of “diachronic markers” (Gerstenberg 2011: 138–141). These markers refer to when one’s own expressions could be perceived to be deviant from current linguistic usage. In the LangAge corpus, a participant talks about how her father participated in World War I and uses an idiomatic expression, introduced by the metalinguistic comment, viz. the story starts in 1912, when her father left and went to Sarajevo: *en 1912 / mon père est parti / donc comme on disait parti en Orient* (‘in 1912, my father left, as we called it,

he left for the Orient'; LangAge a025, f, 84y.). With this remark, the participant underlines the two sides of her competency, that of understanding a term mostly forgotten today, and that of her ability to deal with different kinds of background information.

5. Concluding remarks

Applied linguistics is of major importance in pragmatic research in various fields, including research on old age. This line of research concerns itself with intergenerational communication as well as communication in healthcare settings. Increasingly, research findings are taken into consideration and are becoming an integral part of caregivers' training, most prominently the problem of patronizing speech (Sachweh 2000; Backhaus 2013). A related topic is the risk of formulaic language in the communication between caregivers and people with AD resulting in impoverished and patronizing language (Wray 2012: 173; what she describes also applies to communication between caregivers and people in healthy aging). Not only features of dementia discourse (Guendouzi and Davis 2013; cf. also chapter 21, this volume), but also particular pragmatic features of healthy aging merit more attention in interdisciplinary exchange between clinicians and linguists. To preserve linguistic skills as an important means of maintaining an autonomous life style, older adults training programs that benefit from the plasticity of the brain (Kliegel, Zinke and Hering 2012) can benefit to a larger extent from paying attention to communicative skills. The effect of social detachment and/or disengagement of communicative behavior is one of the important factors of linguistic aging to be considered in future research.

In linguistic research, the approaches of variational pragmatics and lifespan pragmatics can lead to a more determined integration of older adults in samples for pragmatic analysis. The need of such an integration seems to be evident, as old age is, in the demographic situation of the 21st century, no longer limited to pathologic decline. Older adults are part of the language community. One of the side-effects of a stronger consideration of older adults in research in pragmatics can challenge the idea of what is "normal" in adulthood – and do away with the often implicitly-realized notion of "normal", but age- and sexless speakers. Finally, theories developed for the study of language use in later life, such as the compensation approach, could turn out to be equally fruitful when applied to earlier stages of the lifespan.

References

- Abrams, Lise and Meagan T. Farrell
 2011 Language processing in normal aging. In: Jackie Guendouzi, Filip Loncke and Mandy J. Williams (eds.), *The Handbook of Psycholinguistic and Cognitive Processes: Perspectives in Communication Disorders*, 49–73. New York: Psychology Press.
- Angel, Ronald J.
 2013 After Babel: Language and the fundamental challenges of comparative aging research. *Journal of Cross-Cultural Gerontology* 28(3): 223–238.
- Angouri, Jo
 2012 The interplay between professional identities and age, gender and ethnicity. *Pragmatics* 22(2): 255–277.
- Arbuckle, Tannis Y. and Dolores P. Gold
 1993 Aging, inhibition, and verbosity. *Journal of Gerontology* 48(5): 225–233.
- Archakis, Argiris
 2012 Doing indiscipline in narrative performances: How Greek students present themselves disobeying their teachers. *Narrative Inquiry* 22(2): 287–306.
- Backhaus, Peter
 2013 Introduction. In: Peter Backhaus (ed.), *Communication in Elderly Care: Cross-Cultural Perspectives*, xiii–xvii. London/New Delhi/New York/Sydney: Bloomsbury.
- Bäckman, Lars and Roger A. Dixon
 1992 Psychological compensation: A theoretical framework. *Psychological Bulletin* 112(2): 259–283.
- Baltes, Paul B.
 1997 On the incomplete architecture of human ontogeny: Selection, optimization, and compensation as foundation of developmental theory. *American Psychologist* 52(4): 366–380.
- Barker, Valerie, Howard Giles and Jake Harwood
 2004 Inter- and intragroup perspectives on intergenerational communication. In: Jon F. Nussbaum and Justine Coupland (eds.), *Handbook of Communication and Aging Research*, 2nd edition, 139–165. Mahwah, NJ: Lawrence Erlbaum.
- Barth-Weingarten, Dagmar, Elke Schumann and Rainer Wohlfahrt
 2012 Da capo al fine? Beobachtungen zu Vorgeformtheit von Prosodie und Phonetik in Retold Stories. *Gesprächsforschung* 13: 322–352.
- Beeching, Kate
 2007 La co-variation des marqueurs discursifs ‘bon’, ‘c’est-à-dire’, ‘enfin’, ‘hein’, ‘quand même’, ‘quoi’ et ‘si vous voulez’: une question d’identité? *Langue française* 154(2): 78–93.
- Beeching, Kate
 2011 The translation equivalence of ‘bon’, ‘enfin’, ‘well’ and ‘I mean’. *Revue française de Linguistique appliquée* XVI(2): 91–105.
- Betten, Anne
 2003 Ist “Altersstil” in der Sprechsprache wissenschaftlich nachweisbar? Überlegungen zu Interviews mit 70- bis 100-jährigen Emigranten. In: Reinhard Fiehler and Caja Thimm (eds.), *Sprache und Kommunikation im Alter*, 131–142. Radolfzell: Verlag für Gesprächsforschung.

- Boden, Deirdre and Denise Bielby
1983 The past as resource. A conversational analysis of elderly talk. *Human Development* 26(6): 308–319.
- Bolly, Catherine T. and Dominique Boutet
2018 The multimodal CorpAGEst corpus: Keeping an eye on pragmatic competence in later life. *Corpora* 13(3): 279–317.
- Bolly, Catherine T., George Christodoulides and Anne C. Simon
2016 Disfluences et vieillissement langagier: De la base de données VALIBEL aux corpus outillés en français parlé. *Corpus* 15: 1–13.
- Bolly, Catherine and Anaïs Thomas
2015 Facing Nadine's speech: Multimodal annotation of emotion in later life. In: Kristiina Jokinen and Martin Vels (eds.), *Proceedings of the 2nd European and the 5th Nordic Symposium on Multimodal Communication, August 68, 2014, Tartu, Estonia*, 25–35. Linköping: Linköping University Electronic Press.
- Bonnesen, Jaye L. and Mary L. Hummert
2002 Painful self-disclosures of older adults in relation to aging stereotypes and perceived motivations. *Journal of Language and Social Psychology* 21(3): 275–301.
- Bortfeld, Heather, Silvia D. Leon, Jonathan E. Bloom, Michael F. Schober and Susan E. Brennan
2001 Disfluency rates in conversation: Effects of age, relationship, topic, role, and gender. *Language and Speech* 44(2): 123–147.
- Brown, Penelope and Stephen C. Levinson
1987 *Politeness: Some Universals in Language Usage*. (Studies in Interactional Sociolinguistics 4.) Cambridge: Cambridge University Press.
- Brown, Roger and Ursula Bellugi
1964 Three processes in the child's acquisition of syntax. *Harvard Educational Review* 34(2): 133–151.
- Buchstaller, Isabelle and Suzanne E. Wagner
2017 Introduction: Using panel data in the sociolinguistic study of variation and change. In: Suzanne E. Wagner and Isabelle Buchstaller (eds.), *Panel Studies of Variation and Change*, 1–18. (Routledge Studies in Language and Intercultural Communication.) New York: Routledge.
- Cameron, Richard
2005 Aging and gendering. *Language in Society* 34(1): 23–61.
- Caporael, Linnda R.
1981 The paralinguage of caregiving: Baby talk to the institutionalized aged. *Journal of Personality and Social Psychology* 40(5): 876–884.
- Chambers, J. K.
2004 Patterns of variation including change. In: J. K. Chambers, Peter Trudgill and Natalie Schilling-Estes (eds.), *The Handbook of Language Variation and Change*, 349–372. (Blackwell Handbooks in Linguistics.) Malden, MA/Oxford, UK/Carlton, Australia: Blackwell.
- Cherubim, Dieter
1998 Kontinuität und Diskontinuität in der deutschen Sprache des 20. Jahrhunderts. In: Heidrun Kämper and Hartmut Schmidt (eds.), *Das 20. Jahrhundert: Sprachgeschichte – Zeitgeschichte*, 59–82. Berlin/New York: De Gruyter.

- Cherubim, Dieter and Suzanne Hilgendorf
 2003 Sprachverhalten im Alter: Beobachtungen und Diskussionen zum Begriff des Alters. In: Reinhard Fiehler and Caja Thimm (eds.), *Sprache und Kommunikation im Alter*, 230–256. Radolfzell: Verlag für Gesprächsforschung.
- CLARe initiative: *Corpora for Language and Aging Research (CLARe)*, directed by Catherine Bolly and Annette Gerstenberg, Berlin/Cologne/Louvain-la-Neuve, since 2014. <http://www.clare-corpora.org>
- Cohen, Gillian and Dorothy Faulkner
 1986 Does “elderspeak” work? The effect of intonation and stress on comprehension and recall of spoken discourse in old age. *Language and Communication* 6(1–2): 91–98.
- Comparini, Lisa
 2013 The use of justifications in the linguistic construction of agency and social connection in Latina mother-child conflict. *Journal of Pragmatics* 57: 57–67.
- Coupland, Nikolas, Justine Coupland, Howard Giles and Karen Henwood
 1988 Accommodating the elderly: Invoking and extending a theory. *Language in Society* 17(1): 1–41.
- Coupland, Justine, Nikolas Coupland, Howard Giles and Karen Henwood
 1991 Formulating age: Dimensions of age identity in elderly talk. *Discourse Processes* 14(1): 87–106.
- Coupland, Justine, Nikolas Coupland and Jon F. Nussbaum
 1993 Epilogue: Future prospects in lifespan sociolinguistics. In: Nikolas Coupland and Jon Nussbaum (eds.), *Discourse and Lifespan Identity*, 284–293. (Language and Language Behaviors Series 4.) Newbury Park CA: Sage.
- Cumming, Elaine, Lois R. Dean, David S. Newell and Isabel McCaffrey
 1960 Disengagement: A tentative theory of aging. *Sociometry* 23(1): 23–35.
- Davis, Boyd and Margaret Maclagan
 2016 Sociolinguistics, language, and aging. In: Heather H. Wright (ed.), *Cognition, Language and Aging*, 221–245. Amsterdam/Philadelphia: Benjamins.
- de Frias, Cindy M., Roger A. Dixon and Lars Bäckman
 2003 Use of memory compensation strategies is related to psychological and health indicators. *Journal of Gerontology: Psychological Sciences* 58B(1): 12–22.
- Dostie, Gaétane
 2004 De la pragmatization aux marqueurs discursifs. In: Gaétane Dostie (ed.), *Pragmatization et Marqueurs Discursifs: Analyse Sémantique et Traitement Lexicographique*, 21–64. Bruxelles: De Boeck.
- Fiehler, Reinhard
 2001 Die kommunikative Verfertigung von Altersidentität. In: Lorenz Sichelschmidt and Hans Strohnner (eds.), *Sprache, Sinn und Situation: Festschrift für Gert Rickheit zum 60. Geburtstag*, 125–144. Wiesbaden: Deutscher Universitätsverlag.
- Fiehler, Reinhard
 2015 Das Beziehungsgefüge zwischen den Generationen und sein Einfluss auf die intergenerationelle Kommunikation. In: Eva Neuland (ed.), *Sprache der Generationen*, 2nd edition, 109–125. (Sprache, Kommunikation, Kultur 17.) Frankfurt am Main: Lang.

- Freeman, Mark
 2011 Narrative foreclosure in later life: Possibilities and limits. In: Gary Kenyon, Ernst Bohlmeijer and William L. Randall (eds.), *Storying Later Life: Issues, Investigations, and Interventions in Narrative Gerontology*, 3–19. Oxford: Oxford University Press.
- Freund, Alexandra M. and Paul B. Baltes
 2002 Life-management strategies of selection, optimization and compensation: Measurement by self-report and construct validity. *Journal of Personality and Social Psychology* 82(4): 642–662.
- Gadet, Françoise
 2003 La variation: Le français dans l'espace social, régional et international. In: Marina Yaguello (ed.), *Le Grand Livre de la Langue Française*, 91–152. Paris: Seuil.
- Gayraud, Frederique, Hye-Ran Lee and Melissa Barkat-Defradas
 2011 Syntactic and lexical context of pauses and hesitations in the discourse of Alzheimer patients and healthy elderly subjects. *Clinical Linguistics and Phonetics* 25(3): 198–209.
- Georgakopoulou, Alexandra and Anna Charalambidou
 2011 Doing age and ageing. In: Gisle Andersen and Karin Aijmer (eds.), *Pragmatics of Society*, 29–51. (Handbooks of Pragmatics 5.) Berlin/Boston: De Gruyter Mouton.
- Gerstenberg, Annette
 2011 *Generation und Sprachprofile im höheren Lebensalter: Untersuchungen zum Französischen auf der Basis eines Korpus biographischer Interviews*. (Analecta Romanica 76.) Frankfurt am Main: Vittorio Klostermann.
- Gerstenberg, Annette
 2014 The same old story? – Prosodic features in narratives of old age as cues for genre description. *Cahiers de Linguistique Française* 31: 87–92.
- Gerstenberg, Annette
 2015a Absolute, relationale und historische Generationenbegriffe in der Sprachwissenschaft: Perspektiven ihrer Verwendung. In: Eva Neuland (ed.), *Sprache der Generationen*, 2nd edition, 49–64. (Sprache, Kommunikation, Kultur 17.) Frankfurt am Main: Lang.
- Gerstenberg, Annette
 2015b A sociolinguistic perspective on vocabulary richness in a seven-year comparison of older adults. In: Annette Gerstenberg and Anja Voeste (eds.), *Language Development: The Lifespan Perspective*, 109–127. (Impact: Studies in Language and Society 37.) Amsterdam: Benjamins.
- Gerstenberg, Annette and Anja Voeste
 2015 Investigating the lifespan perspective. In: Annette Gerstenberg and Anja Voeste (eds.), *Language Development: The Lifespan Perspective*, 1–8. (Impact: Studies in Language and Society 37.) Amsterdam: Benjamins.
- Glosser, Guila and Toni Deser
 1992 A comparison of changes in macrolinguistic and microlinguistic aspects of discourse production in normal aging. *Journal of Gerontology* 47(4): 266–272.
- Gold, Dolores P. and Tannis Y. Arbuckle
 1995 A longitudinal study of off-target verbosity. *Journal of Gerontology: Psychological Sciences* 50B(6): 307–315.

- Gold, Dolores P., David Andres, Tannis Y. Arbuckle and Connie Zieren
1993 Off-target verbosity and talkativeness in elderly people. *Canadian Journal on Aging* 12(1): 67–77.
- Guendouzi, Jacqueline and Boyd Davis
2013 Dementia discourse and pragmatics. In: Boyd H. Davis and Jacqueline Guendouzi (eds.), *Pragmatics in Dementia Discourse*, 1–28. (Advances in Pragmatics and Discourse Analysis.) Cambridge: Cambridge Scholars Publishing.
- Guillot, Marie-Noëlle
2010 [Introduction] Special Issue on: Cross-Cultural Pragmatics. *Journal of French Language Studies* 20: 1–2.
- Hamilton, Heidi E.
1994 *Conversations with an Alzheimer's Patient: An Interactional Sociolinguistic Study*. Cambridge: Cambridge University Press.
- Hamilton, Heidi E.
2008 Narrative as snapshot: Glimpses into the past in Alzheimer's discourse. *Narrative Inquiry* 18(1): 53–82.
- Hamilton, Heidi E.
2019 *Language, Dementia and Meaning Making. Navigating Challenges of Cognition and Face in Everyday Life*. London: Palgrave Macmillan.
- Heidtmann, Daniela
2003 Alter, Familienhierarchie und Kommunikationsstatus. In: Reinhard Fiehler and Caja Thimm (eds.), *Sprache und Kommunikation im Alter*, 175–194. Radolfzell: Verlag für Gesprächsforschung.
- Heinrichsmeier, Rachel
2019 Ageism and interactional (mis)alignment: Using micro-discourse analysis in the interpretation of everyday talk in a hair-salon. *Linguistics Vanguard* 5(s2): 1–11.
- Helfrich, Hede
1979 Age markers in speech. In: Klaus R. Scherer and Howard Giles (eds.), *Social Markers in Speech*, 63–107. Cambridge: Cambridge University Press.
- Hendriks, Petra, Christina Englert, Ellis Wubs and John Hoeks
2008 Age differences in adults' use of referring expressions. *Journal of Logic, Language and Information* 17(4): 443–466.
- Hockett, Charles F.
1950 Age-grading and linguistic continuity. *Language* 26(4): 449–457.
- Horn, John L. and Raymond B. Cattell
1967 Age differences in fluid and crystallized intelligence. *Acta Psychologica* 26: 107–129.
- Horton, William S., Daniel H. Spieler and Elizabeth Shriberg
2010 A corpus analysis of patterns of age-related change in conversational speech. *Psychology and Aging* 25(3): 708–713.
- Hudson, Mutsuko E.
2011 Student honorifics usage in conversations with professors. *Journal of Pragmatics* 43: 3689–3706.
- Hydén, Lars-Christer and Elin Nilsson
2015 Couples with dementia: Positioning the 'we'. *Dementia* 14(6): 716–733.

- James, Lori E., Deborah M. Burke, Ayda Austin and Erika Hulme
 1998 Production and perception of 'verbosity' in younger and older adults. *Psychology and Aging* 13(3): 355–367.
- Jivraj, Stephen, James Nazroo and Matt Barnes
 2016 Short- and long-term determinants of social detachment in later life. *Ageing and Society* 36(5): 924–945.
- Kemper, Susan
 1992 Adults' sentence fragments: Who, what, when, where, and why. *Communication Research* 19(4): 444–458.
- Kliegel, Matthias, Katharina Zinke and Alexandra Hering
 2012 Plastizität. In: Hans-Werner Wahl, Clemens Tesch-Römer and Jochen P. Ziegelmann (eds.), *Angewandte Gerontologie: Interventionen für ein gutes Altern in 100 Schlüsselbegriffen*, 2nd edition, 72–77. Stuttgart: Kohlhammer.
- Korolija, Natascha
 2000 Coherence-inducing strategies in conversations amongst the aged. *Journal of Pragmatics* 32: 425–462.
- Kynette, Donna and Susan Kemper
 1986 Aging and the loss of grammatical forms: A cross-sectional study of language performance. *Language and Communication* 6: 65–72.
- Labov, William
 1994 *Principles of Linguistic Change. Volume 1: Internal Factors.* (Language in Society 20.) Malden, MA/Oxford: Wiley-Blackwell.
- Labov, William and Joshua Waletzky
 1967 Narrative analysis: Oral versions of personal experience. In: June Helm (ed.), *Essays on the Verbal and Visual Arts*, 12–44. Seattle: University of Washington Press.
- LangAge = Gerstenberg, Annette
 2017 *LangAge corpora.* University of Potsdam: Department of Romance Studies. <http://www.langage-corpora.org>
- Leal, Stephanie L. and Michael A. Yassa
 2013 Perturbations of neural circuitry in aging, mild cognitive impairment, and Alzheimer's Disease. *Ageing Research Reviews* 12(3): 823–831.
- Lee, Jiyeon, Jessica Huber, Jessica Jenkins and Jennifer Fredrick
 2019 Language planning and pauses in story retell: Evidence from aging and Parkinson's Disease. *Journal of Communication Disorders* 79: 1–10.
- Lemaire, Patrick
 2015 *Viellissement Cognitif et Adaptations Stratégiques.* (Questions de personne. Neuropsychologie.) Louvain-la-Neuve: De Boeck Supérieur.
- Levinson, Stephen C.
 1983 *Pragmatics.* Cambridge: Cambridge University Press.
- Lindenberger, Ulman and Paul B. Baltes
 1997 Intellectual functioning in old and very old age: Cross-sectional results from the Berlin aging study. *Psychology and Aging* 12(3): 410–432.
- Linville, Sue E.
 1996 The sound of senescence. *Journal of Voice* 10(2): 190–200.

- Longobardi, Emiddia, Antonia Lonigro, Fiorenzo Laghi and Daniela K. O'Neill
2017 Pragmatic language development in 18- to 47-month-old Italian children: A study with the language use inventory. *First language* 37(3): 252–266.
- Lyketsos, Constantine G., Li-Shiun Chen and James C. Anthony
1999 Cognitive decline in adulthood: An 11.5-year follow-up of the Baltimore Epidemiologic Catchment Area study. *The American Journal of Psychiatry* 156(1): 58–65.
- Macaulay, Ronald K. S.
2005 *Talk that Counts: Age, Gender, and Social Class Differences in Discourse*. New York: Oxford University Press.
- Marini, Andrea, Anke Boewe, Carlo Caltagirone and Sergio Carlomagno
2005 Age-related differences in the production of textual descriptions. *Journal of Psycholinguistic Research* 34(5): 439–463.
- Marsden, Sharon and Janet Holmes
2014 Talking to the elderly in New Zealand residential care settings. *Journal of Pragmatics* 64: 17–34.
- Mattheier, Klaus J.
1987 Alter, Generation. In: Ulrich Ammon, Norbert Dittmar, Klaus J. Mattheier (eds.), *Soziolinguistik*, 78–82. (Handbücher Sprach- und Kommunikationswissenschaft 3.1.) Berlin/New York: Walter de Gruyter.
- Matsumoto, Yoshiko
2009 Dealing with life changes: Humour in painful self-disclosures by elderly Japanese women. *Ageing and Society* 29(Special Issue 6): 929–952.
- Matsumoto, Yoshiko
2019 Taking the stance of quotidian in talking about pains: Resilience and defiance. *Linguistics Vanguard* 5(s2): 1–8.
- Mauthner, Gerlinde
2012 Korpuslinguistik und kritische Diskursanalyse. In: Ekkehard Felder, Marcus Müller and Friedemann Vogel (eds.), *Korpuspragmatik: Thematische Korpora als Basis diskurslinguistischer Analysen*, 83–114. (Linguistik, Impulse und Tendenzen 44.) Berlin/Boston: De Gruyter.
- Maxim, Jane, Karen Bryan and Ian Thompson
1994 *Language of the Elderly: A Clinical Perspective*. (Studies in Disorders of Communication.) San Diego, CA: Singular.
- Meng, Katharina and Susanne Schrabback
1999 Interjections in adult-child discourse: The cases of German HM and NA. *Journal of Pragmatics* 31: 1263–1287.
- Mentis, Michelle and Jan Briggs-Whittaker
1995 Discourse topic management in senile Dementia of the Alzheimer's Type. *Journal of Speech and Hearing Research* 38(5): 1054–1066.
- Müller, Nicole
2009 Aging with French: Observations from South Louisiana. *Journal of Cross-Cultural Gerontology* 24: 143–155.
- Murphy, Bróna
2010 *Corpus and Sociolinguistics: Investigating Age and Gender in Female Talk*. (Studies in Corpus Linguistics 38.) Amsterdam: Benjamins.

- Norrick, Neal R.
2009 The construction of multiple identities in elderly narrators' stories. *Ageing and Society* 29(Special Issue 06): 903–927.
- Norrick, Neal R.
2012 Remembering for narration and autobiographical memory. *Language and Dialogue* 2(2): 193–215.
- Odato, Christopher V. and Deborah Keller-Cohen
2009 Evaluating the speech of younger and older adults: Age, gender, and speech situation. *Journal of Language and Social Psychology* 28(4): 457–475.
- Paoletti, Isabella
1998 *Being an Older Woman: A Study in the Social Production of Identity*. Mahwah, NJ/London: Lawrence Erlbaum.
- Rühlemann, Christoph and Karin Aijmer
2015 Corpus pragmatics: Laying the foundations. In: Karin Aijmer and Christoph Rühlemann (eds.), *Corpus Pragmatics*, 1–28. Cambridge: Cambridge University Press.
- Ryan, Ellen B., Howard Giles, Giampiero Bartolucci and Karen Henwood
1986 Psycholinguistic and social psychological components of communication by and with elderly. *Language and Communication* 6(1–2): 1–24.
- Ryan, Ellen B., Mary L. Hummert and Linda H. Boich
1995 Communication predicaments of aging: Patronizing behavior toward older adults. *Journal of Language and Social Psychology* 14(1–2): 144–166.
- Sachweh, Svenja
2000 “Schätzle, hinsitze!” *Kommunikation in der Altenpflege*. 2nd edition. [Ph.D. dissertation, University of Freiburg (Breisgau), 1998] (Europäische Hochschulschriften Reihe 21, Linguistik 217.), Frankfurt am Main: Lang.
- Sachweh, Svenja
2003 “so frau adams↓ guck mal↓ ein feines bac-spray↓ gut↑”. Charakteristische Merkmale der Kommunikation zwischen Pflegepersonal und BewohnerInnen in der Altenpflege. In: Reinhard Fiehler and Caja Thimm (eds.), *Sprache und Kommunikation im Alter*, 143–160. Radolfzell: Verlag für Gesprächsforschung.
- Schaie, K. Warner
2006 What can we learn from longitudinal studies of adult development? *Research on Human Development* 3(2): 133–158.
- Schneider, Klaus P.
2010 Variational pragmatics. In: Mirjam Fried, Jan-Ola Östman and Jef Verschueren (eds.), *Variation and Change: Pragmatic Perspectives*, 239–267. (Handbook of Pragmatics Highlights 6.) Amsterdam/Philadelphia: Benjamins.
- Schneider, Klaus P. and Anne Barron
2008 Where pragmatics and dialectology meet: Introducing variational pragmatics. In: Klaus P. Schneider and Anne Barron (eds.), *Variational Pragmatics: A Focus on Regional Varieties in Pluricentric Languages*, 1–32. (Pragmatics and Beyond: New Series 178.) Amsterdam/Philadelphia: Benjamins.

- Schnieders, Guido
2003 “Weil alte Leute übert Ohr hauen find ich wirklich nicht gut”: Zur Funktion von altersthematisierenden Äußerungen im Diskurs. In: Reinhard Fiehler and Caja Thimm (eds.), *Sprache und Kommunikation im Alter*, 107–130. Radolfzell: Verlag für Gesprächsforschung.
- Schrauf, Robert W.
2009 Intracultural variation in cross-cultural gerontology. *Journal of Cross-Cultural Gerontology* 24: 115–120.
- Schrauf, Robert W. and Nicole Mueller (eds.)
2013 *Dialogue and Dementia: Cognitive and Communicative Resources for Engagement*. Hoboken: Taylor and Francis.
- Sfirlea, Lidia
1989 182. Rumänisch: Sprache und Generationen. In: Günter Holtus, Michael Metzeltin and Christian Schmitt (eds.), *Die einzelnen romanischen Sprachen und Sprachgebiete von der Renaissance bis zur Gegenwart: Rumänisch, Dalmatisch/Istroromanisch, Friaulisch, Ladinisch, Bündnerromanisch*, 197–208 (Lexikon der Romanistischen Linguistik 3.) Tübingen: Niemeyer.
- Shute, Brenda and Kevin Wheldall
1999 Fundamental frequency and temporal modifications in the speech of British fathers to their children. *Educational Psychology* 19(2): 221–233.
- Sillars, Alan L. and Paul H. Zietlow
1993 Investigations of marital communication and lifespan development. In: Nikolas Coupland and Jon Nussbaum (eds.), *Discourse and Lifespan Identity*, 237–261. (Language and Language Behaviors Series 4.) Newbury Park, CA: Sage.
- Sinclair, John
2005 Corpus and Text: Basic Principles. In: Martin Wynne (ed.), *Developing Linguistic Corpora: A Guide to Good Practice*, 1–16. Oxford: Oxbow Books.
- Singer, Tania, Paul Verhaeghen, Paolo Ghisletta, Ulman Lindenberger and Paul B. Baltes
2003 The fate of cognition in very old age: Six-year longitudinal findings in the Berlin Aging Study (BASE). *Psychology and Aging* 18(2): 318–331.
- Sunakawa, Chiho
2014 Virtual ie: A three-generational household mediated by webcam interactions. *Journal of Pragmatics* 69: 63–81.
- Taddei Gheiler, Franca
2005 *La Lingua degli Anziani*. Locarno: Osservatorio linguistico della Svizzera italiana.
- Tannen, Deborah
2007 *Talking Voices: Repetition, Dialogue, and Imagery in Conversational Discourse*, 2nd edition. (Studies in Interactional Sociolinguistics 25.) Cambridge: Cambridge University Press.
- Thompson, Paul
1992 ‘I don’t feel old’: Subjective ageing and the search for meaning in later life. *Ageing and Society* 12: 23–47.
- Underwood, Kate
2011 Facework as self-heroicisation: A case study of three elderly women. *Journal of Pragmatics* 43: 2215–2242.

- van Langenhove, Luk and Rom Harré
 1993 Positioning and autobiography: Telling your life. In: Nikolas Coupland (ed.), *Discourse and Lifespan Identity*, 81–99. (Language and Language Behaviors Series 4.) Newbury Park, CA: Sage.
- Vorster, Jan
 1975 Mommy linguist: The case for motherese. *Lingua* 37(4): 281–312.
- Wells, Gordon, Martin Montgomery and Margaret MacLure
 1979 Adult-child discourse: Outline of a model of analysis. *Journal of Pragmatics* 3: 337–380.
- Wendelstein, Britta and Christine Sattler
 2012 Das ILSE-Korpus: Eine korpuslinguistische Perspektive psychologisch-psychiatrischer Forschung am Beispiel der Alzheimer-Demenz. In: Ekkehard Felder, Marcus Müller and Friedemann Vogel (eds.), *Korpuspragmatik: Thematische Korpora als Basis diskurslinguistischer Analysen*, 488–511. (Linguistik, Impulse und Tendenzen 44.) Berlin/Boston: De Gruyter.
- Wierzbicka, Anna
 2003 *Cross-Cultural Pragmatics: The Semantics of Human Interaction*, 2nd edition. Berlin/New York: Mouton de Gruyter.
- Williams, Angie and Jake Harwood
 2004 Intergenerational communication: Intergroup, accommodation, and family perspectives. In: Jon F. Nussbaum and Justine Coupland (eds.), *Handbook of Communication and Aging Research*, 2nd edition, 115–137. Mahwah, NJ: Lawrence Erlbaum.
- Wingfield, Arthur and Murray Grossman
 2006 Language and the aging brain: Patterns of neural compensation revealed by functional brain imaging. *Journal of Neurophysiology* 96(6): 2830–2839.
- Wingfield, Arthur and Elizabeth A. Stine-Morrow
 2000 Language and speech. In: Fergus I. M. Craik and Timothy A. Salthouse (eds.), *The Handbook of Aging and Cognition*, 2nd edition, 359–416. Mahwah, NJ: Lawrence Erlbaum.
- Wingfield, Arthur, Sarah C. Wayland and Elizabeth A. Stine
 1992 Adult age differences in the use of prosody for syntactic parsing and recall of spoken sentences. *Journal of Gerontology* 47(5): 350–356.
- Wray, Alison
 2012 Patterns of formulaic language in Alzheimer's Disease: Implications for quality of life. *Quality in Ageing and Older Adults* 13(3): 168–175.
- Zellner-Keller, Brigitte
 2007 «Comment est-ce qu'on dit?» Vieillesse et manque de mot en conversation. *Nouveaux Cahiers de Linguistique Française* 28: 87–97.

II. Pragmatic development in a second language

9. Pragmatic development in L2: An overview

Marta González-Lloret

Abstract: This overview attempts to summarize a large field by first presenting some of the key concepts in pragmatics and the existing research on the development of these phenomena in L2 learners. It then presents those research methods most commonly used in the study of L2 pragmatic development as well as different possible analytical approaches to the data. The chapter summarizes the major findings of the accumulated body of research according to five major contexts of study: instructional settings, study abroad, lingua franca communication, technology-mediated contexts, and the workplace, in an attempt to answer the question: What do we know about how people learn pragmatics of a language that is not their mother tongue? Finally, the chapter outlines several emergent lines of research to show possible directions of the field.

1. Introduction

Situated between the fields of Pragmatics and Second Language Acquisition (SLA), second language (L2)¹ pragmatics examines how speakers of a language other than their first language communicate with others either by using the language of the context or a lingua franca. It also studies how their cultural and social background as well as their ideologies and first language affect the way they interact. Within L2 pragmatics, the study of L2 pragmatic development (also known as *acquisitional pragmatics* Bardovi-Harlig 1999 or *interlanguage pragmatics*) is concerned with the changes in the learners' pragmatic systems (their ability to understand and produce communicative actions appropriate for a context), how these changes occur, and how this process is affected by instruction and interaction with others, either inside or outside the classroom (e. g., in a study abroad context).

The interest in L2 pragmatic development followed Hymes' (1972) idea that in order to communicate in a language, social and cultural knowledge, and not only linguistic information, is necessary. Canale and Swain's (1980) and Canale's (1983) model of communicative competence also had an impact since it proposes socio-linguistic, strategic and discourse competences as essential for communication.

¹ "L2" is understood as any language learned after the mother tongue(s). Recognizing that most of the speakers around the world are actually multilingual, their L2 may actually be an L3, L4, etc.

That is, the abilities to observe social norms and use communicative strategies appropriately is as important as the correct use of grammar.

In one of the first monographs dedicated to L2 pragmatic development, Kasper and Rose (2002) stated that although a consistent body of work existed on non-native speaker's pragmatic ability, the research was not developmental in nature but rather described speakers' pragmatic use in different settings (see also Kasper 1992). According to the authors, developmental pragmatics is part of the study of second language *learning* (rather than *use*) and investigates "how L2 learners develop the ability to understand and perform action in a target language" (2002: 5). This call for acquisitional studies of L2 pragmatics has generated an entire field of research that has evolved in parallel to the field of SLA, from more cognitive, experimental studies (still a large part of the field) to more social and interactional studies.

It is important to mention here that although in the early 1980s there was an attempt to distinguish between learning as a conscious process usually associated with instruction, and acquisition as a subconscious process, in contemporary SLA research this distinction does not exist (Ortega, 2009). Therefore, in this chapter the terms learning, acquisition, and development will be used interchangeably.

2. Key concepts and research in L2 pragmatic development

Some key concepts in L2 pragmatic *development* coincide with those studied in L2 pragmatic *use* and are based on general concepts of pragmatics. These concepts are essential to understand the different aspects of being pragmatically competent in an L2. Given the scope and focus of this chapter, I will briefly define them and focus on findings of how L2 speakers acquire them.

2.1. Pragmalinguistics and sociopragmatics

To communicate effectively and appropriately in another language both pragmalinguistic and sociopragmatic knowledge are essential. According to Bardovi-Harlig (2013: 78), pragmalinguistic knowledge includes "the language resources speakers use for pragmatic purposes" while sociopragmatics knowledge involves "the rules that guide use of language in context." For example, pragmalinguistic knowledge of Spanish would be the recognition that two different forms are used to address another person: *tú* and *usted*, each with their own verb morphology. Sociopragmatic knowledge would include knowing when and with whom to use each one.

A small body of research has been dedicated to find out whether we can acquire one type of knowledge without the other, or which one is acquired first. In studies with beginner students, researchers have postulated that pragmatic knowledge is

present before the grammar needed to realize the act is present (e. g., Koike 1989; Pearson 2006). This can be attributed to the fact that adult L2 learners already possess pragmatic knowledge in their L1 and it can be transferred to the L2. However, researchers have also shown that even advanced L2 learners, with highly developed grammatical knowledge, often do not demonstrate sociopragmatic competence in the L2 (e. g., Bardovi-Harlig and Hartford 1993; House 1996). This is a complicated issue to study since most research test very specific areas of pragmatic knowledge, which is much larger and more difficult to define than grammatical knowledge. As illustrated by an example presented by Wyner and Cohen (2015), the interrelationship between pragmalinguistic and sociopragmatic knowledge is really tight and sometimes difficult to disentangle. They state that since public complaints are not acceptable according to sociopragmatic norms in Japan, a learner not only needs to be aware of this if she wants to complain about her soup in a Japanese restaurant in Tokyo, but she also needs to have sophisticated grammatical knowledge of how to perform this complaint in the “most obsequious, indirect manner” because “only with the proper use of them, coupled with the proper intonation, can you make a speech act such as a complaint work in a sociopragmatically delicate situation” (Wyner and Cohen 2015: 523). In addition, it seems that the learning context also plays an important role in whether grammatical or pragmatic knowledge develops first (see Schauer 2013 for an overview).

2.2. Pragmatic transfer

When we become L2 learners, we already possess pragmatic knowledge of our L1/C1². We understand concepts such as politeness and face-saving and know that conversations have a turn-taking system (Kasper and Rose 2002). For this reason, developing an L2 is not only about learning new sociopragmatic norms and pragmalinguistic forms, but also making sure that the L1/C1 pragmatic knowledge does not interfere by transferring pragmatic rules into a new context in which they may not be appropriate. Successful transfer of pragmatic norms between two languages is called positive transfer while unsuccessful transfer is called negative transfer. For example, a woman from Spain trying to greet a Japanese woman with two kisses would constitute negative transfer since this is not an acceptable greeting practice in Japan. It is important to point out that in some cases, pragmatic failure may be attributed by the expert speaker to the “foreignness” of the learner and the behavior may be dismissed as another language error. However, it is also true that negative transfer may result in pragmatic failure that is seen as offensive, with important consequences for the learner’s self-presentation, especially for higher level proficiency learners (Kasper 1992, Thomas 1983).

² L1 refers to the first language or mother tongue, C1 refers to the first culture.

Pragmatic transfer appears to be affected by the perceived closeness of the languages and the culture, the length of stay and exposure to the target culture, language proficiency, etc. Although early theories of L2 pragmatic transfer hypothesized that more proficient learners are more likely to transfer L1 sociocultural norms because their language capacity allows them to do it (Takahashi and Beebe 1987), research is inconclusive about whether higher level proficiency leads to less L1 transfer or all level learners perform transfer regardless of L2 proficiency (Bou-Franch 2013). In addition, recent research points out the importance of considering the learner's agency and willingness to accommodate to the target culture when researching pragmatic transfer. Research now shows that what appears as negative pragmatic transfer may be a conscious choice by the learner against adopting certain L2 pragmatic norms (Kim 2014; Ishihara 2019; Ishihara and Tarone 2009).

It is important to note that the idea of pragmatic transfer from an L1 to an L2 has been problematized from a point of view of multicompetence since most speakers are actually multilingual and therefore possess two or more language systems which are in constant interaction with a common underlying conceptual base (Kecskés and Papp 2000). See chapter 15 in this volume for more on pragmatic transfer.

2.3. Speech acts

The study of speech acts is the largest areas of research within L2 pragmatic development. Speech acts and speech act theory were first proposed by language philosopher John Austin (1962) and expanded by John Searle (1969) in an effort to explain how words could be used not only to present information but to also carry out action (how we *do* things with language). In this view, speech acts constitute the most central unit of communication and are classified as *locutionary* acts (the literal meaning of utterances) (e. g., “It is five twenty!”), *illocutionary* acts (what is intended to convey by the speaker) (e. g., “You are late!”), and *perlocutionary* acts (the effect that the utterance has on the hearer) (e. g., to receive an apology such as “I am sorry. There was traffic”). Although Austin's and Searle's theories focus on the two first categories, perlocutionary acts are essential in an interactional view of communication, since the reaction of the hearer can help clarify how an utterance was understood (Placencia and García 2013). Most recently, influenced by a discursive view of pragmatics (Kasper 2006) with a focus on the co-construction of social action, speech acts are considered not just isolated units but sequences in which one or more acts can be co-constructed as part of the interaction (González-Lloret 2010; Félix-Brasdefer 2019).

As for acquisitional studies, they include a variety of speech acts (e. g., requests, acceptances, refusals apologies, compliments, invitations, greetings), with different focus of investigation (e. g., comprehension, written production, oral production, politeness, agency and identity, individual differences) within different

contexts (e. g., classroom, study abroad, technology-mediated environments) and from different theoretical approaches (e. g., cognitive, sociocultural, interactional, usage-based). Among speech acts, requests have been one of the most investigated. The development of requests is usually characterized as an evolution from the use of unanalyzed routine formulas, simple language dependent on the context, the overuse of the politeness marker “please”, and the use of direct requests to the use of analyzed, productive language, including target-like formulaic routines and more indirect requests (Barron 2003; Kasper and Ross 2002). Later research has shown that this trajectory may be different depending on the pragmatic norms of the target community, moving for example from more conventional indirect forms to a more direct politeness norm (e. g., Shively, 2011). In general, developmental speech act studies suggest that as learners better understand the sociopragmatic norms that regulate interactions, they tend to move from short, formulaic language to more complex language with more modifications around the head act and more target norm use of direct and indirect forms (Taguchi and Roever 2017). Examples of research including a variety of speech acts will be presented in section 5 (see also chapter 10 in this volume).

2.4. Conversational implicature

The concept of implicature started with Paul Grice’s (1975) idea that utterances may imply more than their literal meaning. This implicature is connected to the expectations that the hearer has for a conversation that is cooperative with respect to maxims, indicating informativeness (maxim of Quantity), truthfulness (Quality), clarity (Manner), and relevance (relation). As native or competent speakers, we constantly break these maxims, and when this violation is clear to a competent hearer, additional meaning is conveyed. For example, if speaker A asks “How was your day?” and speaker B answers “I am glad it is over” the maxim of Quantity is flouted by only giving part of the information and letting the hearer infer the rest (i. e., it was not a good day). However, the ability to understand and interpret L2 implicature is one of the most difficult abilities to acquire by a language learner. Previous research has shown different developmental trajectories for different types of implicature. While idiosyncratic implicature (conversational implicature that breaks the maxim of relevance) seems to be quite easy to learn, formulaic implicature takes much longer to develop (Bouton 1999). Similarly, for comprehension, Taguchi and Yamaguchi (2019) point out that culture-specific conventions are more difficult to understand, and the distance between the propositional and intended meaning and the absence of audio-visual clues are factors that affect comprehension. In addition, language proficiency seems to be an affecting factor (Taguchi, 2008a, 2011a). As Taguchi and Roever (2017) state implicature develops in parallel to language proficiency and more transparent types of implicature are easier to comprehend than those that require culture-specific knowledge or have

opaque meaning (e. g., non-conventional implicature). Although acquiring implicature (at least formulaic implicature) seems to be a slow process, it has been shown that pedagogic intervention facilitates and speeds up the process (Rose and Kasper 2001; Rose 2005).

The idea of implicature is not without controversy. As stated by Kasper (2006), most traditional speech act theories are based on a rationalist model in which speaker's intention can be understood in isolation. However, recent models (e. g., conversation analysis) contend that action is not dependent on speaker intention but rather constructed in and through interaction. This would help to explain why seemingly identical utterances gain their meaning through the development of the interaction, rather than carrying static meaning as speaker intention (for more on implicature, see chapter 5 in this volume).

2.5. Politeness

Politeness has been widely investigated in L2 pragmatic development, often in connection with the production of speech acts. Two main theories have influenced this work: First, Lakoff's (1973) idea that indirect illocutions "tend to be more polite (a) because they increase the degree of optionality, and (b) because the more indirect an illocution is, the more diminished and tentative its force tends to be" (108); and second, Brown and Levinson's (1987: 61–62) notion of *face* "the public self-image that every member wants to claim for himself". According to Brown and Levinson, when interacting, participants try to keep a balance between their negative face, ("the want of every 'competent adult member' that his actions be unimpeded by others") and their positive face ("the want of every member that his wants be desirable to at least some others"). It is within this conflict that speakers use strategies of mitigation to minimize face threatening acts and maintain the conversation. Although both theories are extremely influential and have been used for the study of L2 pragmatic development they have been criticized for being an antagonistic view of communication (Kasper 1990) and for generalizing Western values that are not applicable to all cultures (e. g., Haugh 2010 for an overview). Alternative models have been proposed, among them Spencer-Oatey's (2000) idea of Rapport Management that highlights the importance of social relationships and interactional goals, and Arundale's Face Constituting Theory (2006, 2010) which understands relationships as developed through social interaction by jointly constructing turns at talk, action and meaning.

Research in L2 pragmatic development confirms that indirectness is not always the cultural norm of politeness, as found in Spanish service encounters by Bataller (2010) and Shively (2011), and in request making in Arabic (Al-Gahtani and Roever (2015). With interaction learners' politeness improve by approximating to the target language, even if this means being more direct (Shively, 2011). Time in contact with the target language seems to be less important than the intensity

and meaningfulness of the interaction for the development of pragmatic appropriateness and politeness (Bella 2010). Finally, politeness is not always a straight change, but rather what Edmondson and House (1991) termed a “waffle phenomenon” by which lower and intermediate learners may use excessive politeness, probably to compensate for a lack of sociopragmatic knowledge, which then drops as their language abilities increase.

To close this section, it is important to mention that this is not an exhaustive list of key elements of L2 pragmatics research, but rather those that have been widely investigated. Other important pragmatic elements are: routines (Bardovi-Harlig 2019), identity and agency (Ishihara 2019), prosody (Kang and Kermad 2019), and the development of cross-cultural/intercultural communication (Jackson 2019).

3. Research methods

The key aspects of L2 pragmatics presented above are investigated following a continuum in SLA research: from cognitive experimental studies that seeks to control as many variables as possible, such as learner characteristics (first language, L2 proficiency, language contact...) and context (situation, interlocutors, relations...) to social and interactional studies that look at naturally-occurring data outside of a laboratory (see Golato and Golato 2013; Schneider 2018 for overviews). In most cognitive studies, the validity, reliability and comparability of results are essential, and these studies tend to use tools such as Discourse Completion Tasks (DCTs) and Judgment/Acceptability Tasks (JTs) to elicit data which allow for statistical comparison and validation. Social and interactional studies, on the other hand, seek more interactive data, either elicited through role-plays or naturally occurring discourse in authentic contexts.

3.1. Judgment tasks

Judgment tasks elicit the learner’s perceptions of whether something is possible, acceptable, appropriate, polite, etc. They are most often used to tap into the learner’s explicit pragmatic knowledge. Data is most commonly presented in written form, although several studies have employed audio (e. g., Li and Taguchi 2014) or video (e. g., Bardovi-Harlig and Dörnyei 1998). After the input is presented, the learner is asked to judge an aspect of it using a binary choice (polite/impolite), Likert scale (1–5), or multiple-choice answers, and learners are often asked to correct what they think is incorrect/impolite and/or to reflect on their choice. Judgment tasks are used most frequently to investigate issues of power, distance, and imposition, as well as error perception and pragmatic knowledge. The following is an example from Bardovi-Harlig and Dörnyei (1998):

1. The teacher asks Peter to help with the plans for the class trip.

T: OK, so we'll go by bus. Who lives near the bus station? Peter, could you check the bus times for us on the way home tonight?

P: #No, I can't tonight. Sorry.

Was the last part appropriate/correct? Yes/No

If there was a problem, how bad do you think it was?

Not bad at all _____:_____:_____:_____:_____:_____ Very bad

Judgment tasks are often used in combination with measuring response times to study the processing of different pragmatic features, for example, how learners are able to process more or less indirect implicature (Taguchi 2011a) or different speech acts (Holtgraves 2007).

3.2. Discourse completion tasks (DCTs)

DCTs are production questionnaires that present a situation to which the L2 learner reacts, often in writing. One of the most widely-cited DCT questionnaire is that used in the Cross-Cultural Speech Act Realization Project (CCSARP) by Blum-Kulka, House and Kasper (1989), in which data was collected and compared from participants from five different languages. DCTs can also consist of several turns in a conversation for the learner to fill the missing parts. This is an example from Glaser (2016):

You have just arrived at the house of a close friend, who designs and makes clothes in her free time. Upon greeting you, she pulls an extremely ugly and unfashionable coat from behind her back and says: "I've got a surprise for you – you said you didn't have a coat to wear with your suit at your work event next week. I've made this myself and thought you could wear it. What do you think?" You know you will never wear it.

You say:

I wouldn't say anything.

Comment:

DCTs can also be employed to elicit L2 oral responses (Oral DCTs) in reply to an audio or written prompt. Oral DCTs used to be administered in audio language labs and are now delivered via computer. The following is an example adapted from Ren (2014):

You meet your course tutor, Dr. Mary White, after class in the corridor of your department. She asks you to give a presentation in next Wednesday's seminar. You really have many other things to do at the moment and you don't have enough time to prepare for the presentation.

[Learners see a picture and hear "Hi, we need more presenters for our seminar next Wednesday. I hope that you can give a presentation"]. After which they are prompted to record their answer.

These tools are somewhat limited in their capacity to elicit production, especially interactive data. In addition, DCTs elicit offline knowledge (e. g. Félix-Brasdefer 2010), that is, those strategies that students know about how to produce a speech act, but not necessarily what they would actually say. However, DCTs are the best tool to gather large amounts of data. Sometimes, DCTs are combined with retrospective verbal protocols (participants reflecting on their previous answers) (e. g., Ren 2014; Nguyen 2017) although the use of such retrospective tools is not without controversy in SLA research (see Bowles 2010).

3.3. Role-plays

Role-plays are conversations performed by two or more speakers who are given a scenario which usually includes the context of the conversation, characteristics of the speakers, and the relationship between them as well as any other relevant information to be able to perform the situation (e. g., Félix-Brasdefer 2018). Role-plays are designed to elicit a conversation as naturally as possible while controlling for as many variables as possible (who the participants are, the context, the language level, etc.). The following is an example from Yates (2010) for the study of request production among intermediate Dinka learners of English.

Requesting annual leave

Participant Card

You have 4 weeks' annual leave available this year. You would like to take 3 weeks leave now, even though it is a busy time at your workplace. Talk to your manager about this situation, explain why you want to take the leave now and negotiate a solution.

Interlocutor Card

You are the manager of a workplace. One of your employees has applied to take 3 weeks of their 4 weeks 'annual leave now. It is a particularly busy time at your workplace. Find out why he/she wants to take leave now. Explain that employees normally take leave at Christmas when things are quieter. Ask the employee to suggest ways to resolve the situation.

The advantages of role-plays over DCTs are that data is more natural and more interactive. According to Kasper and Dahl (1991: 228) role-plays represent “oral production, full operation of the turn-taking mechanism, impromptu planning decisions contingent on interlocutor input, and hence negotiation of global and local goals, including negotiation of meaning”. However, the data is still not authentic in that it lacks the real-world consequences of a real interaction and, no matter how detailed the situation prompt is, the interactants will have to make assumptions about the context and the other participant, which may or may not coincide with the idea of the researcher. The advantages of a role-play over natural occurring data are that it is much easier to gather, control, and make comparisons across data.

3.4. Naturally occurring data

Naturally occurring data is needed to study authentic discourse and interactional practices. The collection of naturally occurring data is not without challenges. The need to video or audio record the interaction brings difficulties and legal constraints to many situations. Researchers have avoided the possible effect they may have on the data (observer's paradox) by having the participants record their own conversations (Shively 2015). Early studies employing naturally occurring data focused mainly on institutional practices such as academic advising sessions (e. g., Bardovi-Harlig and Hartford 1996) and they have expanded to a large variety of everyday contexts. Recently, technology (i. e. emails, chats, blogs, SMSs, web archives) allows us to access and capture large quantities of naturally occurring authentic data with ease. For example, the study of advice or commiseration in support groups used to be quite challenging (for reasons of privacy and access), but this has changed considerably with the existence of open Internet support groups in which people produce the same type of language, or even more open given the anonymity that the Internet grants. Research that has taken advantage of technology to study L2 pragmatic development will be presented below in 5.4.

The advantages of naturally occurring data are its authenticity, spontaneity, and interactivity. The disadvantages are the possible difficulty of obtaining the data, the large amounts of data that need to be collected (since it is not possible to predict when or even if a pragmatic feature is going to appear), the impossibility of controlling all variables, and the lack of comparability of data, since as Bardovi-Harlig (2013: 70) points out “not two conversations are exactly alike”.

3.5. Interviews, retrospective verbal reports and elicited conversation tasks.

With an evolution of research on L2 pragmatic development from the more traditional fields of study such as politeness, speech acts, or pragmatic transfer towards interactional practices such as agency, identity creation, and affiliation, other data collection methods are also emerging. Among them are interviews, retrospective verbal protocols, and elicited conversations. Interviews can be used more traditionally as a way to clarify answers or behaviors provided in a DCT, judgment task, or role-play (e. g., Kurata 2011), but they can also be analyzed as interactional events in themselves. In this case, researchers consider how the interviewer and interviewee manage different pragmatic features such as stance, topic-shift, identity creation, affiliation/disaffiliation, and speech act sequences such as troubles-talk, complaints, etc. (e. g., Sandhu 2016). Similar to an interview, during retrospective verbal reports learners are asked to reflect on previous choices to try to get to their cognitive processes and pragmatic knowledge. For example, Ren (2014) asked participants “1. What were you focusing on when you responded to this situation?

and 2. What made you reply in this manner?” (p. 582) to investigate learners’ noticing of sociopragmatic features and other factors when producing refusals. Ren concludes that the use of retrospective verbal reports at different points during the learners’ study abroad allowed to see the changes in their cognitive processes. Finally, data can also be elicited via conversation tasks. They are used to elicit semi-naturalistic, spontaneous data. They can elicit large quantities of the target pragmatic feature and, unlike in role-plays, learners maintain their own real-life identities (e. g., Nguyen 2017).

It is important to note that all these tools are employed in L2 development investigations, and they all have advantages and disadvantages. Their selection should be based on being the most appropriate tool to gather the answers for a particular research question. As Bardovi-Harlig (2013: 77) states, measuring pragmatic development “has been reframed from looking for a common metric in L2 pragmatics to identifying areas of change and developing corresponding measures that capture that change.”

An interesting line of research has compared some of these tools (e. g., Félix-Brasdefer 2010). For example, Golato (2003) empirically showed the differences between DCTs and naturally occurring data. She collected responses to compliments naturally and then created a DCT questionnaire based on the same situations and administered it to comparable participants (some of them were the same in both groups). She found that the frequency of the preferred responses was different in the two data sets, and the DCTs elicited more responses that did not appear in the natural data. Similarly, in a comparison between police officers’ openings in real interviews and simulated interviews, Stokoe (2013) found that the simulated interviews were more elaborated and longer than real interviews. And Bataller (2013) found that native speakers role-play service encounters produced more openings and closings, their requests were longer and more explicit, and expressed more social distance than in natural data. For an in-depth comparison of some of these tools, see Bardovi-Harlig (2013), Golato and Golato (2013), Kasper and Dahl (1991), and Taguchi and Roever (2017).

4. Analysis of L2 pragmatics data

Judgment tasks data are usually converted into numerical data for statistical analysis, while role-plays, interviews, and other elicited data are usually analyzed using a speech act coding approach; a set of pre-determined (or induced) codes that is applied to the data. For example, data that elicited requests can be coded into direct requests (performatives, imperatives, want statements, and locution derivatives...); and conventionally indirect requests (e. g., suggestions, availability, prediction, permission, willingness and ability); and non-conventionally indirect strategies (e. g., hints) (Schauer 2009). In general, results are presented in a quantitative for-

mat and examples from the data are used as support, (e. g. *'Is it maybe possible that we meet tomorrow instead of today?'* Daniel, Session 1, Scenario 6. Schauer 2009).

For naturally occurring data the coding procedure described above can also be used. Often, interactive data is analyzed focusing on the sequential development of the interaction. Data is transcribed (in more or less detail) and then analyzed focusing on the content, the language, and/or participants' practices. Some approaches (e. g., ethnography, discourse analysis) tend to focus on macro variables such as gender, race, power, age, L1, while others employ a micro-analytical approach to discover patterns of interaction (e. g., conversation analysis, interactional linguistics) focusing on the conversation and what gets accomplished through it (Ford and Thompson 1996; González-Lloret 2008; Ishida 2009; Lee and Hellermann 2014; Taleghani-Nikazm and Huth 2010; Tsai and Kinginger 2014).

Following the general idea of SLA research that "any claim about learning (or development, progress, improvement, change, gains and so on) can be most meaningfully interpreted only within a full longitudinal perspective" (Ortega and Iberri-Shea 2005: 26), the field of L2 pragmatics also underscores the importance of longitudinal data for L2 pragmatic development studies. Longitudinal data is gathered from one or more participants over an extended period of time and, according to Ortega and Iberri-Shea (2005), it is fundamental since many questions of L2 development have to do with time and patterns of development. The need for longitudinal data is especially important to be able to see pragmatic development since pragmatic competence is an aspect of advanced L2 capacities that takes some time to acquire and involves mastering linguistic and non-linguistic knowledge (Taguchi 2010). Some longitudinal studies employ a traditional pre-and-post-test design where learners are tested on their comprehension or/and production of a pragmatic feature before and after an intervention (see Taguchi 2010 for a review) while others follow learner's interactional practices over time to discover pragmatic development (e. g., Firth 2009; González-Lloret 2011; Nguyen 2011). The studies presented below follow both trends.

5. What we know about how we develop L2 pragmatics

The development of pragmatics is linked directly to the development of other aspects of language (e. g. grammar, comprehension skills). As seen before in connection to speech acts, language learners start with a limited repertoire of pragma-linguistic features, where one form is associated with one function before having multiple functions for one form and multiple forms for one function. The longer the instruction time (or time in the C2) the higher their proficiency and the fewer their pragmatic errors. Perceptive abilities are developed first, especially in foreign language contexts (where the L2 is only spoken in the classroom). As for production, L2 speakers gradually decrease inappropriate performance (transferred from their

L1) and approximate more the norms of the C2. In L2 performance of face-threatening acts, the head acts are initially direct, relying mainly on illocutionary force alone, but with time become more indirect, with the use of more mitigators and downgraders (Ishida 2012), unless the target norm requires more directness (e. g., Shively 2011).

It is impossible to summarize here more than three decades of work on L2 development (see Taguchi and Roever (2017) for an in-depth review of the field), but I will summarize key aspects and investigations in the area of L2 pragmatic development according to five contexts where development occurs: Instructional, study abroad, lingua franca, technology-mediated and L2 workplace contexts.

5.1. Instructional settings/classroom

Given how many people learn languages in classroom settings, it is not surprising that this is one of the most investigated contexts in L2 pragmatic development studies (as it is for SLA research in general). Given that social interaction in a variety of contexts is essential for the development of pragmatics, it is important to know whether pragmatic features can be learned at all inside the walls of a classroom, especially those pragmalinguistic features and sociopragmatic norms different from classroom interaction practices (e. g., refusals, insults, rejecting invitations).

L2 developmental classroom studies have focused on either the development of comprehension or production of certain speech acts and mostly from a speech act-theoretic position (e. g., Martinez-Flor and Fukuya 2005 on suggestions), and many have tried to clarify whether we learn pragmatics best implicitly (i. e., through activities that are not focused on pragmatic features) or explicitly (e. g., through metapragmatic explanation) (e. g., Salemi, Rabiee and Ketabi 2012). Explicit instruction entails direct metapragmatic explanation and it is usually accompanied by practiced focused on the pragmatic feature (Kasper 2001). Implicit instruction implies the use of input flood, enhancement of the pragmatic form on the input (e. g., a dialogue), implicit feedback and consciousness raising activities. For example, Narita (2012) provided students with two transcripts of hearsay data in English and Japanese for them to identify the differences of scope of hearsay evidential markers in L1 English and L1 Japanese. They were also provided with questions to guide their own discovery of pragmatic patterns such as “What expressions do the English speaker and the Japanese speaker use when reporting hearsay information? (Noticing)” or “Can you explain what the features of English and Japanese hearsay are? Are there any differences between them? If you found the differences, why do you think they are different? (Understanding)” (p. 9). See Taguchi 2011b and Tateyama (2019) for more on pragmatics in the language classroom.

According to several syntheses of the field (Taguchi 2015a; Takahashi 2010) and two meta-analysis by Jeon and Kaya (2006) and Plonsky and Zhuang (2019),

instruction has a positive effect on pragmatic development, one that is maintained over time. This effect also found in general SLA (Norris and Ortega 2000) happens across languages, instructional targets, learner context, and proficiency level. As for method of instruction, explicit teaching seems to be more effective than implicit teaching and instruction with feedback and opportunities for practice the pragmatic target is the most effective (Plonsky and Zhuang 2019). It is important to note that some of these results may be influenced by the method of data collection since it seems that students tend to perform best when the measure is a similar task and/or a similar context to that of the instruction (Taguchi 2015a). In Plonsky and Zhuang's (2019) meta-analysis, free outcome measures such as role-plays yield larger effects than more controlled outcome measures such as DCTs which may suggest a possible relation between instruction/practice tasks and learning outcomes tasks. It is critical to notice that although explicit instruction is effective, teaching all the pragmatic rules of a language is impossible. It is therefore essential to teach language learners to be careful observers of expert speakers performing pragmatic acts, reflect on them, and confirm or modify their theories by asking expert speakers about them, and then choose how to make use of them (Yates and Major 2015). Pragmatic instruction therefore should aim at raising an awareness of pragmalinguistic forms and sociocultural norms of interaction for a variety of contexts, reflecting on cross-cultural similarities and differences between the C1 and C2, and enhancing students' skills for pragmatic comprehension (e. g., implicature) and the production of pragmatically-appropriate output.

In spite of pragmatics being recognized as an essential component in communicative competence and the results above suggesting the usefulness of incorporating it into language teaching, most language teaching materials only present pragmatics as something tangential, much of the time relegated to anecdotal cultural bits of information and a sideline to morphosyntactic information (Limberg, 2016; Ren and Han, 2016). Pragmatics can however be incorporated in creative and effective ways into the language classroom (e. g., Cohen and Ishihara 2013; Félix-Brasdefer and Cohen 2012; van Compernelle, Gomez-Laich and Weber 2016).

5.2. Study abroad

Studies of L2 pragmatic development in study abroad contexts investigate learners who spend time in the target culture (ranging from a few weeks to a year or two) studying the language and in many cases, living with local families. Given the importance that immersion in the target language has for the development of communicative competence, and the opportunities that such a context offers to observe and participate in a variety of authentic interactions, study abroad seems the ideal context for the development of L2 pragmatic competence. However, as existing research suggests, this is a complex context, with a multitude of variables,

and answers are not as straightforward as one would think. Some of the factors that have been shown to affect L2 pragmatic development are quality and amount of input, chances to interact, quality of interaction, motivation, and identity. Several studies have reported the lack of input for L2 learners who are not exposed to certain language forms, because of the contexts in which they live, or do not receive feedback on their pragmatic forms since they are seen as foreigners making an effort, which is good enough for communication. L2 learners may also have limited access to interactions since their context is reduced to their family and school, and, even if they have access, they may choose not to interact. The idea of access to rich pragmatic input and a variety of interactional contexts is also linked to motivation, which has an impact on L2 pragmatic development (Taguchi 2011a). Students who are highly motivated, will seize more opportunities for interaction and increase their chances of developing their pragmatic competence further (e. g., Kinginger 2008). Finally, another aspect that has been demonstrated to affect L2 pragmatic development is learner identity. That is, how the learners position themselves within the L2 and to what extent they want to assimilate or not to the target culture. There are several examples of students who, understanding the pragmatic rules of the L2, decide not to adopt them, maintaining their non-target pragmatic use (e. g., Barron 2003; Ishihara and Taron 2009; Kim, 2014). See Ishihara (2019) for more on identity and agency in L2 pragmatics.

With enough access to input and interaction, learners in study abroad contexts improve their pragmatic awareness (Schauer 2009), are able to improve their request production (Cohen and Shively 2007; Shively 2011), tend to increase their use of mitigation, and improve their requests towards the target form (e. g. hearer-oriented requests in Spanish in Bataller 2010; Félix-Brasdefer 2007; Shively 2011). Research on refusals is conflicting. While some studies report gains in the production of refusals (Barron 2003, 2007, Félix-Brasdefer 2004; Ren 2015), this was not consistent in all aspects (e. g., less progress on the pragmalinguistic forms) and after a considerable period, learners refusals remained non target-like (Félix-Brasdefer 2013).

Finally, it is important to mention “language learning in the wild” as a new concept (although the term was already used by Hutchins in 1995), gaining interest rapidly. Research in this context investigates how learners acquire an L2 language (including pragmatic competence) by participating in everyday interactions in different social situations in the community without any formal language instruction. According to Pérez Vidal and Shively (2019) learning in this situation happens slowly and often learners do not acquire target-like pragmatic competence. For more on developing L2 pragmatic competence in a study abroad context, see chapter 15 in this volume.

5.3. Lingua franca communication

Lingua franca refers to a language of communication between two people that are not using their L1. According to House (2012: 1), lingua franca communication is “a special type of intercultural communication where each combination of interactants, each discourse community, negotiates its own lingua franca use in terms of code-switching, discourse strategies, negotiation of forms, and meanings.” The main difference between this L2-L2 (rather than L1-L2) communication in regard to pragmatics is that target language interactional norms, rules of politeness, and other sociopragmatic norms are suspended, and new co-constructed discourse strategies and pragmatic rules are developed. This type of communication is goal oriented and as such linguistic accuracy is not crucial. As long as there are no disruptions in understanding, grammar is of no concern to participants. Participants help each other when there are linguistic problems, co-construct sentences, invent new idioms, and do all possible to maintain communication and intersubjectivity, which in turn leads to a sense of solidarity and group identity. In this context, developing L2 pragmatic competence does not necessarily mean approximating a native speaker norm but rather the in-group sociopragmatic and pragmalinguistic norms, since these are co-constructed by the participants and therefore dependent on the participants’ L1s/C1s, communicative goal, context, etc. As Kecskés (2014: 3) states, this type of intercultural communication is about creating a “third culture”.

Most of the existing investigation in L2 pragmatics in lingua franca has studied strategies for communication, management of interaction, intersubjectivity, and accommodation, but most of the studies report use rather than showing development (e. g., House 2010, 2013). One example focusing on how a pragmatic feature developed in lingua franca communication is Gu, Patkin and Kirkpatrick (2013) who investigated issues of identity construction of university students in Hong Kong. They found that students’ identities were not fixed but rather varied at different times during the interaction. They also found that participants tried to maintain alignment when face-threatening episodes occurred, negotiating power relations and considering their interlocutors’ values and cultures to smooth socialization. There is still a lot we do not know about how interactional competence in a lingua franca evolves over time, and since most studies have been conducted in English as lingua franca, we do not know yet if the results hold true for other languages. For more on lingua franca, see Jenkins 2015.

5.4. Technology-mediated contexts

Learning the pragmatics of an L2 through technologies can happen in all the contexts we have seen so far; in a natural context (learning to write email messages as part of working in an L2), in lingua franca communication (two businessmen

videoconferencing to close a deal), or as part of an educational context (students using forum entries in the L2 to analyze L2 norms of politeness). What defines then a technology-mediated context is the space that is created for an authentic and significant communication with its own interactional norms and practices.

As with the contexts above, the first studies of technology-mediated L2 pragmatics were descriptive in nature and investigated different technologies to find how L2 learners interacted through them and which pragmatic norms were relevant. These studies of “Cyberpragmatics” (Yus 2013) revealed that L2 learners are capable of interacting adequately in technology-mediated environments (as native speakers do). They are capable of organizing the structure of the interaction, developing new topics, and employing complex interactional work to establish intersubjectivity and maintain the flow of conversation (e. g., González-Lloret 2009; Tercedor Cabrero 2013; Tsai and Kinginger 2014). Learners also recognize technology-mediated contexts as real places of interaction, even if they are classroom activities. They use resources from face-to-face interaction to maintain rapport even when communication breakdowns would have no consequences given the anonymity of the media (Gonzales 2013; Pojanapunya and Jaroenkitboworn, 2011). However, L2 interactions are not always pragmatically adequate. Participants not always pay attention to politeness norms. They employ mitigators inappropriately and use more phatic and less explicit language than needed, which may result in conversation breakdowns and even the creation of cultural stereotypes (Biesenbach-Lucas and Weasenforth 2002). In line with face-to-face classroom research, we can find studies that investigate whether explicit or implicit treatments through technology are more efficient. The results are similar to those in face-to-face classrooms; instruction has an effect on pragmatic development and explicit instruction seems to lead to more pragmatic gains than implicit instruction (Eslami, Mirzaei and Dini 2015).

It is important, therefore, to describe what happens in the interactions as well as to explore how technology-mediated environments can help the development of L2 pragmatic competence. In this line of research, a few studies have investigated the development of addressivity (e. g., Belz and Kinginger 2003; González-Lloret 2008; Kim and Brown 2014) and several speech acts such as greetings (e. g., Abrams 2013), email requests (e. g., Chen 2006; Cunningham 2016; Pan 2012), leave takings (e. g., Gonzales 2013; Pojanapunya and Jaroenkitboworn 2011), responses to troubles talk (e. g., González-Lloret 2011), suggestions (e. g., Soares Palmer 2010), and invitation refusals (e. g., Sykes 2005, 2008). These studies demonstrate that technology-mediated environments are excellent contexts for the development of addressivity and speech acts when learners sustain interaction, receive quality feedback from L1 speakers, and are willing to adopt L2 sociopragmatic rules. In these studies, learners show an understanding of sociopragmatic norms of address and improve drastically their pragmalinguistic forms. Their speech acts become more complex and sophisticated with time, reducing their formulaic language and

including more elaborated sequences with more mitigators, more similar to target-like production. They are also capable of changing from using speaker-oriented strategies to hearer-oriented strategies (Chen 2006; Sykes 2008). It is interesting that these results have been consistent across different media such as chats (Belz and Kinginger 2003; González-Lloret 2008; Kim and Brown 2014), email (Chen 2006; Kakegawa 2009; Pan 2012), virtual environments (Pojanapunya and Jaroenkitboworn 2011; Sykes 2008), mobile place-based games (Holden and Sykes 2012), and multiplayer online games such as World of Warcraft (Soares Palmer 2010). For recent overviews of this area, see Sykes (2018), Sykes and Dubreil (2019), and Cunningham (2019).

5.5. In the L2 workplace

An important body of research exists on how immigrants acquire L2 pragmatics (and intercultural competence) in the target culture. Much of it has been dedicated to the workplace and has been situated within a language socialization framework (e. g., Li 2000). For immigrants, the development of L2 pragmatics is essential since failure to act appropriately (e. g., applying for housing, medical care, a job position) may seriously affect their livelihood and that of their families. When entering a workforce, L2 learners need to socialize into a new work environment and also master the institutional talk of the workplace (Timpe-Laughlin 2019). This is not an easy task, and research suggest that a combination of classroom instruction and supported work placement is the most successful for the development of their L2 pragmatics (Riddiford and Holmes 2015; Timpe-Laughlin 2019). As Timpe-Laughlin (2019) states, very few studies have been dedicated to finding how people learn L2 pragmatics in or for the workplace and they concentrate in Australia, New Zealand and the U.S. A. and only a few speech acts and pragmatic functions have been explored (e. g., requests, discourse markers, small talk). This is therefore a context in dear need of research.

6. Future directions for research

In a world that is increasingly global and on the move, communication is destined to become increasingly intercultural, involving interactants from different languages and cultures who are pragmatically diverse with different social values and norms. The traditional concept of a learner as a monolingual and monocultural individual is rapidly fading under the reality of an overwhelmingly multilingual and multicultural world. The field of L2 pragmatic development has also started to consider how the development of pragmatics in multilinguals may be similar or different from that of monolinguals and how different languages may affect pragmatic competence, interaction, and identity creation (e. g., Antoniou 2019 for

implicature research in multilingual children and Safont Jordá 2012 for a review of pragmatic research in multilingual contexts). This promises to be a fast-growing area of research.

In line with the idea of a globalized world, technology-mediated communications constitute a large part of our interaction. As new technological innovations appear, research will need to examine their potential for L2 pragmatic development. It is difficult to foresee today the technologies of tomorrow but, in my opinion, augmented realities and mobile communications offer interesting unexplored territories into the pragmatics of L2 interaction. See for example Spagnolli (2012) for a peek into the pragmatics of mobile texting.

Also, as the importance of pragmatic competence is recognized and incorporated more regularly in language teaching, the assessment of pragmatics will become an important practice in the field. There are already important lines of work in this area. The first line was started by Hudson, Detmer and Brown's (1995) test on requests and refusals for Japanese ESL learners which included written, oral and multiple choice DCTs, role-play and a self-assessment scales (see also Brown and Ahn 2011; Liu 2006). The second one was initiated by Carsten Roever's (2005, 2006, 2011) assessment project of situational routine formulas and comprehension of implicature through multiple-choice tasks (e. g., Roever, Fraiser and Elder 2014). The edited volume by Ross and Kasper (2013) *Assessing Second Language Pragmatics* highlights the growing importance of this area of research as well as its evolution into a discursive interactional view of the assessment of pragmatics. See Youn and Bogorevich (2019) for more on assessment in L2 pragmatics.

A final area of growing importance that will continue into the future is that of individual differences in L2 pragmatic development. In 2002, Kasper and Ross sent "a strong invitation to research on individual differences in learning L2 pragmatics" (2002: 278) since only a few studies existed on the topic. Since then, several studies have appeared (e. g., Roever, Wang and Brophy 2014 on L2 proficiency; Shimura 2003 on the effect of personality; and Taguchi 2013 on language proficiency, orientation towards English and lexical access skills). As stated by Takahashi (2019), individual differences do affect pragmatic performance as well as the cognitive processes of attention and awareness. Takahashi advocates for a dynamic approach that considers multiple variables and individual-based longitudinal qualitative investigation (e. g., Taguchi 2012, 2015b) for the future research of individual differences.

This chapter has provided an overview of the field of L2 pragmatic development, showing the complexity of the field, what we know about how language learners acquire pragmatic knowledge and what we still need to discover. The chapter includes extended references for those readers that want to deepen in any of the topics in an attempt to compensate for the impossibility of covering this field in its entirety.

References

- Abrams, Zsuzsanna
2013 Say what?! L2 sociopragmatic competence in CMC: Skill transfer and development. *CALICO Journal* 30(3): 423–445.
- Al-Gahtani, Saad and Carsten Roever
2012 Proficiency and sequential organization of L2 requests. *Applied Linguistics* 33(1): 42–65.
- Antoniou, Kyriakos
2019 Multilingual pragmatics: Implicature comprehension in adult L2 learners and multilingual children. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 495–510. (Routledge Handbooks in Second Language Acquisition 1.) London: Routledge.
- Arundale, Robert
2006 Face as relational and interactional: A communication framework for research on face, facework and politeness. *Journal of Politeness Research* 2(2): 193–217.
- Arundale, Robert
2010 Constituting face in conversation: Face, facework, and interactional achievement. *Journal of Pragmatics* 42(8): 2078–2105.
- Austin, John L.
1962 *How to Do Things with Words*. Cambridge, MA: Harvard University Press.
- Bardovi-Harlig, Kathleen
1999 Exploring the interlanguage of interlanguage pragmatics: A research agenda for acquisitional pragmatics. *Language Learning* 49(4): 677–713.
- Bardovi-Harlig, Kathleen
2013 Developing L2 pragmatics. *Language Learning* 63: 68–86.
- Bardovi-Harlig, Kathleen
2019 Routines in L2 pragmatics research. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 47–62. (Routledge Handbooks in Second Language Acquisition 1.) London/New York: Routledge.
- Bardovi-Harlig, Kathleen and Zoltan Dörnyei
1998 Do language learners recognize pragmatic violations? Pragmatic versus grammatical awareness in instructed L2 learning. *TESOL Quarterly* 32: 232–262.
- Bardovi-Harlig, Kathleen and Beverly S. Hartford
1993 Learning the rules of academic talk: A longitudinal study of pragmatic change. *Studies in Second Language Acquisition* 15(3): 279–304.
- Barron, Anne
2003 *Acquisition in Interlanguage Pragmatics. Learning How to Do Things with Words in a Study Abroad Context*. Amsterdam/Philadelphia: Benjamins.
- Barron, Anne
2007 “Ah no honestly we’re okay:” Learning to upgrade in a study abroad context. *Intercultural Pragmatics* 4(2): 129–166.
- Bataller, Rebeca
2010 Making a request for a service in Spanish: Pragmatic development in the study abroad setting. *Foreign Language Annals* 43(1): 159–174.

- Bataller, Rebeca
2013 Role-plays vs. natural data: Asking for a drink at a cafeteria in peninsular Spanish. *Íkala, Revista de Lenguaje y Cultura* 18(2): 111–126.
- Bella, Spyridoula
2011 Mitigation and politeness in Greek invitation refusals: Effects of length of residence in the target community and intensity of interaction on non-native speakers' performance. *Journal of Pragmatics* 43(6): 1718–1740.
- Belz, Julie A. and Celeste Kinginger
2003 Discourse options and the development of pragmatic competence by classroom learners of German: The case of address forms. *Language Learning* 53(4): 591–647.
- Biesenbach-Lucas, Sigrun and Donald Weasenforth
2002 Virtual office hours: Negotiation strategies in electronic conferencing. *Computer Assisted Language Learning* 15(2): 147–165.
- Blum-Kulka, Shoshana, Juliane House and Gabriele Kasper (eds.)
1989 *Cross-Cultural Pragmatics: Requests and Apologies*. Norwood, NJ: Ablex.
- Bou-Franch, Patricia
2013 Pragmatic transfer. In: Carol A. Chapelle (ed.), *The Encyclopedia of Applied Linguistics*. Oxford: Blackwell. <https://doi.org/10.1002/9781405198431.wbea10932>
- Bouton, Lawrence F.
1999 Developing nonnative speaker skills in interpreting conversational implicatures in English. In: Eli Hinkel (ed.), *Culture in Second Language Teaching and Learning*, 47–70. (Cambridge Applied Linguistics Series.) Cambridge, U.K./New York: Cambridge University Press.
- Bowles, Melissa A.
2010 *The Think-Aloud Controversy in Second Language Research*. London: Routledge.
- Brown, James Dean and Russell Changseob Ahn
2011 Variables that affect the dependability of L2 pragmatics tests. *Journal of Pragmatics* 43(1): 198–217.
- Brown, Penelope and Stephen Levinson
1987 *Politeness: Some Universals in Language Usage*. Cambridge: Cambridge University Press.
- Canale, Michael
1983 From communicative competence to communicative language pedagogy. In: Jack Richards and Richard Schmidt (eds.), *Language and Communication*, 2–27. London: Longman.
- Canale, Michael and Merrill Swain
1980 Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics* 1: 1–47.
- Chen, Chi-Fen Emily
2006 The development of e-mail literacy: From writing to peers to writing to authority figures. *Language Learning and Technology* 10(2): 35–55.
- Cohen, Andrew D. and Noriko Ishihara
2013 Pragmatics. In: Brian Tomlinson (ed.), *Applied Linguistics and Materials Development*, 113–126. London/New York: Bloomsbury.

- Cohen, Andrew and Rachel Shively
2007 Acquisition of requests and apologies in Spanish and French: Impact of study abroad and strategy-building intervention. *The Modern Language Journal* 71(2): 189–212.
- Cunningham, D. Joseph
2016 Request modification in synchronous computer-mediated communication: The role of focused instruction. *The Modern Language Journal* 100(2): 484–507.
- Cunningham, D. Joseph
2019 L2 pragmatic learning in computer-mediated communication. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 372–386. (Routledge Handbooks in Second Language Acquisition 1.) London: Routledge.
- Edmondson, Willis and Juliane House
1991 Do learners talk too much? The waffle phenomenon in interlanguage pragmatics. In: Robert Phillipson, Eric Kellerman, Larry Selinker, Mike Sharwood-Smith and Merrill Swain (eds.), *Foreign/Second Language Pedagogy*, 237–287. Clevedon: Multilingual Matters.
- Eslami, Zohreh R., Azizullah Mirzaei and Shadi Dini
2015 The role of asynchronous computer mediated communication in the instruction and development of EFL learners' pragmatic competence. *System* 48: 99–111.
- Félix-Brasdefer, J. César
2004 Interlanguage refusals: Linguistic politeness and length of residence in the target community. *Language Learning* 54(4): 587–653
- Félix-Brasdefer, J. César
2007 Pragmatic development in the Spanish as a FL classroom: A cross-sectional study of learner requests. *Intercultural Pragmatics* 4(2): 253–286.
- Félix-Brasdefer, J. César
2010 Data collection methods in speech act performance: DCTs, role plays, and verbal reports. In: Alicia Martínez Flor and Esther Usó Juan (eds.), *Speech Act Performance: Theoretical, Empirical and Methodological Issues*, 41–56. (Language Learning and Language Teaching 26.) Amsterdam/Philadelphia: Benjamins.
- Félix-Brasdefer, J. César
2013 Refusing in L2 Spanish: The effects of the context of learning during a short-term study abroad program. In: Otilia Martí Arnándiz and Patricia Salazar-Campillo (eds.), *Refusals in Instructional Contexts and Beyond*, 147–173. Amsterdam: Rodopi.
- Félix-Brasdefer, J. César
2018 Role plays. In: Andreas H. Jucker, Klaus P. Schneider and Wolfram Bublitz (eds.), *Methods in Pragmatics*, 305–331. (Handbooks of Pragmatics 10.) Berlin/Boston: De Gruyter Mouton.
- Félix-Brasdefer, J. César and Andrew Cohen
2012 Teaching pragmatics in the foreign language classroom: Grammar as a communicative resource. *Hispania* 95: 650–669.

- Firth, Alan
2009 Doing *not* being a foreign language learner: English as a *lingua franca* in the workplace and (some) implications for SLA. *International Review of Applied Linguistics in Language Teaching* 47: 127–156.
- Ford, Celia E. and Sandra A. Thompson
1996 Interactional units in conversation: Syntactic, intonational and pragmatic resources for the management of turns. In: Elinor Ochs, Emanuel A. Schegloff and Sandra A. Thompson (eds.), *Interaction and Grammar*, 134–184. Cambridge: Cambridge University Press.
- Glaser, Karen
2016 News from the pragmatics classroom: Contrasting the inductive and the deductive approach in the teaching of pragmatic competence. *Intercultural Pragmatics* 13(4): 529–561.
- Golato, Andrea
2003 Studying compliment responses: A comparison of DCTs and recordings of naturally occurring talk. *Applied Linguistics* 24(1): 90–121.
- Golato, Andrea and Peter Golato
2013 Pragmatic research methods. In: Carol A. Chapelle (ed.), *The Encyclopedia of Applied Linguistics*. Oxford: Blackwell. <http://doi.wiley.com/10.1002/9781405198431.wbeal1241>.
- Gonzales, Adrienne M.
2013 Development of politeness strategies in participatory online environments. In: Naoko Taguchi and Julie M. Sykes (eds.), *Technology in Interlanguage Pragmatics Research and Teaching*, 101–120. (Language Learning and Language Teaching 36.) Amsterdam: Benjamins.
- González-Lloret, Marta
2008 Computer-mediated learning of L2 pragmatics. In: Eva Alcón Soler and Alicia Martínez-Flor (eds.), *Investigating Pragmatics in Foreign Language Learning, Teaching and Testing*, 114–132. Clevedon, UK: Multilingual Matters.
- González-Lloret, Marta
2009 CA for computer-mediated interaction in the Spanish L2 classroom. In: Hanh Nguyen and Gabrielle Kasper (eds.), *Talk-in-Interaction: Multilingual Perspectives*, 281–316. Honolulu, HI: NFLRC and University of Hawaii Press.
- González-Lloret, Marta
2010 Conversation analysis and speech act performance. In: Alicia Martínez-Flor and Esther Usó-Juan (eds.), *Speech Act Performance: Theoretical, Empirical and Methodological Issues*, 57–74. Amsterdam/Philadelphia: Benjamins.
- González-Lloret, Marta
2011 Conversation analysis of computer-mediated communication. *CALICO Journal* 28(2): 308–325.
- Grice, H. Paul
1975 Language and conversation. In: Peter Cole and Jerry L. Morgan (eds.), *Syntax and Semantics*, Volume 3: *Speech Acts*, 41–58. New York: Academic Press.
- Gu, Mingyue (Michelle), John Patkin and Andy Kirkpatrick
2014 The dynamic identity construction in English as *lingua franca* intercultural communication: A positioning perspective. *System* 46: 131–142.

- Haugh, Michael
 2010 Respect and deference. In: Miriam A. Locher and Sage L. Graham (eds.), *Interpersonal Pragmatics*, 271–288. (Handbooks of Pragmatics 6.) Berlin/New York: De Gruyter Mouton.
- Holden, Chris and Julie M. Sykes
 2012 *Mentira*: Prototyping language-based locative gameplay. In: Seann Dikkers, John Martin and Bob Coulter (eds.), *Mobile Media Learning: Amazing Uses of Mobile Devices for Teaching and Learning*, 111–131. Pittsburg, PN: ETC Press.
- Holtgraves, Thomas
 2007 Second language learners and speech act comprehension. *Language Learning* 57(4): 595–610.
- House, Juliane
 1996 Developing pragmatic fluency in English as a foreign language: Routines and metapragmatic awareness. *Studies in Second Language Acquisition* 18(2): 225–252.
- House, Juliane
 2010 The pragmatics of English as a lingua franca. In: Anna Trosborg (ed.), *Pragmatics across Languages and Cultures*, 363–387. (Handbooks of Pragmatics 7.) Berlin/New York: De Gruyter Mouton.
- House, Juliane
 2012 Pragmatics of lingua franca interaction. In: Carol A. Chappelle (ed.), *The Encyclopedia of Applied Linguistics*, 4576–4582. Oxford: Blackwell.
- House, Juliane
 2013 Developing pragmatic competence in English as a lingua franca: Using discourse markers to express (inter)subjectivity and connectivity. *Journal of Pragmatics* 59: 57–67.
- Hudson, Thom, Emily Detmer and James Dean Brown
 1995 *Developing Prototypic Measures of Cross-Cultural Pragmatics*. Honolulu: University of Hawai'i at Manoa, Second Language Teaching and Curriculum Center.
- Hutchins, Edwin
 1995 *Cognition in the Wild*. Cambridge, MA: MIT Press.
- Hymes, Dell
 1972 On communicative competence. In: John B. Pride and Janet Holmes (eds.), *Sociolinguistics*, 269–293. Harmondsworth: Penguin.
- Ishida, Midori
 2009 Development of interactional competence: Changes in the use of *ne* in L2 Japanese during study abroad. In: Hanh T. Nguyen and Gabriele Kasper (eds.), *Talk-in-Interaction: Multilingual Perspectives*, 351–387. Honolulu, HI: National Foreign Language Resource Center.
- Ishihara, Noriko
 2019 Identity and agency in L2 pragmatics. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 161–175. (Routledge Handbooks in Second Language Acquisition 1.) London/New York, NY: Routledge.

- Ishihara, Noriko and Elaine Tarone
2009 Subjectivity and pragmatic choice in L2 Japanese: Emulating and resisting pragmatic norms. In: Naoko Taguchi (ed.), *Pragmatic Competence* (Mouton Series in Pragmatics 5), 101–128. Berlin/New York: Mouton de Gruyter.
- Jackson, Jane
2019 Intercultural competence and L2 pragmatics. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 479–494. (Routledge Handbooks in Second Language Acquisition 1.) London/New York: Routledge.
- Jenkins, Jennifer
2015 *Global Englishes: A Resource Book for Students*. (Third Edition.) London/New York: Routledge.
- Jeon, Eun Hee and Tadayoshi Kaya
2006 Effects of L2 instruction on interlanguage pragmatic development: A meta-analysis. In: John Michael Norris and Lourdes Ortega (eds.), *Synthesizing Research on Language Learning and Teaching*, 165–211. Amsterdam/Philadelphia: Benjamins.
- Kakegawa, Tomomi
2009 Development of the use of Japanese sentence-final particles through email correspondence. In: Naoko Taguchi (ed.), *Pragmatic Competence*, 301–334. (Mouton Series in Pragmatics 5.) Berlin/New York: Mouton de Gruyter.
- Kang, Okim and Alyssa Kermad
2019 Prosody in L2 pragmatic research. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 78–92. (Routledge Handbooks in Second Language Acquisition 1.) London/New York: Routledge.
- Kasper, Gabriele
1990 Linguistic politeness. *Journal of Pragmatics* 14: 193–218.
- Kasper, Gabriele
1992 Pragmatic transfer. *Second Language Research* 8(3): 203–231.
- Kasper, Gabriele
2001 Classroom research on interlanguage pragmatics. In: Kenneth R. Rose and Gabriele Kasper (eds.), *Pragmatics in Language Teaching*, 33–62. Cambridge: Cambridge University Press.
- Kasper, Gabriele
2006 Speech acts in interaction: Towards discursive pragmatics. In: Kathleen Bardovi-Harlig, J. César Félix-Brasdefer and Alwiya S. Omar (eds.), *Pragmatics and Language Learning*, Volume 11, 281–314. Honolulu: University of Hawai'i Press.
- Kasper, Gabriele and Merete Dahl
1991 Research methods in interlanguage pragmatics. *Studies in Second Language Acquisition* 13(2): 215–247.
- Kasper, Gabriele and Kenneth Rose
2002 *Pragmatic Development in a Second Language*. Malden, MA: Blackwell.
- Kecskés, István
2014 *Intercultural Pragmatics*. Oxford: Oxford University Press.

- Kecskés, István and Tünde Papp
2000 *Foreign Language and Mother Tongue*. Mahwah, NJ: Erlbaum.
- Kim, Eun Young Ariel and Lucien Brown
2014 Negotiating pragmatic competence in computer mediated communication: The case of Korean address terms. *CALICO Journal* 31(3): 264–284.
- Kim, Hye Yeong
2014 Learner investment, identity, and resistance to second language pragmatic norms. *System* 45: 92–102.
- Kinginger, Celeste
2008 Language learning in study abroad: Case studies of Americans in France. *The Modern Language Journal* 92: 1–124.
- Koike, Dale
1989 Pragmatic competence and adult L2 acquisition: Speech acts in interlanguage. *The Modern Language Journal* 73: 279–251.
- Kurata, Naomi
2012 *Foreign Language Learning and Use: Interaction in Informal Social Networks*. London/New York: Continuum.
- Lakoff, Robin T.
1973 The logic of politeness; or minding your p's and q's. In: Claudia Corum, Cedric T. Smith-Stark and Ann Weiser (eds.), *9th Regional Meeting of the Chicago Linguistics Society*, 292–305. Chicago: Chicago Linguistic Society.
- Lee, Yo-An and John Hellermann
2014 Tracing developmental changes through Conversation Analysis: Cross-sectional and longitudinal analysis. *TESOL Quarterly* 48(4): 763–788.
- Li, Duanduan
2000 The pragmatics of making requests in the L2 workplace: A case study of language socialization. *Canadian Modern Language Review* 57(1): 58–87.
- Li, Shuai and Naoko Taguchi
2014 The effect of practice modality on the development of pragmatic performance in L2 Chinese. *Modern Language Journal* 98: 794–812.
- Limberg, Holger
2016 Teaching how to apologize: EFL textbooks and pragmatic input. *Language Teaching Research* 20(6): 700–718.
- Liu, Jianda
2006 *Measuring Interlanguage Pragmatic Knowledge of EFL Learners*. (Language Testing and Evaluation 5.) Frankfurt am Main/New York: Peter Lang.
- Martínez-Flor, Alicia and Yoshinori Fukuya
2005 The effects of instruction on learners' production of appropriate and accurate suggestions. *System* 33(3): 463–480.
- Narita, Ritsuko
2012 The effects of pragmatic consciousness-raising activity on the development of pragmatic awareness and use of hearsay evidential markers for learners of Japanese as a foreign language. *Journal of Pragmatics* 44(1): 1–29.
- Nguyen, Hanhn
2011 Achieving recipient design longitudinally: Evidence from a pharmacy intern in patient consultations. In: Joan Kelly Hall, John Hellermann and Simona Peka-rek Doehler (eds.), *L2 Interactional Competence and Development*, 173–205. (Second Language Acquisition 56.) Bristol/Buffalo: Multilingual Matters.

- Nguyen, Thuy-Minh
2017 Using conversation tasks and retrospective methodology to investigate L2 pragmatics development: The case of EFL criticisms and responses to criticisms. *The Language Learning Journal* 45(3): 399–417.
- Norris, John and Lourdes Ortega
2000 Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning* 50: 417–528.
- Ortega, Lourdes
2009 *Understanding Second Language Acquisition*. (Understanding Language Series.) London: Hodder Education.
- Ortega, Lourdes and Gina Ibarra-Shea
2005 Longitudinal research in SLA: Recent trends and future directions. *Annual Review of Applied Linguistics* 25: 26–45.
- Pan, Ping Cathy
2012 Interlanguage requests in institutional e-mail discourse. In: Maria Economidou-Kogetsidis and Helen Woodfield (eds.), *Interlanguage Request Modification*. (Pragmatics and Beyond New Series 217), 119–161. Amsterdam/Philadelphia: Benjamins.
- Pearson, Lynn
2006 Patterns of development in Spanish L2 pragmatic acquisition: An analysis of novice learners' production of directives. *The Modern Language Journal* 90(4): 473–495.
- Pérez Vidal, Carmen and Rachel L. Shively
2019 L2 pragmatic development in study abroad settings. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 355–371. (Routledge Handbooks in Second Language Acquisition 1.) London/New York: Routledge.
- Placencia, María Elena and Carmen García
2013 Speech acts research. In: Carol A. Chapelle (ed.), *The Encyclopedia of Applied Linguistics*. Oxford: Blackwell. <https://onlinelibrary.wiley.com/doi/10.1002/9781405198431.wbeal1099>
- Plonsky, Luke and Jingyuan Zhuang
2019 A meta-analysis of second language pragmatics instruction. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 287–307. (Routledge Handbooks in Second Language Acquisition 1.) London/New York: Routledge.
- Pojanapunya, Punjaporn and Kandaporn Jaroenkitboworn
2011 How to say “Good-bye” in Second Life. *Journal of Pragmatics* 43(14): 3591–3602.
- Ren, Wei
2014 A longitudinal investigation into L2 learners' cognitive processes during study abroad. *Applied Linguistics* 35(5): 575–594.
- Ren, Wei
2015 *L2 Pragmatic Development in Study Abroad Contexts*. (Linguistic Insights: Studies in Language and Communication 186.) Bern: Peter Lang.
- Ren, Wei and Zhengrui Han
2016 The representation of pragmatic knowledge in recent ELT textbooks. *ELT Journal* 70(4): 424–434.

- Riddiford, Nicky and Janet Holmes
 2015 Assisting the development of sociopragmatic skills: Negotiating refusals at work. *System* 48: 129–140.
- Roever, Carsten
 2005 *Testing ESL Pragmatics: Development and Validation of a Web-Based Assessment Battery*. (Language Testing and Evaluation 2). Frankfurt am Main/New York: Peter Lang.
- Roever, Carsten
 2006 Validation of a Web-based test of ESL pragmalinguistics. *Language Testing* 23(2): 229–256.
- Roever, Carsten
 2011 Testing of second language pragmatics: Past and future. *Language Testing* 28(4): 463–481.
- Roever, Carsten, Catriona Fraser and Catherine Elder
 2014 *Testing ESL Sociopragmatics: Development and Validation of a Web-Based Test Battery*. (Language Testing and Evaluation 35.) Frankfurt am Main/New York: Peter Lang.
- Roever, Carsten, Stanley Wang and Stephanie Brophy
 2014 Learner background factors and learning of second language pragmatics. *International Review of Applied Linguistics in Language Teaching* 52(4): 377–401.
- Rose, Kenneth R.
 2005 On the effects of instruction in second language pragmatics. *System* 33(3): 385–399.
- Rose, Kenneth R. and Gabriele Kasper
 2001 *Pragmatics in Language Teaching*. New York: Cambridge University Press.
- Ross, Steven and Gabriele Kasper
 2013 *Assessing Second Language Pragmatics*. Houndmills: Palgrave Macmillan.
- Safont Jordà, Maria Pilar
 2012 Pragmatic competence in multilingual contexts. In: Carol A. Chapelle (ed.), *The Encyclopedia of Applied Linguistics*, 4510–4516. Oxford: Blackwell.
- Salemi, Azin, Mitra Rabiee and Saeed Ketabi
 2012 The effects of explicit/implicit instruction and feedback on the development of Persian EFL learners' pragmatic competence in suggestion structures. *Journal of Language Teaching and Research* 3(1): 188–199.
- Sandhu, Priti
 2016 Negative self-categorization, stance, affect, and affiliation in autobiographical storytelling. In: Matthew T. Prior and Gabriele Kasper (eds.), *Emotion in Multilingual Interaction*, 155–178. (Pragmatics and Beyond New Series 266.) Amsterdam/Philadelphia: Benjamins.
- Schauer, Gila A.
 2009 *Interlanguage Pragmatic Development: The Study Abroad Context*. London: Continuum.
- Schauer, Gila A.
 2013 Pragmatics and grammar. In: Carol A. Chapelle (ed.), *The Encyclopedia of Applied Linguistics*. Oxford: Blackwell. <http://doi.wiley.com/10.1002/9781405198431.wbeal0935>

- Schneider, Klaus P.
2018 Methods and ethics of data collection. In: Andreas H. Jucker, Klaus P. Schneider and Wolfram Bublitz (eds.), *Methods in Pragmatics*, 37–94. (Handbooks of Pragmatics 10.) Berlin/Boston: De Gruyter Mouton.
- Searle, John R.
1969 *Speech Acts*. Cambridge: Cambridge University Press.
- Shimura, Mika
2003 Advice giving and personality traits of Japanese university students: A pilot study. In: Tim Newfields, Sayoko Yamashita, Anne Howard and Carol Rinert (eds.), *Proceedings of the 2nd Annual JALT Pan-SIG Conference*, 28–36. Available from: <https://jalt.org/pansig/2003/HTML/Shimura.htm>.
- Shively, Rachel L.
2011 L2 pragmatic development in study abroad: A longitudinal study of Spanish service encounters. *Journal of Pragmatics* 43(6): 1818–1835.
- Shively, Rachel L.
2015 Developing interactional competence during study abroad: Listener responses in L2 Spanish. *System* 48: 86–98.
- Soares Palmer, Dionne
2010 Second language pragmatic socialization in World of Warcraft. Ph.D. dissertation, University of California at Davis. <http://proquest.umi.com/pqdweb?did=2160261961andsid=1andFmt=2andclientId=48051andRQT=309andVName=PQD>.
- Spagnolli, Anna
2012 Pragmatics of Short Message Service. In: Carol A. Chapelle (ed.), *The Encyclopedia of Applied Linguistics*, 4611–4616. Oxford: Blackwell.
- Spencer-Oatey, Helen
2000 Rapport management: A framework for analysis. In: Helen Spencer-Oatey (ed.), *Culturally Speaking: Managing Rapport through Talk across Cultures*, 11–46. London/New York: Continuum.
- Stokoe, Elisabeth
2013 The (in)authenticity of simulated talk: Comparing role-played and actual interaction and the implications for communication training. *Research on Language and Social Interaction* 46(2): 165–185.
- Sykes, Julie M.
2005 Synchronous CMC and pragmatic development: Effects of oral and written chat. *CALICO Journal* 22(3): 399–431.
- Sykes, Julie
2008 A dynamic approach to social interaction: Synthetic immersive environments and Spanish pragmatics. Ph.D. dissertation, University of Minnesota. <http://search.proquest.com/docview/304582040?accountid=27140>.
- Sykes, Julie M. and Sébastien Dubreil
2019 Pragmatics learning in digital games and virtual environments. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 387–399. (Routledge Handbooks in Second Language Acquisition 1.) London/New York: Routledge.
- Taguchi, Naoko
2008 The role of learning environment in the development of pragmatic comprehension. *Studies in Second Language Acquisition* 30(04): 423–452.

- Taguchi, Naoko
2010 Longitudinal studies in interlanguage pragmatics. In: Anna Trosborg (ed.), *Pragmatics across Languages and Cultures*, 333–361. (Handbook of Pragmatics 7.) Berlin/New York: De Gruyter Mouton.
- Taguchi, Naoko
2011a The effect of L2 proficiency and study-abroad experience on pragmatic comprehension. *Language Learning* 61: 1–36
- Taguchi, Naoko
2011b Teaching pragmatics: Trends and issues. *Annual Review of Applied Linguistics* 31: 289–310.
- Taguchi, Naoko
2012 *Context, Individual Differences and Pragmatic Competence*. (Second Language Acquisition 62.) Bristol/Buffalo: Multilingual Matters.
- Taguchi, Naoko
2013 Individual differences and development of speech act production. *Applied Research on English Language* 2(2). 1–16.
- Taguchi, Naoko
2015a Instructed pragmatics at a glance: Where instructional studies were, are, and should be going. *Language Teaching* 48: 1–50.
- Taguchi, Naoko
2015b *Developing Interactional Competence in a Japanese Study Abroad Context*. (Second Language Acquisition 88.) Bristol/Buffalo: Multilingual Matters.
- Taguchi, Naoko and Carsten Roever
2017 *Second Language Pragmatics*. (Oxford Applied Linguistics Series.) Oxford: Oxford University Press.
- Taguchi, Naoko and Shota Yamaguchi
2019 Implicature comprehension in L2 pragmatic research. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 31–46. (Routledge Handbooks in Second Language Acquisition 1.) London/New York: Routledge.
- Takahashi, Satomi
2010 Assessing learnability in second language pragmatics. In: Anna Trosborg (ed.), *Pragmatics across Languages and Cultures*, 391–421. (Handbook of Pragmatics 7.) Berlin/New York: De Gruyter Mouton.
- Takahashi, Satomi
2019 Individual learner considerations in SLA and L2 pragmatics. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 429–443. (Routledge Handbooks in Second Language Acquisition 1.) London/New York: Routledge.
- Takahashi, Tomoko and Leslie Beebe
1987 The development of pragmatic competence by Japanese learners of English. *JALT* 8(2): 131–155.
- Taleghani-Nikazm, Carmen and Thorsten Huth
2010 L2 requests: Preference structure in talk-in-interaction. *Multilingua: Journal of Cross-Cultural and Interlanguage Communication* 29(2): 185–202.
- Tateyama, Yumiko
2019 Pragmatics in a language classroom. In: Naoko Taguchi (ed.), *The Routledge*

- Handbook of Second Language Acquisition and Pragmatics*, 400–412. (Routledge Handbooks in Second Language Acquisition 1.) London/New York: Routledge.
- Tercedor Cabrero, Marta
2013 Developing interactional competence through video-based computer-mediated conversations: Beginning learners of Spanish. Ph.D. dissertation, University of Iowa. <http://ir.uiowa.edu/etd/4918/>.
- Thomas, Jenny
1983 Cross-cultural pragmatic failure. *Applied Linguistics* 4(2): 91–112.
- Timpe-Laughlin, Veronika
2018 Pragmatics in task-based language assessment: Opportunities and challenges. In: Naoko Taguchi and YouJin Kim (eds.), *Task-Based Approaches to Teaching and Assessing Pragmatics*, 288–304. (Task-Based Language Teaching 10.) Amsterdam/Philadelphia: Benjamins.
- Tsai, Mei-Hsing and Celeste Kinginger
2014 Giving and receiving advice in computer-mediated peer response activities. *CALICO Journal* 32(1): 82–112.
- van Compernelle, Rémi A., Maria Pia Gomez-Laich and Ashley Weber
2016 Teaching L2 Spanish sociopragmatics through concepts: A classroom-based study. *The Modern Language Journal* 100(1): 341–361.
- Wyner, Lauren and Andrew D. Cohen
2015 Second language pragmatic ability: Individual differences according to environment. *Studies in Second Language Learning and Teaching* 5(4): 519–556.
- Yates, Lynda
2010 Dinkas downunder: Request performance in simulated workplace interaction. In: Gabriele Kasper, Hanh Thi Nguyen, Dina Rudolph Yoshimi and Jim Yoshika (eds.), *Pragmatics and Language Learning*, Volume 12, 113–140. Honolulu: University of Hawai'i Press.
- Yates, Lynda and George Major
2015 “Quick-chatting”, “smart dogs”, and how to “say without saying”: Small talk and pragmatic learning in the community. *System* 48: 141–152.
- Youn, Soo Jung and Valeriia Bogorevich
2019 Assessment in L2 pragmatics. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 308–321. (Routledge Handbooks in Second Language Acquisition 1.) London/New York: Routledge.
- Yus, Francisco
2013 Cyberpragmatics. Carol A. Chapelle (eds.), *The Encyclopedia of Applied Linguistics*. Oxford: Blackwell.

10. Teaching speech acts in a second language

Alicia Martínez-Flor and Esther Usó-Juan

Abstract: Speech acts are one of the most widely examined pragmatic features that second and foreign language (L2/FL) learners need to master in order to communicate appropriately in the target language. Without a proper knowledge of how to use and understand a particular speech act that is appropriate to the contextual and cultural parameters of a specific situation, L2/FL learners may run the risk of being perceived as rude and/or impolite. Consequently, providing them with the opportunities to develop their ability to perform and recognise speech acts in particular communicative situations is nowadays recognised as the ultimate goal of language teaching. To that end, this chapter reports the synthesis findings of nineteen interventional studies on the speech act of requesting as it has the potential to cause offence if expressed inappropriately. Three questions have guided this investigation: 1) is the speech act of requesting teachable at all? 2) is instruction in requesting more effective than no instruction? and 3) are different teaching approaches differentially effective in teaching requests? Findings from this synthesis are presented and discussed in line with emerging trends in teaching pragmatics (see Taguchi 2019). The chapter concludes with some directions for future research and offers insights regarding how to best help learners develop appropriate speech acts.

1. Introduction

Over the last twenty-five years, Interlanguage Pragmatics (ILP), a subfield of both pragmatics and second language acquisition, has become a well-established discipline. ILP has been defined as the study of nonnative speakers' use and acquisition of linguistic action patterns in a second and foreign language (L2/FL) (Bardovi-Harlig 1996; Rose 2000). A huge part of ILP literature has focused on speech acts. Initial studies on this particular pragmatic feature focused mainly on L2/FL use. That is, studies compared native speakers' and language learners' awareness and production of speech acts. However, since the area of ILP was introduced into the field of language education, a shift towards a developmental perspective has taken place in an attempt to investigate the relationship between language education and interlanguage pragmatic development. The necessity to learn/teach how to use and understand language that is appropriate to the contextual and cultural parameters of the specific situation has been recognised (Martínez-Flor and Usó-Juan 2010), but still language teachers hesitate to incorporate pragmatics in their classrooms. This hesitation, as summarised by Liu (2010), could be attributed to: i) inadequacy

<https://doi.org/10.1515/9783110431056-010>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 269–299. Berlin/Boston: De Gruyter Mouton.

of the description models offered by *theoretical pragmaticists* (Thomas 1983); ii) difficulty of teaching pragmatics since it involves a high degree of “face threat” (Matsuda 1999); iii) lack of available pedagogical resources for teaching pragmatics (Matsuda 1999); and iv) lack of valid methods for testing pragmatics (Liu 2006).

Consequently, attention should be paid to interventional studies on pragmatic development that utilise research-based teaching materials to inform language educators. To this end, and focusing specifically on speech acts, this chapter first introduces a theoretical background where notions that apply to the knowledge of learning/teaching speech acts are explained. Following this, it reviews findings of empirical interventional studies on the speech act of requesting, a widely examined pragmatic feature in the ILP field. Then, it discusses these findings and makes suggestions for further research. Finally, it finishes with some research-based pedagogical recommendations for teaching speech acts.

2. Background notions

Since the present chapter focuses on teaching speech acts, in this section we briefly review three key notions that apply to this area: i) speech acts, ii) politeness, and iii) pragmatic instruction.

2.1. Speech acts

Austin (1962) is regarded as the father of speech act theory with his famous assumption that people use language not just to say things, but to do things. He proposed a three-fold classification of utterances into locutionary, illocutionary, and perlocutionary acts. Locutionary acts are acts *of saying* something, that is, the actual words uttered. Illocutionary acts represent what is done *in saying* something, or in other words, the force or intention behind the words. Finally, perlocutionary acts imply what is done *by saying* something, that is, the effect of the illocution on the hearer.

Inspired by Austin’s classification of illocutionary acts, Searle (1969, 1976) developed a five-way taxonomy of speech act functions, namely those of representatives, directives, commissives, expressives and declarations. *Representatives* are linguistic acts in which the speakers’ purpose in performing the act is to commit themselves to the belief that the propositional content of the utterance is true (e. g. statements). *Directives* refer to acts in which the speakers’ purpose is to get the hearer to commit themselves to some future course of action (e. g. requests, suggestions). The acts in which the speakers commit themselves to some future course of action are classified as *commissives* (e. g. refusals, promises). *Expressive* acts have the purpose of expressing the speakers’ psychological state of mind about, or attitude towards, some prior action or state of affairs (e. g. apologies, compliments). Finally, *declarations* are acts which require extralinguistic institu-

tions for their performance (e. g. institutionalised performatives, such as the act of baptism).

Despite the tremendous influence of this classification on functional aspects of pragmatic theory, Searle's (1976) taxonomy has been subjected to much criticism on the basis that the illocutionary force of a concrete speech act cannot take the form of a sentence isolated from the context where it might be used. In fact, Trosborg (1995) maintained that the sentence is a grammatical unit within the formal system of the language, whereas the speech act involves a communicative function. Similarly, Thomas (1995) criticised Searle's typology on the grounds that it only accounted for formal considerations, without considering the functional, psychological and affective factors that may influence the performance of speech acts. Another claim made by Thomas (1995) was that speech acts are by no means interchangeable if contextual and interactional factors are taken into consideration. For example, speech acts such as giving commands or making requests all imply the speaker's intention to make the hearer do something. Therefore, speech acts should be classified according to their interactional meaning and context in which they appear.

Recognition of these limitations has led to an empirical extension of speech act theory, especially of that proposed by Searle (1976). Kasper (2006), for instance, called for a switch from the traditional speech act approach to pragmatics into a discursive perspective instead. Specifically, she advocated for applying conversation analysis (CA) to speech act research. The main goal of CA is to explain how natural talk is organised. Central focuses of CA are: i) turn-taking (i. e. how interactants in a conversation decide who is to speak next), ii) adjacency pair (i. e. automatic sequences consisting of a first part and a second part such as offer-refusal, compliment-compliment-response), and iii) preferred and dispreferred responses (i. e. either acceptance, usually short and without hesitation, or refusal, usually performed elaborately as respondents want to justify themselves). We believe CA offers a robust account of those pragmatic rules of language use in talk-in-interaction in naturalistic contexts, thus facilitating the analysis of speech acts in their sequential environment to fully understand how they are co-constructed in discourse by interlocutors over multiple turns.

2.2. Politeness

One of the most influential theories of politeness is Brown and Levinson's (1987) model, which consists of a comprehensive construct that deals with the analysis of speech act realisation and the various factors that can affect it. They based their particular view of politeness on the notions of *face*, *face-threatening act* (FTA) and *mitigation*. *Face* involves the self-image one wants to present and it is broken down into positive and negative face. The positive face reflects the desire to be accepted and liked by others, while the negative face reflects the wish to have one's actions and thoughts unimpeded by others. In general, these two sides of

face mean that people cooperate in maintaining each other's face needs. However, people often find themselves producing utterances that intrinsically threaten one or both types of face, resulting thus in the production of FTAs that may require the use of politeness strategies to mitigate the effects these acts may imply. For example, speech acts such as requests, suggestions or refusals are considered to be FTAs for the hearer's negative face because they impose on the hearer, while other speech acts such as gratitude or apologies are more likely to be FTAs for the speaker because they assert imposition to the speaker's negative face. That is the reason why Brown and Levinson (1987) consider politeness a complex system in which *mitigation* plays an important role in softening the face-threatening nature of these particular speech acts.

In order to perform an FTA, the authors propose a two-step model of options, where step one involves doing the FTA and step two involves not doing it. If the speaker chooses step one, that is doing it, four options are available: i) do the act on record, that is badly (i. e. without softening the act), ii) do the act with redress of positive action (i. e. addressing the hearer's positive face wants), iii) do the act with redress of negative action (i. e. addressing the hearer's negative face wants), and iv) do the act off record (i. e. using hints and indirect suggestions). Additionally, the authors point out that the choice of the strategy to be used is adjusted considering the combination of three variables which determine the seriousness of the FTA. The first factor refers to the *social distance* between the speaker and the hearer, that is, the degree of familiarity that exists between the interactants. In this sense, as social distance increases, politeness also increases. The second factor refers to relative *power* of the speaker with respect to the hearer, and it is assumed that the more powerful the hearer is, the more polite the speaker will be expected to be. Finally, the *ranking of imposition*, which addresses the third contextual factor, implies that the greater the imposition on the hearer, the more polite the speaker is required to be.

Although this face-saving view to politeness has contributed immensely to research on ILP, Brown and Levinson's (1987) work has limitations in terms of explaining pragmatic meaning. First of all, the notion of *face*, as conceptualised by these authors, in its particular focus on the individual as well as its emphasis on individual wants and freedom ignores the social and interactive perspective on face (Werkhofer 2005). Second, their claim that indirectness is closely associated with politeness implies a connection that has been found to be an over-generalisation (Watts 2003). Finally, the authors support that there is a universal usage of politeness strategies. However, this universality has been challenged on the basis of observable cultural differences (LoCastro 2012). In fact, speech act research in cross-cultural pragmatics has demonstrated that the three variables of distance, power and degree of imposition are not interpreted equally across cultures. Put differently, what might be adopted by one culture would not necessarily work for another (LoCastro 2012).

These criticisms have led researchers to move beyond the study of mitigation

and examine how participants perceive politeness in social interaction. Current approaches understand politeness as a discursive phenomenon, whereby interactants co-construct (im)politeness in situated instances by means of linguistic and prosodic resources to achieve particular communicative goals (LoCastro 2012). Utterances are no longer seen as inherently polite or impolite, rather these assessments are judgments based on community norms. This new discursive approach to politeness is perhaps most clearly represented by Watts and Locher in a series of publications (Locher 2004, 2006; Locher and Watts 2005; Watts 2003, 2005). Indeed, according to Locher and Watts (2005: 10) politeness is now conceptualised “as a discursive concept arising out of interactants’ perceptions and judgments of their own and others’ verbal behavior”.

In the same line, Kádár and Mills’s (2011) work on politeness highlights the key concepts that differentiate a discursive approach to politeness from other approaches. The three central concepts of this discursive perspective to politeness are: i) examining politeness within longer fragments of authentic interactions, ii) focusing not only on the speakers’ production of specific utterances but also the hearers’ interpretations of them, and iii) differentiating between the interactants’ and researchers’ interpretations of politeness, labeling the former as first-order and the latter as second-order politeness in order to avoid subjectivity at the level of analysis. In this way, to better understand interlocutor reactions, politeness should be assessed interactively by focusing on judgments. We believe that a discursive re-interpretation of Brown and Levinson’s (1987) model is the most suitable way to explain politeness in social interaction. In fact, the issue of whether formulating particular speech acts in a direct or indirect way can be perceived as socially polite or impolite, depends not only on speaker’s use of them but also on the interlocutor’s interpretation, the context of interaction as well as the culture.

2.3. Pragmatic instruction

The focus of pragmatics is on the way people convey and interpret meaning in social interaction. Relevant here is the now-classic bifurcation of pragmatics into pragmalinguistics and sociopragmatics (Leech 1983; Thomas 1983). *Pragmalinguistics* refers to the lexico-grammatical side of pragmatics and addresses the resources for conveying particular communicative acts and interpersonal meaning. Such resources include pragmatic strategies like directness and indirectness, pragmatic routines, and a range of modification devices which can intensify or soften the communicative act. *Sociopragmatics* deals with the relationship between linguistic action and social structure, since it refers to the social perceptions underlying participants’ interpretation and performance of communicative acts.

These two areas of pragmatics are particularly relevant in the field of L2/FL learning. In fact, as claimed by Alcón and Martínez-Flor (2008), it is necessary to view these two components in interaction in language learning, that is, to deal with

the relationships between the forms of particular pragmatic features and the contextual factors that shape those pragmatic aspects. Among the different pragmatic aspects examined within this area of pragmatics, there is no doubt that speech acts have been the most widely studied feature (Bardovi-Harlig 2002). The reason lies in the fact that language learners are continuously faced with the need to use a variety of speech acts and speech act sets in order to communicate appropriately in the target language (Cohen 2005). Consequently, providing learners with the opportunities to develop their ability to perform and understand speech acts in both L2 and FL contexts is nowadays recognised as the ultimate goal of language teaching.

Given such a need, and in an attempt to describe the research implemented on teaching speech acts in formal classroom settings, Kasper (2001) distinguishes between observational and interventional studies of pragmatic ability within L2/FL classrooms. The former focuses primarily on classroom processes, whereas the latter examines the effect of different teaching methods (Kasper 2001). *Observational* studies are often conducted in authentic classrooms where the researcher would focus on certain L2/FL pragmatic issues. The main purpose of these studies involves the analysis of the processes that take place in the classroom by describing in detail any aspects that may influence the acquisition of L2/FL pragmatics, such as teacher input, chances for productive practice in collaborative activities or observation of learners' development of pragmatic ability over time. Pragmatic issues can be studied developmentally, that is paying attention to the pragmatic development that comes about in the classroom by examining issues related to language acquisition and language socialisation, or non-developmentally by paying attention to pragmatic features such as for instance different speech acts, as they happen at a point of time in the classroom. In contrast to observational studies, *interventional* studies pay attention to a particular kind of intervention that has been used in the classroom setting to teach learners a specific speech act. Thus, in interventional research the targeted speech act becomes the object of the study and the classroom is seen as a setting in which students may learn as a result of planned pedagogical action directed toward the acquisition of pragmatics. Within this group, three types of interventional studies have been distinguished, namely i) teachability studies, ii) instruction versus exposure studies, and iii) studies adopting various teaching approaches (Rose 2005).

The first group, namely *teachability studies*, examine whether a particular speech act is teachable or not in the classroom setting. This type of studies adopts a pretest/posttest design which involves only one group, and is also characterised by adopting an explicit type of instruction. The second group of interventional studies, namely those of *instruction versus exposure studies*, involves the use of two groups of participants under two different conditions (i. e. a treatment group and a control group) in order to compare whether instruction is more effective for pragmatics learning than no instruction at all, or put another way whether instruction is better than simple exposure. Thus, they attempt to examine Schmidt's (1993) noticing

hypothesis, which implies that exposure to the target language alone is not enough for pragmatics learning. This type of research also follows a pretest/posttest design and the group under the treatment condition is usually characterised by receiving an explicit type of instruction. Finally, the third group of interventional studies includes those *studies which adopt various teaching approaches* and examine the effectiveness of different methods in the classroom context. Among these studies, the two most prominent types of pedagogical intervention involve explicit and implicit instruction. The explicit instructional approach is based on the provision of metapragmatic information through description, explanation and discussion of the pragmatic feature being taught to make the particular speech act more salient, whereas the implicit instruction has been usually operationalised by teaching the targeted speech act without explicitly explaining anything about it.

After examining key notions related to the area of teaching speech acts, next section specifically focuses on the request speech act as it is a prototypical FTA, which serves to illustrate how speech acts can be learned and taught in an instructional context.

3. Sampling procedure

3.1. The request speech act

The performance of FTAs in cross-cultural encounters is a complex and challenging task, whose lack of how to appropriately use them may result in impolite behaviour causing thus communication breakdowns between the interlocutors. This is perhaps one of the main reasons why there is a particular emphasis on implementing interventional studies on this type of speech acts, and particularly on requests, being one of the most frequently studied speech act. Requests belong to Searle's (1976) category of directives, which have been described as an attempt by the speaker to get the hearer to do something. More specifically, this speech act has been defined by Trosborg (1995: 187) as "an illocutionary act whereby a speaker (requester) conveys to a hearer (requestee) that he/she wants the requestee to perform an act which is for the benefit of the speaker". The act may be a request for non-verbal goods or services, that is, a request for an object, an action or a particular service, or it may be a request for verbal goods and services, that is, a request for information. The purpose of a request is therefore to involve the hearer in some future action that matches the speaker's goal. In this sense, a request is regarded as a pre-event act that implies a cost to the hearer, in contrast to, for example, an apology, which is a post-event act that implies a cost to the speaker. As stated by Brown and Levinson's (1987), the speech act of requesting has been regarded as an FTA since it intrinsically threatens the hearer's negative face, that is, the freedom of action and the freedom from imposition.

3.2. Methodology for the research synthesis on teaching requests

Following Rose's (2005) classification of pragmatic interventional studies, findings of research on teaching the speech act of requesting are reviewed based on three questions: 1) is the speech act of requesting teachable at all? 2) is instruction in requesting more effective than no instruction? and 3) are different teaching approaches differentially effective in teaching requests? To examine these questions, we relied on experimental or quasi-experimental studies which have been published in academic journals and books. The following inclusion criteria were used:

- i) The study involved instructional intervention on the request head act, that is the core part of a request sequence which conveys the illocutionary force of requests. Those studies that focused specifically on the modification devices to soften requests were not considered.
- ii) The study observed participants whose target language was English since it is the most used language for communication.
- iii) The study provided detailed information about the teaching methods and learning activities.

This selection process yielded nineteen interventional studies in pragmatics to be included in the in-depth analysis (see Table 1). Each study was then coded for research design, number of experimental groups with or without control group, participants' first language (L1), participants' proficiency level, modality, treatment type, frequency of data collection, measures used to assess the instruction and findings.

4. Interventional studies on requests: findings

Given the intrusive and demanding nature of requests, it is not surprising that this speech act has received a great deal of attention in studies with regard to the effect of instruction on learners' acquisition of polite requests in English as the target language. As illustrated in Table 1, out of the nineteen studies on the effects of pragmatic intervention on requests, three studies examined the teachability of this speech act (Safont 2004; Ford 2006; Chen 2015), five studies compared the effects of instruction on requests over simple exposure (Fukuya and Zhang 2002; Halenko and Jones 2011; Abdollahzadeh Masouleh, Arjmandi and Vahdany 2014; Anani Sarab and Alikhani 2016, and Nguyen 2018), while eleven studies compared the effectiveness of different teaching approaches on developing requests (Takahashi 2001; Alcón 2005, 2007; Gu 2011; Eslami and Liu 2013; Ghavamnia, Eslami-Rasekh and Vahid Dastjerdi 2014; Eslami, Mirzaei and Dini 2015, Nguyen et al. 2015; Sydorenko 2015; Taguchi and Kim 2016; Nguyen et al. 2019).

Table 1: The effects of pragmatic intervention on requests.

Study	Design*	Groups	Languages	Proficiency Level	Modality	Treatment Type	Assessment Type	Delayed Posttest	Outcome ***
Takahashi (2001)	Different teaching approaches	4	L1: Japanese FL: English	Same level	Written production & confidence	-Explicit -Form-comparison -Form-search -Meaning-focused	Written DCT & self-report	-	Explicit > other treatment types
Fukuya and Zhang (2002)	Instruction vs. no-instruction	1+control	L1: Chinese FL: English	Intermediate	Written production	Implicit	Written DCT	-	Effective
Safont (2004)	Teachability	1	L1: Spanish FL: English	Beginner & intermediate	Oral and written production	Explicit	Written DCT	-	Effective
Alcón (2005)	Different teaching approaches	2+control	L1: Spanish FL: English	Same level	Written production & awareness	Explicit vs. Implicit	Identification in film excerpts & written dialogues	-	Explicit > Implicit
Ford (2006)	Teachability	1	L1: Mixed L2: English	Not provided	Written production	Explicit	Written task	+(12 weeks)	IP: effective DP: no effective

Study	Design*	Groups	Languages	Proficiency Level	Modality	Treatment Type	Assessment Type	Delayed Posttest	Outcome ***
Alcón (2007)	Different teaching approaches	2+control	L1: Spanish FL: English	Same level	Awareness	Explicit vs. Implicit	Identification in film excerpts & written dialogues	-	Explicit > Implicit
Halenko and Jones (2011)	Instruction vs. no-instruction	1+control	L1: Chinese L2: English	Upper-intermediate	Written production & awareness	Explicit	Written DCT & interview	+(6weeks)	IP: effective DP: no effective
Gu (2011)	Different teaching approaches	2	L1: Chinese FL: English	Same level	Oral and written production	Explicit vs. Implicit	Written DCT & oral role-play	-	Explicit = Implicit
Eslami and Liu (2013)	Different teaching approaches	2+control	L1: Taiwanese FL: English	Not provided	Written production	Explicit online vs. Explicit face-to-face	Written DCT	-	Explicit online= Explicit face-to-face
Abdollahzadeh Masouleh et al. (2014)	Instruction vs. no-instruction	1+control	L1: Persian FL: English	Intermediate	Written production	Explicit	Written DCT	-	Effective

Study	Design *	Groups	Languages	Proficiency Level	Modality	Treatment Type	Assessment Type	Delayed Posttest	Outcome ***
Ghavamnia et al. (2014)	Different teaching approaches	4+control	L1: Iranian FL: English	Intermediate	Oral & written production	-Metapragmatic information -Form-comparison -Meaning-focused -Typographic enhancement	Oral and Written DCTs	-	Effective
Chen (2015)	Teachability	1	L1: Chinese FL: English	Intermediate	Written production & confidence	Explicit	Written DCT & one perception question	-	Effective
Eslami et al. (2015)	Different teaching approaches	2+control	L1: Persian FL: English	Upper-intermediate	Written production	Explicit online vs. Implicit online	Written DCT & free emails	-	Explicit online= Implicit online
Nguyen et al. (2015)	Different teaching approaches	2+control	L1: Vietnamese FL: English	Intermediate	Written production & awareness	-Direct feedback -Meta-pragmatic feedback	Written email and recognition tasks	+(4 weeks)	IP: Effective DP: Mixed depending on areas

Study	Design*	Groups	Languages	Proficiency Level	Modality	Treatment Type	Assessment Type	Delayed Posttest	Outcome ***
Sydorenko (2015)	Different teaching approaches	2	L1: Mixed L2: English	Intermediate	Oral production	- Computer-delivered structured tasks -Open role-plays	Prompted oral response data	-	Effective
Anani Sarab and Alikhani (2016)	Instruction vs. no-instruction	1+control	L1: Persian FL: English	Advanced	Written production & awareness	Explicit	Multi-choice test & written DCT	-	Effective
Taguchi and Kim (2016)	Different teaching approaches	2+control	L1: Korean FL: English	High beginner & intermediate	Written production & negotiation	Collaborative vs. Individual	Written DCT & think-aloud protocols	+(4weeks)	IP: Collaborative >Individual DP: Collaborative =Individual
Nguyen (2018)	Instruction vs. no-instruction	1+control	L1: Vietnamese ese FL: English	Intermediate	Written production & awareness	-Direct feedback -Metapragmatic feedback	Written DCT emails & questionnaire	+(32weeks)	IP: Effective DP: Effective

Study	Design*	Groups	Languages	Proficiency Level	Modality	Treatment Type	Assessment Type	Delayed Posttest	Outcome ***
Nguyen et al. (2019)	Different teaching approaches	3+control	L1:Vietnam-ese FL: English	Intermediate	Written production (accuracy & fluency)	-CF without revision -CF with revision -CF with repeated revision	Written DCT emails	+(9 weeks)	IP: Effective DP: Mixed depending on areas

*Teachability = one group pretest–posttest design; Instruction vs. No-instruction= pretest–posttest design with control group; Different teaching approaches= pretest–posttest design with or without control group.

**Same level= as measured by the Secondary level English test.

*** Outcome= the outcome is presented depending on the two posttests: immediate posttest (IP) and delayed posttest (DP)

4.1. Teachability studies

The first group of studies pays attention to whether the particular speech act of requesting is teachable or not in instructional settings and the studies involve one-group pretest posttest design. Out of the three studies in this group, two were carried out in a FL context (Safont 2004; Chen 2015) and one in an L2 context (Ford 2006).

In Safont's (2004) study the instructional treatment consisted of awareness-raising tasks by exposing learners to pragmatic input on requests, as well as practice by engaging learners in two oral and two written pragmatic production tasks. Regrettably, instructional time is not provided. Results indicated that instruction had a positive effect on learners' variety of request forms used after the training period. Indeed, learners increased their use of conventionally indirect strategies and decreased the use of direct forms denoting, according to the author, a trend to polite behaviour. The author emphasised thus the importance of incorporating both awareness-raising and production tasks in the treatment so that learners may be first aware of those politeness factors that affect the appropriate use of requests and then be provided with opportunities for practice that knowledge.

While Safont (2004) focused on both oral and written production of requests, Ford (2006) and Chen (2015) investigated exclusively the effects of pragmatic intervention on the development of email requests. The study conducted by Ford (2006) dealt with the appropriate production of email requests in terms of perlocution and politeness. A group of learners received one 50-minute lesson based on understanding the principles of netiquette. This instructional session involved an explicit presentation of these rules, an analysis of examples of inadequately email requests, a discussion of the ways to improve them and additional exposure to web sites including information about netiquette guidelines. Findings from the immediate post-test revealed an increase in perlocution thus leading to a greater degree of acceptance on the part of the receiver. Additionally, learners' email requests were supported by the use of more structural (e. g. introduction, closing) and content (e. g. downgraders, preparators) features. Regarding politeness, and although politeness devices were not explicitly addressed during the treatment, there was also an increase of them resulting, sometimes, in an overuse. These immediate effects of instruction on both perlocution and politeness were, however, not maintained in the delayed post-test administered 12 weeks after the instructional session. The author thus argued for the need to include more treatment sessions for knowledge retention.

Later, the study by Chen (2015) paid attention to the quality of the emails as well as learners' level of confidence in the appropriateness of them. Drawing on the genre-based approach developed by Systemic Functional Linguistics (SFL) (Halliday 1994), the six-hour treatment was set on a teaching-learning cycle of four sessions: i) *setting the context*, which involved learners in a series of awareness-raising

ing activities; ii) *modeling*, which included the teacher's explanation about the sociopragmatic and pragmalinguistic aspects of both framing and content moves of email requests; iii) *joint construction*, which incorporated teacher-learner cooperation; and iv) *independent construction*, which included the post-test and required learners produce request emails without the teacher's help. The quantitative analysis indicated the positive effect of engaging learners in the instructional approach as there was an overall progress in the quality of emails as well as an increase in their confidence level. However, a qualitative analysis of learners' emails showed that aspects related to the framing moves of requests, such as subject, greeting and closing, improved more than the features from the content moves, namely request strategies and request support. The author explained that these results may have been related to the formulaic nature of framing moves, being these easier for learners to acquire, in contrast to the idiosyncratic characteristics of content moves, which may vary depending on the context, making them more difficult to learn. Consequently, the author suggested the need to complement the type of explicit/deductive instruction followed in this study with an inductive approach that allowed learners to play a more active role in the collection, analysis and reflection about the particular features that characterise appropriate email requests.

4.2. Instruction versus exposure studies

The second group of studies analyses whether instruction on requests is better than simple exposure to samples of this speech act and the studies involve a pretest posttest design with control group. In this group there are five studies, four were carried out in a FL context (Fukuya and Zhang 2002; Abdollahizadeh Masouleh, Arjmandi and Vahdany 2014; Anani Sarab and Alikhani 2016; Nguyen 2018) and one in an L2 context (Halenko and Jones 2011).

Abdollahizadeh Masouleh, Arjmandi and Vahdany (2014) and Anani Sarab and Alikhani (2016) showed convincing results confirming the positive effects of an explicit intervention within a meaningful context. Abdollahizadeh Masouleh, Arjmandi and Vahdany's (2014) treatment, which lasted ten 30-minute instructional sessions, involved a series of pragmatically-oriented tasks such as explicit teacher-fronted explanations about request realisations, role-play activities, cooperative grouping, native speakers' production of requests as well as classroom discussions. The control group did not participate in any pragmatic-related activity. Results revealed a significant increase in the written production of requests of the taught group when compared with the control group.

Similar results were found in Anani Sarab and Alikhani's (2016) study, which explored the effect of instruction on both learners' awareness and written production of requests. The instructional period, which consisted of six 45-minute sessions distributed over two weeks, was based on the presentation of excerpts of the film *The Game* that contained requests. Then learners were involved in

a series of activities including awareness-raising tasks on both the sociopragmatic and pragmalinguistic aspects that appeared in the film excerpts, explicit meta-pragmatic explanations by the teacher, role-plays to allow learners practise the acquired knowledge and feedback on their requestive performance. The control group was also exposed to the film excerpts but they did not receive any instruction on requests. In light of this treatment procedure, it appears that learners from the experimental group outperformed the control group at both levels of awareness and production.

Unlike the two studies reviewed above, Halenko and Jones (2011) and Nguyen (2018) investigated whether the possible pragmatic gains obtained as a result of being immersed in an instructional treatment were also retained in the long-term. The particular treatment learners were involved in the study conducted by Halenko and Jones (2011) consisted of six hours of explicit instruction distributed into the following three phases of two hours each: i) introduction and awareness-raising, ii) explicit instruction, and iii) production practice and discussion. The control group did not receive any instruction. Findings showed that the instructed group performed significantly better in both awareness and written production of requests than the control group at the immediate posttest. However, the delayed posttest administered six weeks after the treatment revealed that only minimal knowledge on requests had been retained. In relation to this result, and on the basis of learners' comments during the interview, the authors pointed out that sustained input is necessary to ensure that the pragmatic knowledge acquired after receiving instruction is retained.

Interesting, a similar treatment length (i. e. six hours) had the study conducted by Nguyen's (2018) on the effect of instruction on learners' awareness and written production of email requests. The explicit intervention with the treatment group was initiated with consciousness-raising activities and meta-pragmatic explanations about email structure, request forms and politeness strategies, followed by output practice used in tandem with teacher feedback and revision. The most notable component was learners' engagement in three rounds of feedback and revision for their email writing practice. The control group, on the other hand, only followed the usual syllabus. The results indicated that the treatment group showed greater pre-to-posttest gains than the control group, and that this improvement was sustained until the delayed posttest administered thirty-two weeks after the treatment. This positive long-term effect of intervention might be attributed to the effective integration of multiple rounds in the provision of feedback followed by immediate revision, thereby facilitating learners' consolidation of pragmatic knowledge.

In contrast to the previous studies that have all acknowledged the effectiveness of explicit instruction, the focus of Fukuya and Zhang's (2002) study was that of examining the effects of implicit instruction (i. e. operationalised by the use of the implicit technique of recasts) on learners' written production of requests. The treatment, which was implemented in 50-minute sessions during seven days, was based

on learners' performance in 14 different role-plays. After receiving a card showing a role-play scenario and teacher's explanation about such a scenario, learners performed first the role-play in pairs for practice and then with the teacher in front of the class. At this time, the teacher gave them recasts by using a request target form if the student had not used it. The control group participated in the same role-play activities, but it did not receive any pragmatic recasts. Results showed that the instructed group which had received recasts outperformed the control group in the production of pragmalinguistically appropriate and linguistically accurate requests. In this sense, the authors point out the value of implementing implicit instruction to develop learners' pragmatic competence on requests when this type of instruction is robustly designed and properly operationalised. This issue thus widens the possibility of incorporating other pedagogical methods, apart from the typical treatment based on explicit explanations that may be also effective in fostering learners' pragmatic knowledge of a particular speech act.

4.3. Studies which adopt various teaching approaches

The last group of studies to be discussed analyses the effectiveness of different teaching methods on developing requests by adopting a pretest-posttest design with or without control group. The eleven studies from this category have been classified according to the learning conditions being highlighted in the instructional procedures of the study, that is, exposure to relevant input (Alcón 2005, 2007; Takahashi 2001; Ghavamnia, Eslami-Rasekh and Vahid Dastjerdi 2014), opportunities for practice (Gu 2011; Eslami and Liu 2013; Eslami, Mirzaei and Dini 2015; Sydorenko 2015; Taguchi and Kim 2016) and provision of corrective feedback (Nguyen et al. 2015; Nguyen et al. 2019). All these studies were carried out in a FL context.

A few studies in this group make direct reference to the relationship between input and the learning of pragmatics. The much cited study by Takahashi (2001) examined to what extent the degree of input enhancement offered to learners affects their learning of the speech act of requesting as well as their level of confidence in producing it in a written way. To that end, all learners participated first in two warm-up tasks and then, they were assigned to four experimental groups (i. e. one explicit and three implicit) which differed from each other in degrees of input enhancement: i) *explicit teaching* (i. e. metapragmatic explanations regarding form-function relationships), ii) *form-comparison* (i. e. comparing the learners' utterances with those employed by native-speakers), iii) *form-search* (i. e. identifying the target feature in request scenarios, and iv) *meaning-focused* (answering comprehension questions based on the input received). After four 90-minute instructional sessions, the explicit group outperformed all implicit groups in their use of the four request strategies addressed in the study. Similarly, the explicit group, together with the meaning-focused group, also considerably increased its confidence in employing the instructed target forms in the post-test. These results

therefore provided support for the effectiveness of providing learners with explicit metapragmatic information after being exposed to pertinent input. However, the author emphasised that after this, exposure opportunities for practice should have also been incorporated.

Instruction through input enhancement was also addressed by Ghavamnia, Eslami-Rasekh and Vahid Dastjerdi (2014) in their study of learners' oral and written production of appropriate requests. Following an approach similar to Takahashi (2001), but dealing specifically with audio-visual material, learners first watched a video clip and then they were assigned to one of the four conditions: i) *metapragmatic explanation* (i. e. explanations regarding the requests forms that appeared on the video clip), ii) *form-comparison* (i. e. comparing the learners' utterances with those employed by native-speaker interlocutors on the video clip), iii) *meaning-focused* (i. e. answering comprehension questions based on the transcript of the video clip), and iv) *typographic enhancement* (i. e. providing the subtitles of the video clips with the target forms highlighted). Unlike the study reviewed above, Ghavamnia, Eslami-Rasekh and Vahid Dastjerdi (2014) included a control group, which did not receive any type of input-based instruction. After six 90-minute instructional sessions, it was found that the four experimental groups significantly improved in the post-test in comparison to the pretest, outperforming the control group. Moreover, learners in the metapragmatic explanation and form-comparison groups produced better requests in comparison to the meaning-focused and typographic enhancement groups. As reported by the authors, these findings indicate that any type of input-based instruction, ranging from highly enhanced input (i. e. metapragmatic explanation) to very low enhanced input may result in significant improvement in the learners' pragmatic competence.

The potential of using audio-visual material as a source of excellent pragmatic input for designing pedagogical activities was also highlighted by Alcón (2005, 2007). In her studies, the author examined the extent to which an explicit or an implicit instructional treatment affected learners' awareness (Alcón 2007) or both learners' awareness and written production (Alcón 2005) of request strategies. The treatment consisted of learners' exposure to excerpts from the series *Stargate* and lasted 15 self-study lessons. Learners were assigned to three groups: i) *explicit* group, who received instruction by means of direct awareness-raising tasks and written metapragmatic feedback on the use of requests, ii) *implicit* group, who was provided with typological enhancement recasts as well as awareness-raising tasks, and iii) *control* group, who only participated in comprehension and production of the English language with no focus on pragmatics. The results indicated that learners benefited from both explicit and implicit instruction in comparison to the performance of the control group. Regarding the comparison of the two types of treatment, both of them were effective in developing learners' pragmalinguistic knowledge of requests, but the explicit instruction benefited learners more than the implicit one in terms of fostering their sociopragmatic competence.

Other studies in this group give priority to the relationship between learners' opportunities for practice and the learning of pragmatics. More specifically, research in this group has been conducted to examine how different types of technology use may serve as an instructional tool to foster learners' ability to perform requests. For example, the studies by Eslami and Liu (2013) and Eslami, Mirzaei and Dini's (2015) used various forms of Computer-Mediated Communication (CMC) to promote learners' written production of requests. In Eslami and Liu's (2013) investigation, two groups of participants took part in the study: Taiwanese learners and graduate students in an American university. Learners were distributed into three groups: i) one group receiving *online instruction* via e-mail and WebCT from the graduate students, ii) another group receiving *face-to-face instruction* through in-class activities from their teacher, and iii) the *control group* which did not receive any pragmatic instruction. The treatment lasted ten 50-minute sessions and both experimental groups used the same Web-based lesson plans that included five basic components: i) motivation, ii) form search, iii) form comparison, iv) form analysis, and v) the use of requests. The results showed that explicit pragmatic instruction had a positive impact on the learners from both experimental groups (i. e. face-to-face and CMC) in comparison to those from the control group. Additionally, there was no significant difference between the two experimental groups in the amount of pragmatic gains, thus indicating the potential of using CMC tools to teach speech acts. Indeed, the authors highlight the benefits that CMC may offer for pragmatic instruction, such as reducing anxiety as learners move at their own pace or allowing the learners with more time to make connections between thinking and writing, among others.

The goal of Eslami, Mirzaei and Dini's (2015) study was to examine the efficacy of explicit and implicit instruction through the use of various CMC tools (i. e. emails, oral and written chats) in promoting learners' written production of requests. Two groups of participants took part in the study: learners (with an upper-intermediate level of English) and telecollaborative tutors (English native-speakers and highly proficient non-native English speakers who were enrolled in an ESL methodology course). Each tutor was paired with two or three learners over the treatment period and used explicit or implicit techniques depending on the experimental group they were assigned. The treatment lasted one semester of 12 weeks and every two weeks the tutors in both treatment groups had to exchange four emails with their peers. Learners were assigned to three groups: i) *explicit* group, who participated in a variety of pragmatically-oriented activities (i. e. consciousness-raising tasks, metapragmatic explanations, discussions, production activities, and explicit feedback), ii) *implicit* group, who received a different set of instructional activities (i. e. consciousness-raising tasks using input enhancement, discourse completion task production activities, and reflection on their production by means of using recasts and implicit feedback), and iii) *control* group, who completed traditional activities dealing with the learning of the English language. The results showed that

both treatment groups significantly improved, outperforming the control group. Thus the authors suggest the potential of using CMC tools that may help learners develop their pragmatic competence, particularly in FL contexts. However, when comparing the effectiveness of the two types of instruction, it appears that the explicit group performed significantly better than the implicit group on both the DCT and email communication measures.

Moreover, the studies by Gu (2011) and Sydorenko (2015) employed Computer-Assisted Language Learning (CALL) programs to integrate the teaching of requests. Specifically, the treatment in Gu's (2011) study, which lasted four 25-minute sessions, was based on learners' presentation of specific video clips related to requests from an English learning program, *Connect with English*, as well as the scripts of those video clips. After the input exposure, learners were distributed into two groups: i) *explicit* group, who participated in a series of activities involving strategy identification, metapragmatic information transmission, metapragmatic judgment, and production practice, and ii) *implicit* group, who did not have any awareness-raising activities, but rather comprehension questions on the video clips before participating in the production practice activities. The results indicated that both groups benefited from the interventional treatment to develop their oral and written production of requests, but to different degrees. The explicit group showed greater progress in the appropriate level of formality and politeness, thus indicating the necessity of incorporating consciousness-raising activities in the instruction of pragmatics. Nevertheless, learners from both experimental groups showed little progress in oral role plays, a finding that suggests that more practice opportunities need to be included in the treatment so that learners can gain familiarity over the requestive target forms. On the basis of these results, the author pointed out not only the importance of exposing learners to meaningful input, but also to include many opportunities for output, that is provide learners with a lot of chances for pragmatic production.

Sydorenko (2015) examined the potential of computerised practice on the development of learners' oral requestive performance. To that end, two groups of learners participated in an instructional treatment that lasted two 40-minute sessions. First, both groups watched a video containing native speakers' interactions, which was followed by awareness-raising activities aimed to increase their pragmalinguistic and sociopragmatic knowledge and received feedback. Then, in order to orally practice one requestive scenario, they were distributed into two groups: i) one group was engaged in a *CALL task* (i. e. a structured computer-based task containing native speaker models), and ii) the other group participated in a *role-play task* (i. e. an open-ended task done through learner-learner interaction). Findings showed that learners who practised requests via the CALL task were better at using particular native speakers' models than learners involved in the role-play task. However, the output obtained through the role-play task contained more creative language and allowed learners to negotiate meaning. On the basis of these results,

the author highlights the benefits that different task types may have in fostering different areas of learners' pragmatic competence.

That was the goal of the study by Taguchi and Kim (2016), who recently examined the effectiveness of implementing a Task-Based Language Teaching (TBLT) (Van den Branden, Bygate and Norris 2009) approach by including a particular instructional condition (i. e. *collaborative dialogue*) on learners' written production of requests. The authors analysed to what extent learners negotiated and co-constructed knowledge of sociopragmatic factors and pragmalinguistic features during collaborative tasks. To that end, learners were distributed into three groups: i) the *collaborative group*, who received explicit metapragmatic information on request followed by a dialogue construction task in pairs, ii) the *individual group*, who received the same information but completed the same task individually while thinking aloud, and iii) the control group, who did not receive any instruction. The treatment, which lasted two 45-minute sessions, consisted of three steps: i) provide all learners direct explicit information of the request target forms using a written dialogue, ii) show them a task modeling video in order to ensure they understood the task to be done, and iii) construct a dialogue involving a request based on two different scenarios related to their school life (while the collaborative group constructed this dialogue in pairs, learners from the individual group did it individually). Additionally, both groups had to verbalise their thoughts during the activity. The results indicated that the group working collaboratively outperformed those who did the task individually both during the task (as shown by the analysis of the interaction and think-aloud data) as well as at the immediate posttest. Nevertheless, the benefit of the collaborative group was not maintained four weeks after the instruction, since their performance was similar to those from the individual group. In spite of this fact, the authors highlighted the benefits of implementing collaborative tasks in improving pragmatic knowledge, since learners working collaboratively completed tasks more successfully and this performance led to gains of knowledge of appropriate request head acts.

Finally, a few studies in this group have emphasised the pivotal role of corrective feedback in pragmatic learning, an under-research area in ILP. The studies examined the comparative effects of different feedback conditions provided as part of the instructional methods on enhancing the written production and recognition (Nguyen et al. 2015) as well as the accuracy and fluency (Nguyen et al. 2019) of requests. Nguyen et al. (2015) analysed the relative effectiveness of written direct feedback (i. e. provision of answers without explanation) and metapragmatic feedback (i. e. provision of cues but no answers) following explicit instruction for developing and recognising email requests, thus engaging learners in different types of cognitive processing. The instructional treatment lasted six hours over a four-week course. The two treatment groups received the same instruction but different corrective feedback treatment and they were compared with a control group who received only regular instruction. It was found that while both types of corrective

feedback were equally efficacious in improving the students' pragmatic production in both the immediate posttest and delayed posttest (administered four weeks after the treatment), metalinguistic feedback led to significantly greater improvement in the area of pragmatic awareness, especially in the delayed posttest. Put together, these results not only showed the general benefits of providing corrective feedback in developing pragmatic knowledge but also demonstrated the varying effects of the two types of feedback on different areas of pragmatic competence.

In a later study, Nguyen et al. (2019) were interested in analysing the effect of corrective feedback when delivered with and without revision on producing accurate and fluent email requests. Informed by the skills-acquisition theory (Anderson 1993), learners received three hours of explicit metapragmatic instruction and then they were randomly assigned to either the control or one of the three treatment conditions: i) corrective feedback without revision, ii) corrective feedback with revision, and iii) corrective feedback with repeated revision. The control group did not receive feedback on classroom performance while the corrective feedback group was given 10 minutes for each email to study the teachers' feedback, without opportunities for revision. The revision group engaged in one cycle of 10-minute feedback and 10-minute revision for each email, and the repeated revision group was given two cycles of feedback and revision. Results of the immediate and delayed posttest (administered nine weeks after the treatment) indicated that the treatment groups outperformed the control group with respect to the accuracy of pragmatic production, but there was a lack of difference among the treatment groups with varying amounts of practice. On the other hand, learners in the revision and repeated revision groups outperformed the control and corrective feedback without revision groups in terms of processing speed although such advantage was not found with respect to repair fluency in any of the tests. Their findings suggest that corrective feedback plays a crucial role in teaching pragmatic features. However, evidence for the effect of revision on fluency, namely disfluencies, is less clear-cut.

5. Conclusion and future directions

The interventional research on requests reviewed in this chapter shows that the speech act of requesting is a pragmatic feature amenable to instruction and that the simple exposure to the target language is unlikely to be sufficient for learning this particular speech act. Indeed, after pragmatic intervention, there was an improvement in learners' awareness, confidence, production (both oral and written) and negotiation of appropriate requests. Moreover, learners also improved with respect to the accuracy of their pragmatic production and enhanced their speed of performance.

As to the effect of different instructional approaches, most of the studies reviewed, informed by the noticing hypothesis as the theoretical framework, indi-

cated a clear advantage for explicit over implicit instruction. Nevertheless, the potential of implicit interventions was also highlighted. In this respect, some studies reported the effectiveness of implicit intervention (Fukuya and Zhang 2002) and an effectiveness similar to that of the explicit intervention (Gu 2011; Eslami and Liu 2013; Eslami, Mirzaei and Dini 2015). Thus, findings in this particular area should be treated with care as many of the studies relied on instructional periods of varying exposures and duration. In fact, Taguchi and Roever (2017) point out that the implicit condition, which requires a learners' process of analysing and discovering pragmatic rules on their own may require an extended time for internalising pragmatic knowledge than the explicit condition, where rules are presented directly.

Echoing what has been suggested in Taguchi (2019), two new trends in instructed pragmatics have been observed in the studies examined in this chapter. One is the incorporation of other theoretical frameworks to demonstrate the teachability of requests, moving away from the simply adoption of an explicit and/or implicit type of instruction. For example, the study conducted by Chen (2015) adopted the genre-based approach proposed by SFL. The instructional treatment followed a teaching-learning cycle which provided learners with scaffolded assistance at the beginning stage and progressively, this support was removed to allow learners become more independent users of the language. Another example is the study by Taguchi and Kim (2016), which followed a TBLT approach and included an effective instructional condition (i. e. *collaborative dialogue*) to encourage learners to negotiate and discuss pragmatics aspects. Finally, the study carried out by Nguyen et al. (2019) informed by skills-acquisition and practice theories demonstrated the effectiveness of an inductive-deductive approach with an output practice component followed by feedback and revision, with the ultimate goal of achieving faster and more accurate processing. Hence, different methods of metapragmatic information delivery have also been effective in promoting pragmatic learning. Unfortunately, studies conducted under these frameworks are very scarce and there is a need for further investigation.

The second trend in pragmatic interventional research is the growing interest in technology applications, which has broadened the options for teaching speech acts. As González-Lloret (2019: 115) argues, “technology offers the possibility of bringing a variety of contexts, interlocutors and power dynamics to the L2 class that can reflect authentic practices in various interactional situations.” The positive role that technology may thus offer for pragmatic instruction was also observed in some of the research included here. For instance, the studies conducted by Eslami and Liu (2013) and Eslami, Mirzaei and Dini (2015) compared CMC to face-to-face interactions and explicit vs implicit instruction through the use of CMC tools respectively, whereas other studies conducted by Gu (2011) and Sydorenko (2015) employed CALL programs to teach requests. All four studies showed the effectiveness of these tools for teaching appropriate requests. However, in addition to focusing on the effectiveness of a particular tool, it would be particularly

desirable to identify specific features of technology (i. e. interactivity, authenticity, engagement in meaningful language use, promotion of comprehensible input or readiness for self-directed learning) that may contribute to pragmatic knowledge. Such investigation should be pursued in future studies to clarify to what extent the technology-based mediums are what lead directly to the effectiveness of pragmatics instruction or if such an effectiveness is merely because of the positive role of instruction in itself (Cunningham 2019; González-Lloret 2019).

Additionally, another direction in instructed pragmatics is the increasing interest in teaching pragmatics at the discourse level. Following this pragmatic-discursive approach, conversational moves and sequences (i. e. openings and closings, pre-and post-expansions and insertion sequences) should also be tackled in interventional studies on pragmatics to examine speech acts in interactions, in a variety of settings, including face-to-face and online communication (see Félix-Brasdefer 2019). Indeed, in the studies by Chen (2015), Nguyen (2018) and Nguyen et al. (2015, 2019), which focused exclusively on email requests, both framing moves (i. e. opening and closing) and content moves (i. e. request strategies and request support) were included for instruction, thus highlighting the sequential organisation of the whole requestive move. Nevertheless, apart from these few studies, the other ones surveyed in this chapter examined learners' gains in pragmatics by focusing on the pragmatological forms of the request-head act at the utterance level. Therefore, more research is needed in order to examine the effectiveness of an instructional period that adopts a discursive perspective in which learners' performance of requests is seen as part of an extended discourse.

Apart from these three new trends in instructed pragmatics that deserve further investigation, implementing a strategies-based approach to pragmatic learning is an underexplored area that has recently received interest (Sykes and Cohen 2018; Taguchi 2018). Indeed, an approach based on teaching strategies may be particularly relevant for pragmatic instruction as it involves guiding learners into developing autonomy to learn pragmatic competence by themselves (Cohen 2005; Ishihara and Cohen 2010). Nevertheless, research in this area is still very scarce and in fact none of the studies reviewed in this chapter have dealt with the impact that such a strategies-based approach to pragmatic learning may have on learners' development of requests. Consequently, there is a need to carry out interventional studies that implement such type of approach to teach speech acts.

6. Pedagogical recommendations

The review of the interventional studies on requests presented in this chapter has showed that pragmatic instruction can yield large gains in learners' pragmatic competence. From these studies a large body of knowledge about how to deal with speech acts in the language classroom has emerged, encompassing various meth-

odologies. This pedagogical knowledge, which may inform practitioners and also researchers when designing interventional studies on speech acts, can be summarised as follows:

- The need to provide learners with three instructional components for learning speech acts, mainly exposure to relevant input, opportunities for output and provision of feedback.
- The strength of an explicit treatment (i. e. provision of *metapragmatic explanations* followed by *focused practice* on the target pragmatic feature) for developing speech acts and the facilitative role of an implicit treatment (specifically, *input enhancement* and *recasts*) for developing awareness and confidence of speech acts in instructional settings.
- The usefulness of different methodological approaches for developing speech acts such as the genre-based approach, the TBLT approach and the skills-acquisition approach.
- The potential of exploring the possibilities that today's fast-growing technologies may offer for teaching speech acts considering not only the use of audiovisual materials such as TV series or film excerpts, but also the value of different CMC tools and CALL programs. In recent years, there has been a trend towards integrating these resources in order to bring the real world into the language classroom.
- The benefits of adopting a discursive approach that employs tools of CA such as turn-taking or sequencing, to examine speech acts in interaction. This approach may facilitate learners' ability to co-construct speech acts during interactions.
- The importance of designing robust instructional designs (i. e. data need to be collected repeatedly) with reliable assessments methods (i. e. triangulated data) for speech act development and use.

Alongside these research-based recommendations for the implementation of pragmatics-focused instruction, three aspects of paramount importance should also be addressed at a theoretical level (Basturkmen and Nguyen 2017). First, teachers need to be well-equipped to teach pragmatics. In this regard, a recent study by Usó-Juan and Martínez-Flor (in press) showed that courses in pragmatics are neglected in language teacher education. Without adequate training, it is not surprising that many teachers hesitate to incorporate this area in the classroom. Thus, language teacher education programs should include pragmatics courses to equip teachers with two basic types of knowledge, that is, *subject-matter knowledge* (i. e. an awareness of pragmatic norms and pragmatic variation) and *pedagogical knowledge* (i. e. an ability to provide pragmatic-focused instruction and assessment).

Second, materials should contribute to a better understanding of the various ways English is used as a lingua franca. However, many textbooks are based on native speakers' intuitions and the models presented in them for production approxi-

mate to a native speaker competence (Syrbe and Rose 2015). Hence, efforts should be made to include information that is in line with the current global usage of English. Finally, pragmatics should be taught taking learners' identity into account. In fact, some learners may opt to diverge from the target language social norms, particularly when these norms are in conflict with their own system of beliefs and values (see Gomez-Laich 2016). Thus, developing learners' intercultural awareness in the classroom has been recommended in order to help learners be tolerant towards beliefs and values of other people.

Taken together, the above described recommendations and critical issues for pragmatic instruction may help teachers engage learners in more authentic language use thus facilitating their ability to appropriately communicate in the target language. Indeed, since pragmatics is still a neglected area in most language classrooms, it is our belief that the fact of incorporating the above-presented pedagogical recommendations in the design of future interventional studies on speech acts would notably enrich the area of pragmatics pedagogy.

Acknowledgements

As members of the LAELA (Lingüística Aplicada a l'Ensenyament de la Llengua anglesa) research group at Universitat Jaume I (Castellón, Spain), we would like to acknowledge that this study is part of a research project funded by (a) the Universitat Jaume I (UJI-B2019-23), and (b) Projectes d'Innovació Educativa de la Unitat de Suport Educatiu 3821/20.

References

- Abdollahizadeh Masouleh, Fatemeh, Masoumeh Arjmandi and Fereydoon Vahdany
2014 The effect of explicit metapragmatic instruction on request speech act awareness of intermediate EFL students at institute level. *Universal Journal of Educational Research* 2(7): 504–511.
- Alcón, Eva
2005 Does instruction work for pragmatic learning in EFL contexts? *System* 33(3): 417–435.
- Alcón, Eva
2007 Fostering EFL learners' awareness of requesting through explicit and implicit consciousness-tasks. In: María Pilar García-Mayo (ed.), *Investigating Tasks in Formal Language Learning*, 221–241. Clevedon: Multilingual Matters.
- Alcón, Eva and Alicia Martínez-Flor
2008 Pragmatics in foreign language contexts. In: Eva Alcón and Alicia Martínez-Flor (eds.), *Investigating Pragmatics in Foreign Language Learning, Teaching and Testing*, 3–21. Clevedon: Multilingual Matters.

- Anani Sarab, Mohammad Reza and Sima Alikhani
2016 Pragmatics instruction in EFL context: A focus on requests. *International Journal of Research Studies in Language Learning* 5(1): 29–42.
- Anderson, John R.
1993 *Rules of the Mind*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Austin, John L.
1962 *How to Do Things with Words*. London: Clarendon Press.
- Bardovi-Harlig, Kathleen
1996 Pragmatics and language teaching: Bringing pragmatics and pedagogy together. In: Lawrence F. Bouton (ed.), *Pragmatics and Language Learning* Volume 7, 21–39. Urbana, IL: University of Illinois at Urbana-Champaign.
- Bardovi-Harlig, Kathleen
2002 Pragmatics and second language acquisition. In: Robert B. Kaplan (ed.), *The Oxford Handbook of Applied Linguistics*, 182–192. Oxford: Oxford University Press.
- Basturkmen, Helen and Thi Thuy Minh Nguyen
2017 Teaching pragmatics. In: Anne Barron, Yueguo Gu and Gerard Steen (eds.), *The Routledge Handbook of Pragmatics*, 563–574. London/New York: Routledge.
- Brown, Penelope and Stephen C. Levinson
1987 *Politeness: Some Universals in Language Use*. Cambridge: Cambridge University Press.
- Chen, Yuan-shan
2015 Developing Chinese EFL learners' email literacy through requests to faculty. *Journal of Pragmatics* 75: 131–149.
- Cohen, Andrew D.
2005 Strategies for learning and performing L2 speech acts. *Intercultural Pragmatics* 2(3): 275–301.
- Cunningham, D. Joseph
2019 L2 pragmatics learning in computer-mediated communication. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 372–386. New York: Routledge.
- DeKeyser, Robert M.
2007 Conclusion: The future of practice. In: Robert M. DeKeyser (ed.), *Practice in a Second Language: Perspectives from Applied Linguistics and Cognitive Psychology*, 287–304. Cambridge: Cambridge University Press.
- Eslami, Zohreh R. and Chia Ning Liu
2013 Learning pragmatics through computer-mediated communication in Taiwan. *Iranian Journal of Society, Culture and Language* 1(1): 52–73.
- Eslami, Zohreh R., Azizullah Mirzaei and Shadi Dini
2015 The role of asynchronous computer mediated communication in the instruction and development of EFL learners' pragmatic competence. *System* 48: 99–111.
- Félix-Brasdefer, César
2019 Speech acts in interaction. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 17–30. New York: Routledge.

Ford, Shawn

- 2006 The use of pragmatics in E-mail requests made by second language learners of English. *Studies in Language Sciences* 5: 143–162.

Fordyce, Kenneth

- 2014 The differential effects of explicit and implicit instruction on EFL learners' use of epistemic stance. *Applied Linguistics* 35(1): 6–28.

Fukuya, Yoshinori J. and Yao Zhang

- 2002 Effects of recasts on EFL learners' acquisition of pragmalinguistic conventions of request. *Second Language Studies* 21(1): 1–47.

Gomez-Laich, Maria Pia

- 2016 Second language learners' divergence from target language pragmatic norms. *Studies in Second Language Learning and Teaching* 6(2): 249–269.

Ghavamnia, Maedeh, Abbas Eslami-Rasekh and Hossein Vahid Dastjerdi

- 2014 Exploring the effects of input-based instruction on the development of EFL learners' pragmatic proficiency. *International Journal of Research Studies in Language Learning* 3(7): 43–56.

González-Lloret, Marta

- 2019 Technology and L2 pragmatics learning. *Annual Review of Applied Linguistics* 39: 113–127.

Gu, Xiao-le

- 2011 The effect of explicit and implicit instructions of request strategies. *Intercultural Communication Studies* 20(1): 104–123.

Halenko, Nicola and Christian Jones

- 2011 Teaching pragmatic awareness of spoken requests to Chinese EAP learners in the UK: Is explicit instruction effective? *System* 39: 240–250.

Halliday, Michael A. K.

- 1994 [1985] *An Introduction to Functional Grammar*, 2nd edition. London: Edward Arnold.

Ishihara, Noriko and Andrew D. Cohen

- 2010 *Teaching and Learning Pragmatics: Where Language and Culture Meet*. Abingdon: Routledge.

Kádár, Dániel Z. and Sara Mills (eds.)

- 2011 *Politeness in East Asia*. Cambridge: Cambridge University Press.

Kasper, Gabriele

- 2001 Classroom research on interlanguage pragmatics. In: Kenneth R. Rose and Gabriele Kasper (eds.), *Pragmatics in Language Teaching*, 33–60. Cambridge: Cambridge University Press.

Kasper, Gabriele

- 2006 Speech acts in interaction: Towards discursive pragmatics. In: Kathleen Bardovi-Harlig, César Félix-Brasdefer and Alwiya S. Omar (eds.), *Pragmatics and Language Learning*, Volume 6, 281–314. Honolulu, HI: National Foreign Language Resource Center, University of Hawai'i at Manoa.

Leech, Geoffrey

- 1983 *Principles of Pragmatics*. London: Longman.

Liu, Jianda

- 2006 *Measuring Interlanguage Pragmatic Knowledge of EFL Learners*. Frankfurt am Main: Peter Lang.

- Liu, Jianda
2010 Testing interlanguage pragmatic knowledge. In: Anna Trosborg (ed.), *Pragmatics across Languages and Cultures*, 467–488. (Handbooks of Pragmatics 7). Berlin/New York: De Gruyter Mouton.
- Locher, Miriam
2004 *Power and Politeness in Action: Disagreements in Oral Communication*. Berlin: Mouton de Gruyter.
- Locher, Miriam
2006 Polite behaviour within relational work: The discursive approach to politeness. *Multilingua* 25(3): 249–267.
- Locher, Miriam and Richard J. Watts
2005 Politeness theory and relational work. *Journal of Politeness Research* 1(1): 9–34.
- LoCastro, Virginia
2012 *Pragmatics for Language Educators: A Sociolinguistic Perspective*. London: Routledge.
- Martínez-Flor, Alicia and Esther Usó-Juan
2010 Pragmatics and speech act performance. In: Alicia Martínez-Flor and Esther Usó-Juan (eds.), *Speech Act Performance: Theoretical, Empirical and Methodological Issues*, 3–20. Amsterdam/Philadelphia: John Benjamins.
- Matsuda, Maya
1999 Interlanguage pragmatics: What can it offer to language teachers? *The CATESOL Journal* 11(1): 39–59.
- Nguyen, Thi Thuy Minh
2018 Pragmatic development in the instructed context: A longitudinal investigation of L2 email requests. *Pragmatics* 28(2): 217–252.
- Nguyen, Thi Thuy Minh, Thi Thanh Ha Do, Anh Tuan Nguyen and Thi Thanh Thuy Pham
2015 Teaching email requests in the academic context: A focus on the role of corrective feedback. *Language Awareness* 24(2): 169–195.
- Nguyen, Thi Thuy Minh, Thi Thanh Ha Do, Anh Tuan Nguyen and Thi Thanh Thuy Pham
2019 The effects of corrective feedback with and without revision on enhancing L2 pragmatic competence. *Applied Pragmatics* 1(1): 1–25.
- Rose, Kenneth
2000 An exploratory cross-sectional study of interlanguage pragmatic development. *Studies in Second Language Acquisition* 22: 27–67.
- Rose, Kenneth
2005 On the effects of instruction in second language pragmatics. *System* 33(3): 385–399.
- Safont, Maria Pilar
2004 An analysis on EAP learners' pragmatic production: A focus on request forms. *Ibérica* 8: 23–39.
- Searle, John R.
1969 *Speech Acts: An Essay in the Philosophy of Language*. Cambridge: Cambridge University Press.
- Searle, John R.
1976 The classification of illocutionary acts. *Language in Society* 5: 1–24.

- Schmidt, Richard
1993 Consciousness, learning and interlanguage pragmatics. In: Gabriele Kasper and Shoshana Blum-Kulka (eds.), *Interlanguage Pragmatics*, 21–42. New York: Oxford University Press.
- Sydorenko, Tetyana
2015 The use of computer-delivered structured tasks in pragmatic instruction: an exploratory study. *Intercultural Pragmatics* 12(3): 333–362.
- Sykes, Julie M. and Andrew D. Cohen
2018 Strategies and interlanguage pragmatics: Explicit and comprehensive. *Studies in Second Language Learning and Teaching* 8(2): 381–402.
- Syrbe, Mona and Heath Rose
2015 An evaluation of the global orientation of English textbooks in Germany. *Innovation in Language Learning and Teaching* 12(2): 152–163.
- Taguchi, Naoko
2018 Pragmatic competence in foreign language education: Cultivating learner autonomy and strategic learning of pragmatics. In: Claire Bourguignon, Daniel Chan, Masanori Nagami and Izumi Walker (eds.), *Knowledge, Skills and Competence in Foreign Language Education*, 1–19. Singapore: National University of Singapore Center for Language Studies.
- Taguchi, Naoko
2019 Second language acquisition and pragmatics: An overview. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 1–14. New York: Routledge.
- Taguchi, Naoko and Youjin Kim
2016 Collaborative dialogue in learning pragmatics: Pragmatic-related episodes as an opportunity for learning request-making. *Applied Linguistics* 37(3): 416–437.
- Taguchi, Naoko and Carsten Roever
2017 *Second Language Pragmatics*. Oxford: Oxford University Press.
- Takahashi, Satomi
2001 The role of input enhancement in developing pragmatic competence. In: Kenneth R. Rose and Gabriele Kasper (eds.), *Pragmatics in Language Teaching*, 171–199. Cambridge: Cambridge University Press.
- Thomas, Jenny
1983 Cross-cultural pragmatic failure. *Applied Linguistics* 4(2): 91–112.
- Thomas, Jenny
1995 *Meaning in Interaction: An Introduction to Pragmatics*. New York: Longman.
- Trosborg, Anna
1995 *Interlanguage Pragmatics: Requests, Complaints and Apologies*. Berlin: Mouton de Gruyter.
- Usó-Juan, Esther and Alicia Martínez-Flor
in press Teacher pragmatic awareness in English as an International Language. In: Zia Tajeddin and Mino Alemi (eds.), *Pragmatics Pedagogy of EIL*. London/New York: Routledge.
- Van den Branden, Kris, Martin Bygate and John M. Norris (eds.)
2009 *Task-Based Language Teaching: A Reader*. Amsterdam/Philadelphia: John Benjamins.

Watts, Richard J.

2003 *Politeness*. Cambridge: Cambridge University Press.

Watts, Richard J.

2005 Linguistic politeness research: Quo vadis? In: Richard J. Watts, Sachiko Ide and Konrad Ehlich (eds.), *Politeness in Language: Studies in its History, Theory and Practice*, 2nd edition, xi-xlvii. Berlin: Mouton de Gruyter.

Werkhofer, Konrad

2005 Traditional and modern views: The social constitution and the power of politeness. In: Richard J. Watts, Sachiko Ide and Konrad Ehlich (eds.), *Politeness in Language: Studies in its History, Theory and Practice*, 2nd edition, 155–199. Berlin: Mouton de Gruyter.

11. Learning how to interpret indirectness in an L2

Helen Woodfield

Abstract: Taking a speech act focus, the present chapter outlines the theoretical nature of indirectness in communication and, with reference to empirical studies, illustrates the nature of cross-cultural and regional pragmatic variation with regard to the interpretation of indirectness and the ways in which linguistic resources may be harnessed in the communication of indirectness and politeness. A selection of empirical studies in interlanguage pragmatics evidence the challenge for the second language learner in the mapping of pragmalinguistic and sociopragmatic knowledge in the development of the L2 and in relation to the communication of indirectness. The chapter suggests that with regard to L2 research methodology, recent data-driven taxonomies of speech act strategies may need to be broadened to encompass a range of cultural linguistic perspectives in the communication of indirectness and politeness. Furthermore, illustrations of emic approaches to data collection in the present chapter indicate that such data may provide valuable evidence from the L2 learner on the planning and construction of speech acts in the communication of indirectness in second language learning.

1. Introduction

Drawing on Blum-Kulka's (1991) seminal research on interlanguage pragmatics, Kasper and Schmidt's (1996) review of developmental issues in the field highlighted that: "to the extent that strategies for linguistic action are universal, the second language learner's task is simplified ... in every speech community, adult native speakers are able to *infer* indirectly conveyed pragmatic intent, to *realize* linguistic action indirectly, and to vary their choices of linguistic action patterns according to contextual constraints" (Kasper and Schmidt 1996: 154; emphasis mine). The aim of the present chapter is to provide a review of the complexity of the task facing L2 learners in learning how to interpret indirectness in pragmatic production and comprehension as evidenced by research in the speech act realization of requests and with regard to the communication of politeness and indirectness. Requests have been one of the most extensive speech acts studied in the field of pragmatics and studies in cross-cultural, interlanguage and variational pragmatics provide rich data and extensive empirical evidence for examining indirectness in the field. In terms of pragmatic analysis, the focus of the present chapter resides mainly at the actional level (Schneider and Barron 2008: 20), that is, speech act realisation and modification. The scope of the chapter does not extend to those studies employing

<https://doi.org/10.1515/9783110431056-011>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 301–330. Berlin/Boston: De Gruyter Mouton.

conversational analysis in relation to speech acts (Félix-Brasdefer 2006; Kasper 2006; González-Lloret 2010; Walker, Drew and Local 2011). The present chapter focuses on evidence for the realization of indirectness in (i) cross-cultural and variational pragmatics and in (ii) interlanguage pragmatics as evidenced in both acquisitional and “single moment” studies¹. Those studies examining cross-cultural variation in speech act realization may shed light on how the relationship between indirectness and politeness is interpreted differently across cultures, while studies in interlanguage pragmatics provide evidence on the current state of L2 learners’ pragmatic knowledge from either etic or emic perspectives, particularly with regard to communicating indirectness. Given the scope of the present chapter and the volume of research in these two areas of the field, the studies reviewed here have necessarily been selective: with regard to these constraints, the aim is to highlight some key issues in learning how to interpret indirectness in an L2. The chapter begins with definitions of pragmatics and pragmatic knowledge (2.), and reviews theoretical conceptualisations of indirectness in speech acts (3.): evidence from empirical studies relating to indirectness and politeness in speech act realization in cross-cultural and variational pragmatics (4.) and interlanguage pragmatics (5.) are then discussed, followed by a brief review of the research methodologies employed in these studies (6.) followed by concluding remarks (7).

2. Pragmatic knowledge

Recent reviews of development in L2 pragmatics (Kasper and Rose 2002; Bardovi-Harlig 2013) and of teaching and testing pragmatics (Roever 2006) cite Crystal’s (1997: 301) definition of pragmatics as: “the study of language from the point of view of users, especially of the choices they make, the constraints they encounter in using language in social interaction and the effects their use of language has on other participants in the act of communication”. More recent definitions (Félix-Brasdefer and Koike 2012: 2) conceptualise pragmatics as: “the study of language use in context from the point of view of speakers who use utterances (and non-verbal signals) to express communicative action at the discourse level, and how these utterances are interpreted by hearers”. The role of context in understanding pragmatic knowledge is highlighted by Taguchi (2011: 75): “the ability to interpret and produce speech intentions is realized only through our understanding of context. Pragmatic knowledge entails the ability to assess contextual information and to choose appropriate linguistic means to perform functions according to context”. Within the realm of pragmatic knowledge, an important distinction has been made between pragmlinguistic and sociopragmatic knowledge (Leech 1983). The

¹ For a discussion of this terminology, see Cook (1993).

former refers to the linguistic resources at a learner's disposal for communicating pragmatic intentions (for example knowledge of modals and tense) while the latter encompasses: "knowledge of the social rules of language use including knowledge of appropriateness, the meaning of situational and interlocutor factors, and social conventions and taboos" (Roever 2006: 560). This aspect of pragmatic knowledge: "concerns knowledge about, and performance consistent with, social norms in specific situations in a given society, as well as familiarity with variables of social power and social distance" (Félix-Brasdefer and Koike 2012: 5). Sociopragmatics thus refers to: "the social meanings indexed through the use of language", while pragmalinguistics encompasses: "the language used to accomplish an action" (van Compernelle 2014: 42).

While the mapping of these two dimensions of pragmatic knowledge together may enable learners to avoid pragmatic failure (Roever 2009), evidence for the sometime lack of synchronicity in both aspects of learner pragmatic development have been observed (see Kasper 2001 for review). Where development of sociopragmatic knowledge is ahead of a learner's pragmalinguistic development, the learner may have difficulty in communicating pragmatic intentions in a socially appropriate manner. In the reverse scenario, while the pragmalinguistic repertoire may be largely intact, the learner may not be fully aware of the sociopragmatic norms of the target culture. Thomas (1983: 99) identifies pragmalinguistic failure as occurring when the mapping of pragmatic force by a speaker is: "systematically different from the force most frequently assigned to it by native speakers of the target language, or when speech act strategies are inappropriately transferred from L1 to L2". Conversely, sociopragmatic failure according to Thomas (1983) "stems from cross-culturally different perceptions of what constitutes appropriate linguistic behaviour" (Thomas, 1983: 99).

3. Indirectness in speech acts

As a directive act, requests tend to have an initiating function in discourse, and as pre-event acts, such speech acts are: "made in an attempt to cause an event or change one" (Blum-Kulka and Olshtain 1984: 206). Requests have been classified as inherently "face threatening" in Brown and Levinson's (1987) politeness model, due to the potential costs and imposition on the hearer and associated threats to negative face, and indirectness is conceptualised in this model as a way of minimising face-threats by the speaker. The distinction between the speaker's intended meaning and the literal interpretation of utterances is key to the notion of indirect speech acts. Searle's (1975: 60–61) definition of indirect speech acts proposed that these were: "cases in which one illocutionary act is performed indirectly by way of performing another [...] the speaker communicates to the hearer more than he actually says by way of relying on their mutually shared background information, both

linguistic and non-linguistic, together with the rational powers of rationality and inference on the part of the hearer". Morgan (1978: 262) explains how the fact that utterances such as *Can you pass the salt?* can be conveyed as a request rather than a literal question about ability may be understood with reference to Grice's (1975) notion of conversational implicature and accompanying maxims: a distinction is thus made between conventions of language (literal meanings of an utterance) and conventions of usage which govern the use of utterances.

In the field of cross-cultural pragmatics, Blum-Kulka, House and Kasper's (1989) taxonomy of requests has formed the basis for a number of empirical request studies (Trosborg 1995; Hendriks 2002; 2008; Otçu and Zeyrek 2008; Woodfield and Kogetsidis 2010). The Cross-Cultural Speech Act Realisation Project (henceforth CCSARP), which examined both native data (Blum-Kulka, House and Kasper 1989) and interlanguage data (Kasper and Blum-Kulka 1993) in the speech act realization of requests and apologies across five languages, conceptualises the notion of indirectness as a: "measure of illocutionary transparency" where: "the more direct a given request strategy type, the shorter the inferential path to the requestive interpretation" (Blum-Kulka and House 1989: 133). The nine levels of directness in requests identified by Blum-Kulka, House and Kasper (1989) include five Direct levels, comprising Mood Derivable utterances, Performatives and Hedged Performatives, Obligation and Want statements; two Conventionally Indirect levels (Suggestory Formulae; Query Preparatory) and two Non-Conventionally Indirect levels (Strong and Mild Hints). Blum-Kulka and House (1989: 139) also highlight the role of internal and external modifiers in determining politeness. Modification devices may be employed to soften the force of a request, thus providing opportunities to vary the illocutionary force in relation to the addressee, and the imposition, as well as other contextual factors. Pragmalinguistic resources available to the speaker include a range of syntactic or lexical/phrasal modifiers internal to the head act, together with external modifying strategies in pre- or post-head act position (Woodfield 2012: 11)

With regard to conventional indirectness, Blum-Kulka (1989: 42) states that: "conventions of propositional content (means) and linguistic form combine to signal requestive force. Non-conventional indirectness, on the other hand, is in principle open ended, both in terms of propositional content and linguistic form as well as pragmatic force", and Weizman (1989: 74) observes that: "the interpretation of indirect meanings may require of the hearer an elaborate process involving inferencing to reach interpretations congruent with the speaker's intentions". Thus the utterance *I can't do this on my own* (Culpeper and Haugh, 2014: 168) demonstrates at one level a declarative statement about the speaker's ability while potentially representing the performance of an indirect request (a hint in Blum-Kulka, House and Kasper's 1989 taxonomy). According to Leech (1983: 132), increasing the level of indirectness also increases the degree of politeness, due to the increased optionality for the hearer and: "because the more indirect an illocution is, the more diminished and tentative its force tends to be". In the CCSARP, a common preference in requests

was identified across groups and situations for conventionally indirect request strategies (Blum-Kulka and House 1989: 127), such strategies containing within them a check on both the hearer's ability and willingness to comply. As Blum-Kulka (1989: 125) states: "conventionally indirect strategies testify to a concern for the dislike of refusals; they combine the advantages of a pre-request and a non-admitted off-record request proper. Their maximum efficiency is achieved by the use of the type of indirect questions that are contextually relevant to the prerequisites of a given request". For Blum-Kulka (1987: 131) conventionally indirect strategies achieve a balance between pragmatic clarity and the need to avoid coerciveness. Politeness, according to this view: "is motivated both by the need to adhere to the submaxim of pragmatic clarity and the need to minimise the threat to face. The highest levels of politeness are achieved when both needs can be satisfied simultaneously, as in the case of conventional indirectness" (Blum-Kulka, 1987: 144).

Turning to comprehension of second language indirect requests, discussions of how listeners determine whether a literal or a conventional interpretation is assigned to an utterance have outlined three models (Takahashi and Roitblatt 1994). A multiple-meaning model (Gibbs 1982) suggests that computation of literal and non-literal meanings may occur simultaneously. In their review of these models, Takahashi and Roitblatt (1994: 478) indicate that: "the multiple-meaning model also predicts that the listener should show evidence of having processed the literal interpretation of the utterance". The conventional-meaning model (Gibbs 1979, 1983) suggests that there may be a bias towards conventional, non-literal interpretations of utterances such as *Can you pass the salt?*, while earlier research (Clark and Lucy 1975) presents evidence to support the literal-first model where a literal interpretation precedes the conventional interpretation but may be discarded based on conversational maxims and evidence from context. Recent reviews of the literature (Gibbs 2002, cited in Walker, Drew and Local 2011: 2435) suggest that "there is no evidence to support the claim that literal meaning is always computed first" (Walker, Drew and Local 2011: 2435).

Returning to the CCSARP research, the notion of non-conventional indirectness is closely linked to Brown and Levinson's (1987) notion of "off record strategies" within their (much critiqued) politeness model. Off record strategies incorporate those strategies in which: "meaning is to some degree negotiable" (Brown and Levinson 1987: 69). Sifianou (1997: 69) points out that: "their politeness super strategies are intrinsically ranked, with off-record strategies being more polite than negative politeness strategies which in turn precede positive politeness ones". According to Kasper (1990: 194) the model conceptualises politeness as strategic conflict avoidance: Brown and Levinson (1987) assume an essentially volitional, strategic, and face-saving view of politeness with a universality ascribed to strategies for performing speech acts within their model. On-record strategies (with redressive action) combine face-redress with pragmatic clarity. According to the model, threats to negative face may be mitigated in face-threatening acts (FTAs)

such as requests through the employment of negative politeness strategies which aim to minimise the effects of imposition. Positive politeness strategies conversely emphasise association and in-group membership and are orientated towards the “positive self image” of the hearer (Brown and Levinson 1987: 70) while, according to the model, positive and negative face wants need to be constantly attended to in interaction. Central to some of the criticisms of the model are questions around the correlation between indirectness and politeness (Blum-Kulka 1987); the universality of conceptualisations of “face” in considerations of politeness (Ide 1989; Matsumoto 1988; Nwoye 1992) and around the notion of politeness as strategic (see Mills 2003; Kadar and Mills 2013, for review).

Building on claims to the universal validity of the indirectness scale (Blum-Kulka and House 1989: 133), Aijmer (1996: 24) has proposed a more extensive taxonomy comprising eighteen head acts. Furthermore early taxonomies of modification (Blum-Kulka, House and Kasper 1989; Faerch and Kasper 1989) have since been extended through data emerging in interlanguage studies in relation to L2 English request modification. Among these, developmental studies of Danish (Trosborg 1995), German (Schauer 2006, 2007), and Syrian (Ali 2014) learners of English and (single moment) studies of Greek learners (Woodfield and Economidou-Kogetsidis 2010; Economidou-Kogetsidis 2012) have demonstrated the need to expand the CCSARP taxonomy of modification while Marti (2006) demonstrates how analyses of politeness and indirectness in Turkish-German bilingual and Turkish monolingual requests employing the CCSARP taxonomy may require a broader perspective to encompass opt outs, alternative solutions and attempts to negotiate.

With regard to the relationship between indirectness and politeness across cultures, Blum-Kulka and House (1989: 134) concede that: “indirectness and politeness are not necessary correlates of each other universally or for any given culture” and that cultures may vary in the social meaning ascribed to similar linguistic choices. Wierzbicka 2003: 37) points out that: “in Anglo-Saxon culture, distance is a positive cultural value, associated with respect for the autonomy of the individual. By contrast, in Polish culture it is associated with hostility and alienation”. Wierzbicka (2003: 88–89) raises the central issue of the cross-cultural validity of the distinction between “direct” and “indirect” speech acts asserting that in Russian, Polish, Thai or Japanese the imperative: “is often combined with various particles, some of them somewhat impatient, others more friendly, some of them described as “softening” the directive, others as, on the contrary, making it harsher or more peremptory”. Ogiermann (2009: 191–192) points out that the Russian concept of politeness relies on directness and frankness rather than the avoidance of face-loss. Furthermore, according to Rathmayr (1994), requests in this culture *may* not be regarded as an imposition on one’s personal freedom: “and a potential refusal involves less face-loss for a Russian speaker than it does for somebody with an Anglo-Saxon cultural background” (Rathmayr 1994: 274, cited in Ogiermann 2009: 192). The discussion of the cultural relativity of the relationship between

indirectness and politeness in speech act realization is taken up in more detail in section 4 below in a review of empirical studies examining cross-cultural variation in the speech act realization of requests with regard to indirectness and politeness.

4. Indirectness and cross-cultural variation in speech act realization

Despite the universality ascribed in the Brown and Levinson (1987) model to speech act strategies for requests, cross-cultural studies have illustrated culture-specific preferences in realizing requests. Blum-Kulka and House (1989: 134) found similar patterns of distribution of strategy types along the scale of indirectness in the English, German, French, Hebrew and Spanish participants with all groups expressing a preference for conventionally indirect strategies, a preference evidenced extensively in other cross-cultural studies for example in British English (Fukushima 2000) and Mexican Spanish (Félix-Brasdefer 2005). However evidence of cultural specificity within directness levels and internal modification was also observed in the CCSARP data. Indirectness was found not to be predictive of levels of internal modification (Blum-Kulka and House 1989: 139): for example German participants' relatively higher levels of directness (as compared to English participants) also combined with the highest frequencies of internal modification in the study overall. In the following sections, more recent empirical evidence from those pragmatics studies is reviewed which examines the relationship between indirectness and politeness in cross-cultural studies (4.1) and in studies in variational pragmatics (4.2).

4.1. Cross-cultural studies

The extent to which indirectness and politeness are interpreted differently across cultures was investigated by Ogiermann (2009) in an examination of cross-cultural variation in speech act realization in English, German, Polish and Russian requests, with a focus on head acts and internal/external modification. Discourse completion tasks (henceforth DCTs) comprising a low social distance/equal social power scenario (a telephone request to borrow notes) were employed with participants in university contexts of study. Regarding patterns of indirectness, a strong preference for conventional indirectness was reported in the German and English data (Ogiermann 2009: 198) however Polish and Russian participants exhibited higher frequencies of the imperative as compared to English and German participants. Providing counter evidence to claims by Wierzbicka regarding the use of the imperative (1985, 2003), such constructions were used less frequently by both Polish (25%) and Russian (35%) participants in relation to interrogative constructions. This comprehensive category incorporated: "various syntactic structures, such as questions in the present tense or the conditional, with and without a modal

verb, or more complex constructions including lexical downgraders, such as consultative devices". With regard to the Russian data, Ogiermann (2009: 198) reports that the relatively high proportion of interrogative (versus imperative, direct) constructions was unexpected given the propensity for indirect requests in more *formal* situations in the Russian culture. Regarding syntactic downgrading, the study provides evidence that the: "preferences for the various downgrading devices are culture-specific" (Ogiermann 2009: 210). The Slavic languages indicated a preference for syntactic downgraders (tense and negation) while downtoners and consultative devices were the preferred constructions in the German and English groups respectively. In relation to the syntactic downgrader of negation, regarded as an "obligatory element" in Russian while in Polish implying: "genuine doubt about the ability to comply with the request" (Ogiermann 2009: 200), this construction was evident in both languages but absent in the German data. No data on negation as a syntactic downgrader are reported in this study for English participants, however the relatively low frequency of negation as a choice of syntactic downgrader in English native speaker requests is also reported in those comparative studies which have contrasted native speaker and interlanguage production of requests in open role plays. Göy, Zeyrek and Otçu (2012: 65) report low frequencies of negation (1.8%) in syntactic downgraders in American English native speaker data in relation to other syntactic downgrader constructions (conditional, aspect, tense, conditional clause) while in comparative studies with ESL learners, Economidou-Kogetsidis (2012: 186) and Woodfield (2012: 34) both observe an absence of negation in American English and British English participants respectively. Findings from Ogiermann's (2009) study indicate a preference in Slavic languages for interrogative over direct constructions in status-equal requests, however as compared to the German and English participants, direct imperatives were more frequent in the Polish and Russian data. As noted, regarding syntactic mitigation, some patterns (e. g. in the employment of negation) emerged which support findings from previous studies. Patterns of lexical/phrasal modification evidenced cross-cultural variation with a preference for downtoners in the German data and consultative devices in the English data (Ogiermann 2009: 25) while few examples of downtoners relative to the other cultural groups were evidenced in the Polish data. Further cross-cultural studies eliciting perception data are needed to provide emic perspectives (Barros Garcia and Terkourafi 2015) on the cultural-specific relationship between indirectness and politeness in relation to pragmalinguistic and sociopragmatic choices and in relation to the social meanings ascribed to discourse situations.

The assumed cross-cultural applicability and universality of the relationship between indirectness and politeness (Blum-Kulka 1987; Brown and Levinson 1987) was also investigated by Byon (2006) in a study of Korean requests elicited through DCTs in socially familiar settings and in trinary variable (P) settings. The study showed how direct requests were employed more frequently than indirect requests overall, even in +P situations (a student asking a professor for a letter of

recommendation) and that +P situations also included indirect strategies (ellipsis). Furthermore, direct requests (basic directives and performatives) were shown to combine with appropriate honorifics to communicate politeness (Byon 2006: 261–262). Contrasting discernment politeness with volitional politeness (cf. Brown and Levinson 1987), Byon (2006: 258) argues that: “the desire to index social relationships rather than to save one’s face” also motivates politeness in Korean culture. “The function of discernment politeness is to index social meanings involved in contexts, such as speakers’ attitudes toward the addressee or referent (e. g. politeness, respect, and humility), as well as toward social variables involved in interactions (e. g. age, seniority, rank, gender and education background)” (Byon 2006: 258). The preference for direct strategies combined with honorifics in this study is also explained with reference to the concept of face within Korean culture identified as: “an individual’s need to abide by cultural norms and show one’s desire to be part of the group and an individual’s need to express one’s moral sense regarding role and place”. This is combined with the collectivist nature of Korean culture with an emphasis on: “public preferences over individual needs” (Byon 2006: 268). Finally, in relation to the pragmalinguistic strategies in communicating politeness and indirectness in Korean, Byon (2006: 270) points out that it is: “morphological differentiation rather than syntactic differentiation that is employed to indicate politeness (e. g. the honorific suffix, speech levels, hedges)”.

The significant role of honorifics in communicating politeness is also demonstrated in Nepali in Upadhyay’s (2003) study of directives in family, business and service encounter settings. The study presented natural conversational data to show that: “politeness does not have to be a function of linguistic indirectness” (Upadhyay 2003: 1653). In Nepali, morphological variation (for example in relation to the imperative) may communicate politeness in contrast to the syntactic variation (imperative, interrogative) characteristic of English requests. Nepali-specific markers are shown to include pronominal address terms, honorifically marked verbal inflections and kinship address terms (Upadhyay 2003: 1654). Citing Brown and Levinson (1987: 179), Upadhyay indicates that: “honorifics are direct grammatical encodings of relative social status between participants, or between participants and persons or things referred to” (Upadhyay 2003: 1655). In this study, the basic directive, equivalent to mood derivable was the only form of directive which was evident across all settings (Upadhyay 2003: 1661). Linguistic variations across settings were in the form of degrees of honorificity, indicated mainly through verbal morphology. Hierarchical relationships, for example within family settings, resulted in asymmetrical use of basic directives while: “non-honorifically inflected directives related to speakers’ rank in business settings” (Upadhyay 2003: 1664). The view of politeness as “discernment” (in contrast to the volitional view of Brown and Levinson (1987) is considered to underpin communication of politeness in Nepali society and relates to the normative or constraining value of the politeness system in this and Chinese and Japanese societies. According to

Watts (1992: 52) discernment applies to: “both verbal and non-verbal behaviour into which Japanese children are socialized”. In relation to Japanese, Matsumoto (1988: 418) explains that: “in any utterance in Japanese, one is forced to make morphological or lexical choices that depend on the interpersonal relationship between the conversational participants [...] there is no socially unmarked form. If an unexpected form is used, an implication (interpersonal implicature) arises”. Upadhyay’s (2003) study is thus significant firstly in demonstrating that politeness is not universally a function of linguistic indirectness and that social meanings may be encoded through the honorific system, morphological variation and kinship and pronominal address terms. Secondly, the study shows the significance of the honorific system as an important element in sociopragmatic and pragmalinguistic knowledge in the Nepalese language.

The extent to which direct strategies characterise Mandarin Chinese (low imposition, varied power/distance) requests was a key focus in Chen, He and Hu’s (2013) cross-cultural study comparing Mandarin Chinese, American English and Japanese speakers. Following Hill et al.’s (1986) methodology, the study elicited participants’ perceptions of appropriateness of low imposition requests in a range of given pragmalinguistic structures and with different (+P/-P) recipients. These authors report that, counter to evidence from previous studies (Lee Wong 1994; Gao 1999; Zhao 2009), Chinese requests were similar to American and Japanese requests at the macro level, with all groups’ requests being characterised by conventional indirectness (Chen, He and Hu 2013: 154). However, given the research evidence (Lee 2005) that directness in Chinese request strategies may also be combined with internal (lexical and syntactic) and external modification, the range of given request strategies in Chen, He and Hu’s (2013) study was arguably limited in its restriction to head acts (with a few exceptions).

4.2. Studies in variational pragmatics

Variational pragmatics has been conceptualised: “as an area of research dedicated to systematically investigating the effect of macro-social factors on the use of language in (inter)action” (Barron 2008a: 359). Macro-social factors (region, gender, ethnic identity, socio-economic status) are considered: “stable factors which nonetheless interact”. As a sub-group of variational pragmatics, regional pragmatic variation has been studied extensively, and in a number of languages (Warga 2008; García 2008; Schölmberger 2008) – see Barron (2008a) for review. Two studies focusing on the actional level of analysis in variational pragmatics (Schneider and Barron 2008: 20) are reviewed here: firstly, Barron’s (2008a) study of requests in Irish English and English English and secondly, Johns and Félix-Brasdefer’s (2015) study of pragmatic variation in French speakers in Senegal and in France.

Barron’s (2008a) study contrasted requests by female participants in Inner Circle Englishes (Irish English and English English) and employing DCTs in standard

and non-standard situations (House 1989). Coding of directives was based on the CCSARP nine levels of directness (Blum-Kulka, House and Kasper 1989). Conventional indirectness was the most frequent head act realization strategy employed by both groups and in all three situations (Barron 2008: 367). Between-group significant lexical differences were observed within head acts in the Notes situation (a student requesting notes from a friend) with *borrow* being the preferred verb choice in the English English (EngE) group. Irish English (IrE) speakers contrastively employed a range of constructions with *lend* (e. g. *Could I have a lend of your notes?*) (Barron 2008a: 368). In relation to perspective, while both groups preferred a speaker perspective, the IrE group also evidenced direct requests related to a hearer perspective. Regarding mitigation, between-group differences were found in relation to syntactic mitigation in non-standard situations where Irish informants appeared more indirect, employing higher frequencies of such mitigation forms and in the standard situation “Lift” (a request to a neighbour for a lift home from a meeting) where a higher number of mitigators per informant was evident (Barron 2008a: 372). Cross-varietal differences in indirectness were also evident in the employment of higher frequencies of tense-aspect combinations in the Irish English data in two of the three situations examined. Overall the study indicated IrE requests to be more indirect than EngE requests in the standard situation and in the head act in non-standard situations (Barron 2008a: 382), however external modification was more frequent in the EngE requests. Thus while commonalities were evident in the study in the use of conventional indirectness to communicate politeness in both groups, the data also evidenced regional variation at the lexical level in the realisation of this strategy and in inter-group levels of internal mitigation. Regarding implications for the teaching classroom, Barron (2008a: 387) states that: “this is not to suggest that Inner Circle speakers should strive for an in-depth competence in all possible varieties of English”, rather “It is [...] an awareness of pragmatic issues which is to be striven for. In other words, it is recommended that a variational perspective be taken in the Inner Circle classroom context to promote an awareness of variation in the conventions of language use” (Barron 2008a: 387). Furthermore, it is particularly important, as Barron (2008: 387) points out, that L2 learners are “equipped with a sensitivity towards variation” and that “macro-social factors will influence language use conventions”.

Linguistic politeness and pragmatic variation in requests with regard to French-speaking Senegalese (FS) in a diglossic language situation as compared to French speakers in France (FF) was the focus of Johns and Félix-Brasdefer’s (2015) study. Employing an oral DCT, status equal/unequal requests were analysed in relation to actional levels (of directness and internal mitigation), and to stylistic levels (variation of pronominal forms) and with reference to Scollon and Scollon’s (2001) politeness system which identifies three levels of politeness (solidarity, deference, hierarchical). The request scenarios reflected this three-tier politeness system. In both groups and across situations, conventional indirectness was the

preferred request strategy (Johns and Félix-Brasdefer 2015: 144) reflecting patterns of use in the CCSARP and in studies of intralingual variation in requests (Félix-Brasdefer 2010; Barron 2008a). However inter-group variation was evidenced in the content of such strategies regarding the employment of *pouvoir* 'to be able to'. Conventional indirectness in the FF group: "showed clear variation by politeness system and was not limited to the verb *pouvoir*." Conversely, the SF group evidenced exclusive reliance on this verb in conventional indirect requests. The limited pragmalinguistic knowledge demonstrated in the SF group regarding reliance on *pouvoir* is attributed to a dependence on formal instruction and: "exposure to books and electronic media from the Francophone world rather than through everyday social interactions" (Johns and Félix-Brasdefer 2015: 156).

Regarding internal modification, conditional forms and 'please' (*s'il vous plaît*) were the most frequent forms employed to modify a request (Johns and Félix-Brasdefer 2015: 143, 151). Significant differences in internal modification were evident however between SF and FF speakers in the use of the lexical/phrasal modifier 'please' with the former group exhibiting higher frequencies of this modifier in both solidarity and deference politeness systems. In contrast the FF group employed higher levels of conditional forms and multiple modifiers to mitigate requests, the latter particularly in +P situations: the infrequency of modification by the SF group in formal situations being attributed to sociocultural expectations, rather than lack of pragmalinguistic knowledge. In addition, the FF group exhibited greater grammatical complexity in performing indirect requests in socially appropriate situations (Johns and Félix-Brasdefer 2015: 153). With regard to indirectness, the study highlights the importance of examining intralingual variation in conventional indirectness in relation to pragmalinguistic knowledge; the impact of sociocultural expectations on frequency of modification and the role of input for learning in developing pragmalinguistic and sociopragmatic knowledge (see section 5 for further discussion).

5. Indirectness and interlanguage pragmatics research on requests

Models of pragmatics learning (Roever 2009: 562) outline the significance of input, attention, and intake processes in developing pragmalinguistic and sociopragmatic knowledge. Sociopragmatic input (Roever 2009: 562) comprises interaction, interpersonal contact and observation and may lead to focusing learners' attention towards sociopragmatic features and to how context influences language use. Kasper (1996: 148) states that: "There must be pertinent input, the input has to be noticed, and learners need ample opportunity to develop a high level of control". The nature of input for learning is mediated similarly by the nature of materials (Vellenga 2004) and opportunities for interaction (Bardovi-Harlig and Dörnyei 1998) in the L2 learning context. Regarding pragmalinguistic knowledge, Roever

(2009: 562) indicates that: “learners need to attend to the pragmatic aspects of general linguistic input, e. g. the use of modals and questions to express conventional indirectness in requests and not just to hedge declarative statements”. In some instances, pragmatic input constrained by classroom settings (Ellis 1992, 1997) has shown to negatively impact on the pragmalinguistic development of requests in young learners in formal settings of instruction. In addition, Schmidt (1993: 35) points out that attention to: “linguistic forms, functional meanings and the relevant contextual features” is necessary for pragmatic development. According to Schmidt (1995), “noticing” and “understanding” constitute two levels of awareness in pragmatic development:

In pragmatics, awareness that on a particular occasion someone says to their interlocutor something like, *I'm terribly sorry to bother you, but if you have time could you look at this problem?* is a matter of noticing. Relating the various forms used to their strategic deployment in the service of politeness and recognizing their co-occurrence with elements of context such as social distance, power, level of imposition and so on, are all matters of understanding (Schmidt 1995: 30).

In addition, with regard to Roever's (2009) model, transfer of L1 sociopragmatic and pragmalinguistic knowledge may serve to impact on L2 pragmatic development (Félix-Brasdefer, this volume). Bardovi-Harlig (2001) identifies a number of ways in which learners may differ from native speakers (NS) in the production of speech acts: choice of speech acts; semantic formula, content or form. The present section of the present chapter takes a *form* focus in relation to a review of the interlanguage of requests in “single moment” and developmental studies and with a focus on the pragmalinguistic resources employed by learners in relation to directness levels and internal modification. Single moment studies: “do not compare groups of learners at different cross-sectional levels to establish a series of developmental language states, but either lump all the learners together in one group, or separate them by first language or criteria other than chronological development” (Cook 1993: 34). Such studies focus on second language use rather than development and align closely with those studies in cross-cultural pragmatics research (Faerch and Kasper 1989, House and Kasper 1987). Such contrastive studies (Hartford and Bardovi-Harlig 1992; Vilar-Beltran 2008; Economidou-Kogetsidis 2008; Woodfield and Kogetsidis 2010) may serve to inform on native/non-native differences in the production of speech acts and the extent to which learners converge or diverge from NS norms. With regard to development, Cook (1993: 34) observes that a cross-sectional study: “looks at different learners at different moments in time and establishes development by comparing these successive states in different people”. Contrastively, acquisitional studies taking a longitudinal approach: “involve the observation of the same participants over an extended period” (Kasper and Rose 2002: 75). With regard to requests, examples of studies taking the former (cross-sectional) approach include Trosborg's (1995) study of requests, complaints and apologies by Danish learners of English, Hill's

(1997) study of Japanese learners of English, Félix-Brasdefer's (2007) investigation of American learners of Spanish in a foreign language context, Rose's (2000, 2009) study of young learners in Hong Kong and Otçu and Zeyrek's (2008) examination of Turkish undergraduate learners of English. Longitudinal studies include investigations in study abroad contexts by Irish learners of German (Barron 2003) and German learners of English (Schauer 2007) while studies of individual pragmatic development in requests have documented request production in both formal (Ellis 1992, 1997) and informal (Achiba 2003; Schmidt 1983) contexts of learning. Kasper (1989: 45) notes that requestive force can be modified on three major dimensions: directness level, internal modification (through mitigating or aggravating modality markers – syntactic or lexical downgraders or upgraders) and by external modifying supportive moves. Of these, the present discussion will focus on indirectness and internal modification in request studies.

Research evidence regarding requests in beginner learners' pragmatic development is well- documented in the literature. Ellis' (1992, 1997) investigation of classroom requests of two young learners of English in a formal learning context over 16 and 21 months of observation respectively demonstrated three-stages to pragmatic learning development. In the early stages, learners relied heavily on context to convey request intention; a restricted range of internal downgraders with heavy reliance on *please* was observed and with little development over time, with conventional indirectness appearing in the third stage, such restricted development being partially ascribed to the nature of the communicative setting which required minimal face-work and low imposition requests (Ellis 1992: 20). Kasper and Rose (2002: 136) note that: "Ellis' first stage of request development [...] illustrates a pre-basic learner variety. In this stage, requestive intent is expressed through a "pragmatic mode" featuring highly context-dependent, minimalist realizations of illocutionary force, devoid of syntax. Unanalyzed formulas (Bardovi-Harlig 2006) and imperative structures were observed in both Ellis' (1992, 1997) study and in the early stages of pragmatic development in Achiba's (2003) 17-month longitudinal study of her Japanese daughter Yao in a social context in Australia. Here, the development of a more extensive range of strategies (direct, conventionally indirect, hints) was observed as compared to those young learners in Ellis' study (where direct requests predominated), together with a great deal of: "expansion, elaboration, and refinement in the repertoire" and "a growing awareness of the social dimension of requests" in the later stages of development (Achiba 2003: 184). Kasper and Rose (2002: 137) highlight the possible role of setting in such studies in relation to "opportunities for exposure to, and use of, the target language" and in explaining the more restricted pragmalinguistic repertoire in Ellis' two young learners. Taken together, Achiba's (2003) and Ellis' (1992, 1997) studies have provided the basis for the development of a five-stage model of L2 request development with "pragmatic expansion" (characterised by an expanded pragmalinguistic repertoire, increased use of mitigation, and more complex syntax) and

“fine tuning” of requestive force to social context representing the final two stages (Kasper and Rose 2002: 140).

That beginner learners rely heavily on direct requests is also evidenced in Rose’ (2000, 2009) cross-sectional studies of three groups of secondary school children in Hong Kong and Félix-Brasdefer’s (2007) investigation of American undergraduate learners of Spanish in a foreign language instructional context. In this latter study, and employing open role plays, a decline in direct requests was evidenced with increasing proficiency (Félix-Brasdefer 2007: 266) with significant differences reported between beginner, intermediate and advanced participants, together with a move towards conventional indirectness with proficiency gains: a pattern of development mirrored in Otçu and Zeyrek’s (2008) study of lower and upper intermediate undergraduate Turkish learners of English. Furthermore, beginner learners of Spanish in Félix-Brasdefer’s (2007) study demonstrated little situational variation between formal/informal contexts, relying on direct requests in both types of context and on L1 sociopragmatic knowledge in their preference for *por favor* ‘please’ as an internal modifier. Such over-reliance on direct requests is attributed to a lack of grammatical competence in beginner learners (Félix-Brasdefer 2007: 275) while prevalence of *por favor* ‘please’ in beginner learners’ direct requests evidenced the employment of a requestive marker (rather than a politeness marker) emphasising the directive force of a request. (Félix-Brasdefer 2007: 275). Otçu and Zeyrek (2008) elicited learner and native speaker role play data in three situations: “Notes” (a student asks for class notes from a friend), “Menu” (a student asks a waiter for a menu) and “Ride” (a student asks for a ride from her/his professor). Otçu and Zeyrek (2008: 281) explain the use of direct strategies in their learner data (Notes and Menu situations) by: “the need to achieve efficiency in a perceived positively polite environment” together with possible effects of native language influence (Otçu and Zeyrek 2008: 282). A comparatively higher proportion of direct requests in Japanese ESL learners in relation to German ESL learners and British English native speakers was observed in Woodfield’s (2008) contrastive study: explanations for this phenomenon have included “false stereotyping” (Tanaka 1988), the nature of formal classroom learning in classroom contexts in Japan and the lack of adequate practice of appropriate forms and structures or lack of exposure to appropriate linguistic devices for polite expressions (LoCastro 1997). Method effects (Rose 1994) have also been identified as a contributing factor in the frequency of direct strategies in Japanese requests in written discourse completion tasks as compared to MCQs. In explaining this phenomenon, Rose (1994: 7) points out that: “it is possible that not having a hearer present to intuit speaker intent, Japanese subjects may have written responses which are not characteristic of face to face interaction”.

That direct requests diminish with increasing proficiency was also evidenced in Hill’s (1997) study of Japanese EFL learner requests, with a parallel increase observed in conventional indirectness. Here, despite development of conventional

directness, divergence from NS norms was evidenced in want and willingness sub-strategies with gains in proficiency. Clearly the use of conventionally indirect strategies may mask divergence in the use of sub strategies, as in Hill's (1997) study, a marker for future studies of pragmalinguistic strategies. Qualitative analysis allows for the identification of non-target forms in conventionally indirect requests: these have been identified at the lexical level in Woodfield's (2008) contrastive study of ESL (Japanese and German adult learners) and British English native speakers. In a student request to a tutor for an extension, Woodfield (2008: 243) observed learner difficulty in the choice of verbs and prepositions: (*Could you please allow for an extension?*) and in the inclusion of an object pronoun where none was needed (*Could you give an extension for giving you a seminar paper.*).

The disassociation between pragmatics and grammar in early stages of pragmatic development evidenced in beginner learners of Spanish (e. g. Félix Brasdefer 2007) and earlier pragmatics studies (e. g. Walters 1980) has been highlighted by Koike (1989: 287): "since the grammatical competence cannot develop as quickly as the already present pragmatic concepts require, the pragmatic concepts are expressed in ways conforming to the level of grammatical complexity acquired". Pragmalinguistically appropriate strategies with ungrammatical forms (*We borrow your basketball please.*) were evident in Walters' (1980) study of young learners' requests as well as in studies of expressions of gratitude (Eisenstein and Bodman 1983, 1993) of advanced ESL learners. While such ungrammatical forms may not affect the communication of the *speech act* to the hearer, they may make the communication less effective (Kasper 2001). Taguchi (2010: 352) points out that: "since grammatical competence does not develop as quickly as L1-based pragmatic concepts, learners do not have adequate linguistic resources at their disposal to produce pragmatic functions. As a result, they must resort to whatever resources are available at a given stage of development".

The role of linguistic competence has also been attested to in the mitigation of requests (Bardovi-Harlig 1999: 690–691):

In play-downs (past tense, progressive modals, negation, interrogative) a speaker draws on knowledge of modals, tense and aspect, and on syntactic knowledge of negation and question formation. With hedges and understaters a speaker must have enough syntax to properly position them in the sentence. With consultative devices and scopestaters a learner needs knowledge of the complements that particular formulas take and with agent avoiders, the learner needs to know formation and use of passive.

Syntactic downgraders, such as tense and aspect (e. g. *I was wondering if it's possible to have an extension.*) and lexical/phrasal downgraders such as downtoners (*possibly, perhaps, maybe*) provide an important part of the learner's pragmalinguistic repertoire and enable learners to soften the illocutionary force of a request. External modification (in pre- or post-head act position): "affects the context in which the request is embedded, and thus indirectly modifies its illocutionary

force” (Economidou-Kogetsidis 2012: 167). Regarding syntactic modification, certain structures, such as negation, as in: (*I don’t suppose you could pick them up, could you, from football practice.*) (Hendriks 2008: 346) have been observed to be infrequent (Hendriks 2008; Woodfield 2008) or absent (Woodfield 2012) in graduate learners’ requests which Hendriks (2008: 346) ascribes to structural difficulties: “due to co-occurrence restrictions on tags and negation”. An overall restricted range of internal modification devices which learners employ in requests has been evidenced in a number of studies (Economidou-Kogetsidis 2008; Woodfield and Kogetsidis 2010; Otçu and Zeyrek 2006), and a preference for the politeness marker *please* is documented in a number of interlanguage studies including German learners of English (House and Kasper 1987), Danish learners of English (Faerch and Kasper 1989), in early stages of graduate learners in developmental studies (Woodfield 2012), and in beginner learners in cross-sectional studies (Félix-Brasdefer 2007). Faerch and Kasper (1989: 233) observe that the reliance on *please* as a request mitigator may be explained by: “its double function as illocutionary force indicator and transparent mitigator [...] language learners tend to adhere to the conversational principle of clarity, choosing explicit, transparent unambiguous means of expression rather than implicit opaque and ambiguous realizations”. As Kasper and Rose (2002: 142) noted over a decade ago, “more detailed analyses of the development of mitigation strategies are needed, and we would expect that much of the interesting development would be most evident from stage three² onward”.

6. Research approaches to investigating L2 learners’ interpretation of indirectness

Research approaches for investigating L2 learners’ interpretation of indirectness in pragmatic production include those which may encourage a focus on explicit knowledge such as written discourse completion tasks (Ellis, 2004; Bardovi-Harlig 2013). As Bardovi-Harlig (2013: 73) points out: “explicit knowledge is thought to be analysed knowledge that can be articulated (declarative knowledge) and may involve metalanguage”. Written discourse completion tasks (WDCTs) such as those employed in the CCSARP study are an effective means of establishing: “what L2 learners *know* rather than what they can *do* under the much more demanding conditions of conversational encounters” (Kasper 2000: 330). The scope of such written questionnaires in L2 pragmatics research excludes from investigation: “those pragmatic features that are specific to oral interactive discourse – any aspect related to the dynamics of a conversation, turn-taking, and the conversational mechanisms

² Stage 3: Unpacking of formulaic use, shift to conventional indirectness

related to it, sequencing of action, speaker-listener coordination, features of speech production that may have pragmatic import, such as hesitation, and all paralinguistic and non-verbal elements” (Kasper 2000: 325–326). Thus WDCTs represent highly constrained instruments of data collection in relation to the degree to which the data is predetermined by the elicitation method (Woodfield 2008). Despite extensive criticisms of the approach (Roever 2004; Johnston, Kasper and Ross 1998), Kasper and Rose (2002: 96) conclude that: “when carefully designed, DCTs provide useful information about speakers’ pragmalinguistic knowledge of the strategies and linguistic forms by which communicative acts can be implemented and about their sociopragmatic knowledge of the context factors under which particular strategic and linguistic choices operate”.

Recent refinements to the written DCT since the CCSARP (1989) have aimed at facilitating interactional features more closely aligned with natural speech act performance (Félix-Brasdefer 2010). Such refinements include Yoon and Kellogg’s (2002) cartoon DCT which: “constrains the response but allows the learner freedom to elaborate language” (Yoon and Kellogg 2002: 218); the Multiple-Rejoinder DCT (Cohen and Shively 2002/2003, and the Multimedia Elicitation Task in Schauer 2004; Ren 2013), a computer-based task eliciting oral production which provides respondents with “rich audiovisual contextual information” (Schauer 2004: 258) and addresses the issue of standardisation in those tasks eliciting oral production of speech acts.

In addition to those studies employing variations of the discourse completion task, investigations employing retrospective verbal report (RVR) (Gass and Mackey 2000; Robinson 1992; Widjaja 1997; Félix-Brasdefer 2003; Hassall 2008; Woodfield 2010), have been employed to access L2 learner metapragmatic knowledge and in order to: “reconstruct psycholinguistic processes that the speakers utilized in an effort to produce the given speech acts in given situations” (Cohen 2004: 321). Early studies combining role-plays with RVRs (Cohen and Olshtain 1993) have examined: “how language learners assess and plan their speech act utterances, their language of thought, and how they select and retrieve language forms” (Woodfield 2008: 44). In contrast, concurrent verbal reports (CVRs) represent a form of non-metalinguistic verbalisation in which “learners are focused on the task with the think-aloud secondary and only voice their thoughts without explaining them” (Leow and Morgan-Short 2004: 36). Both types of verbal report (CVRs and RVRs) have been shown in L2 speech act studies to provide insights into L2 learners’ planning and construction of speech acts with regard to interpretations of indirectness. A small sample of these studies is reviewed below, before moving to concluding comments.

Cohen and Olshtain’s (1993) study of apologies, complaints and requests combined videoed role plays and RVRs. Their analysis demonstrated the complexity of the cognitive processes involved in speech act production and learner uncertainties in choosing appropriate forms for polite requests. Cohen and Olshtain (1993: 257)

explain how a student in a role play situation was required to ask her teacher for a ride home after class. This student: “wanted to make a polite request and was uncertain as to whether she could ask ‘do you have any room in the car?’” As she put it: “it has a lot of meanings and I wasn’t sure that it was correct, so I changed my tactic, and decided she would understand better if I said, ‘I want to drive with you’. I thought of ‘lift’ but didn’t know how to use it in a sentence so I left it out”. The learner’s direct request in this instance (*I want to drive with you*) belies the complexity of thought processes reported in the RVR. As Cohen (1996: 257) states: “learners and users of a target language may perform other kinds of cross-linguistic and cross-cultural cognitive and affective manipulations totally unbeknownst to the interlocutor before producing what sometimes comes across as a curious response. Often the response itself is only an abbreviated manifestation of what actually transpires in the non-native speaker’s mind”.

Employing oral role-plays with retrospective verbal report, Hassall (2008) examined the value of verbal report data for investigating pragmatic knowledge and acquisition in a low intermediate group of Australian learners of Indonesian (foreign language learners) and an upper intermediate group of foreign/second language learners. Hassall (2008: 79) found between-group differences in reported thinking of pragmatics (politeness/social appropriateness) with the more advanced learners reporting thinking more frequently about pragmatics rather than linguistic planning than the low intermediate group. Hassall (2008: 79) ascribes this finding to the influence of the second language context in which the more advanced learners had spent one year prior to data collection and the role of the target language community in increasing these learners’ sensitivity to the importance of pragmatics (Bardovi-Harlig and Dörnyei 1998). A close analysis of the RVR data in Hassall’s (2008) study revealed instances where a direct speech act in role-play production may not reflect the illocutionary force of what the learner had intended. In one instance of complaint regarding a neighbour’s loud music, a learner employs a direct strategy:

u:m musik Anda-terlalu BANYAK-behenti:i
[um your music-is too MUCH – stop] (Hassall 2008: 89)

In the RVR the learner explains that: “I didn’t have the vocab to say what I WANTED to ... I wanted to say the music’s too loud? can you turn it down?” (Hassall 2008: 89). Hassall comments that the learner’s abandonment of the indirect strategy was driven by the “lexical challenges of conveying the concepts ‘loud’ and then ‘turn down’ (which) apparently took all her language processing capacity”. Settling on a single word (*stop*) for this learner represented an explicit means of communicating pragmatic intention. Taken together, both Hassall’s (2008) and Cohen and Olshtain’s (1993) studies suggest that abandoning indirect strategies in favour of more direct ones may be driven, at least partially, by lexical challenges to L2 learners in speech act production and in the harnessing of implicit knowledge.

That L2 learners may abandon those indirect strategies previously considered and made evident in speech act production was also evident in Woodfield's (2010) study of requests employing concurrent verbal reports (CVRs) and retrospective verbal reports (RVRs). Woodfield (2010) employed both paired CVRs and RVRs in combination with written DCTs. The CVRs provided: "insights into the negotiation process as alternative linguistic strategies are considered" (Woodfield 2010: 15). In one instance, a request to a tutor for the return of a draft assignment evidently presented difficulties for one pair of Japanese learners as they grappled with complex modal forms, tenses, and conditional forms. The final written response to the DCT *Can I have my essay back. I wish I've had it earlier* represented an unmitigated conventional indirect request combined with an aggravating supporting move: however the CVR demonstrated the difficulties experienced by these advanced L2 learners in mapping linguistic forms to appropriate meanings and communicating indirectness and politeness. A sample of the CVR is reproduced here for illustration (Woodfield, 2010: 15):

04: A: Mm – 'Can I have my essay back?'

05 B - Do you think it's enough to ask him? - I think I – 'Can I have my essay back? I think I should have – should have had – uh – it – now'. Uh? Should have it.

10B: 'I should – I should have had'

11 A: 'have had?'

12B: Yes yes. Because – more politely. 'I wish I had'.

This brief example of CVR data above illustrates how, when combined with DCTs, CVRs may shed light on the complexity of the linguistic task for L2 learners in communicating indirectness appropriately.

6. Concluding remarks.

The present chapter has been limited in focus to an examination of indirectness in L2 at a speech act level of analysis elicited largely through discourse completion tasks, role-plays, verbal report and perception questionnaires: qualitative approaches to speech acts in interaction through conversation analysis (Félix-Brasdefer 2006; Walker, Drew and Local 2011) and across a range of settings e. g. computer-mediated discourse (van Compernelle and Williams 2012) have fallen outside the scope of this chapter. Future research examining learning to interpret indirectness in L2 may benefit from those methodological approaches which facilitate emic perspectives where those social meanings ascribed to discourse situations by learners in a range of discourse settings may be examined, and over extended periods of time.

References

- Achiba, Machiko
2003 *Learning to Request in a Second Language: Child Interlanguage Pragmatics*. Clevedon: Multilingual Matters.
- Aijmer, Karin
1996 *Conversational Routines in English: Convention and Creativity*. Harlow: Longman.
- Ali, Ziyad
2014 A cross sectional study of Syrian EFL learners' pragmatic development: towards a taxonomy of modification in interlanguage requests. Paper presented at the 6th International Conference on Intercultural Pragmatics and Communication. University of Malta, June 2014.
- Bardovi-Harlig, Kathleen
1999 Exploring the interlanguage of interlanguage pragmatics: A research agenda for acquisitional pragmatics. *Language Learning* 49(4): 677–713.
- Bardovi-Harlig, Kathleen
2001 Empirical evidence of the need for instruction in pragmatics. In: Kenneth R. Rose and Gabriele Kasper (eds.), *Pragmatics in Language Teaching*, 13–32. New York: Cambridge University Press.
- Bardovi-Harlig, Kathleen
2006 On the role of formulas in the acquisition of L2 pragmatics. In: Kathleen Bardovi-Harlig, Cesar Felix-Brasdefer and Alwiya S. Omar (eds.), *Pragmatics and Language Learning*, Volume 11, 1–28. Honolulu, HI: University of Hawai'i Press.
- Bardovi-Harlig, Kathleen
2013 Developing L2 pragmatics. *Language Learning* 63: 68–86.
- Bardovi-Harlig, Kathleen and Zoltan Dörnyei
1998 Do language learners recognize pragmatic violations? Pragmatic vs. grammatical awareness in instructed L2 learning. *TESOL Quarterly* 32: 233–259.
- Barron, Anne
2003 *Acquisition in Interlanguage Pragmatics: Learning how to do Things with Words in a Study Abroad Context*. Amsterdam: John Benjamins.
- Barron, Anne
2008a Contrasting requests in Inner Circle Englishes: A study in variational pragmatics. In: Martin Pütz and Jo-Anne Neff-van Aertselaer (eds.), *Developing Contrastive Pragmatics: Interlanguage and Cross-Cultural Perspectives*, 355–402. Berlin/New York: Mouton de Gruyter.
- Barron, Anne
2008b The structure of requests in Irish English and English English. In: Klaus P. Schneider and Anne Barron (eds.), *Variational Pragmatics: A Focus on Regional Varieties in Pluricentric Languages*, 35–67. Amsterdam/Philadelphia: John Benjamins.
- Barros Garcia, Maria J. and Marina Terkourafi
2015 Combining self-report and role-play data in sociopragmatics research: Towards a methodological synthesis. In: Kate Beeching and Helen Woodfield (eds.), *Researching Sociopragmatic Variability: Perspectives from Variational, Interlanguage and Contrastive Pragmatics*, 230–250. London: Palgrave.

- Blum-Kulka, Shoshana
1987 Indirectness and politeness in requests: Same or different? *Journal of Pragmatics* 11(2): 131–146.
- Blum-Kulka, Shoshana
1989 Playing it safe: The role of conventionality in indirectness. In: Shoshana Blum-Kulka, Juliane House and Gabriele Kasper (eds.), *Cross-Cultural Pragmatics: Requests and Apologies*, 37–70. Norwood, NJ: Ablex.
- Blum-Kulka, Shoshana
1991 Interlanguage pragmatics: The case of requests. In: Robert Phillipson, Eric Kellerman, Larry Selinker, Mike Sharwood Smith and Merrill Swain (eds.), *Foreign/Second Language Pedagogy Research*, 255–272. Clevedon: Multilingual Matters.
- Blum-Kulka, Shoshana, Juliane House and Gabriele Kasper (eds.)
1989 *Cross-Cultural Pragmatics: Requests and Apologies*. Norwood, NJ: Ablex.
- Blum-Kulka, Shoshana and Juliane House
1989 Cross-cultural and situational variation in requesting behaviour. In: Shoshana Blum-Kulka, Juliane House and Gabriele Kasper (eds.), *Cross-Cultural Pragmatics: Requests and Apologies*, 123–154. Norwood, NJ: Ablex.
- Blum-Kulka, Shoshana and Elite Olshtain
1984 Requests and apologies: A cross-cultural study of speech act realisation patterns (CCSARP). *Applied Linguistics* 5(3): 196–213.
- Brown, Penelope and Stephen C. Levinson
1987 *Politeness: Some Universals in Language Usage*. Cambridge: Cambridge University Press.
- Byon, Andrew S.
2006 The role of linguistic indirectness and honorifics in achieving linguistic politeness in Korean requests. *Journal of Politeness Research* 2: 247–276.
- Chen, Rong, Lin He and Chunmei Hu
2013 Chinese requests: In comparison to American and Japanese requests and with reference to the “East-West divide”. *Journal of Pragmatics* 55: 140–161.
- Clark, Herbert H. and Peter Lucy
1975 Understanding what is meant from what is said: A study in conversationally conveyed requests. *Journal of Verbal Learning and Verbal Behaviour* 14: 56–72.
- Cohen, Andrew D.
1996 Developing the ability to perform speech acts. *Studies in Second Language Acquisition* 18(2): 253–267.
- Cohen, Andrew D.
2004 Assessing speech acts in a second language. In: Diane Boxer and Andrew D. Cohen (eds.), *Studying Speaking to Inform Second Language Learning*, 302–327. Clevedon: Multilingual Matters.
- Cohen, Andrew D. and Elite Olshtain
1993 The production of speech acts by EFL learners. *TESOL Quarterly* 27: 33–56.
- Cohen, Andrew D. and Rachel L. Shively
2002/2003 Measuring speech acts with multiple rejoinder DCTs. *Language Testing Update* 32: 39–42.
- Cook, Vivian
1993 *Linguistics and Second Language Acquisition*. London: MacMillan.

- Crystal, David
1997 *The Cambridge Encyclopedia of Language*. New York: Cambridge University Press.
- Culpeper, Jonathan and Michael Haugh
2014 *Pragmatics and the English Language*. London: Palgrave.
- Economidou-Koetsidis, Maria
2008 Internal and external mitigation in interlanguage request production: The case of Greek learners of English. *Journal of Politeness Research* 4(1): 111–138.
- Economidou-Koetsidis, Maria
2012 Modifying oral requests in a foreign language: The case of Greek Cypriot learners of English. In: Maria Economidou-Koetsidis and Helen Woodfield (eds.), *Interlanguage Request Modification*, 163–201. Amsterdam/Philadelphia: John Benjamins.
- Eisenstein, Miriam and Jean W. Bodman
1986 'I very appreciate': Expressions of gratitude by native and non-native speakers of American English. *Applied Linguistics* 70: 167–185.
- Eisenstein, Miriam and Jean W. Bodman
1993 Expressing gratitude in American English. In: Gabriele Kasper and Shoshana Blum-Kulka (eds.), *Interlanguage Pragmatics*, 64–81. New York/Oxford: Oxford University Press.
- Ellis, Rod
1992 Learning to communicate in the classroom: A study of two language learners' requests. *Studies in Second Language Acquisition* 14: 1–23.
- Ellis, Rod
1997 Learning to communicate in the classroom. In: Rod Ellis (ed.), *SLA Research and Language Teaching*, 173–195. Oxford: Oxford University Press.
- Ellis, Rod
2004 The definition and measurement of L2 explicit knowledge. *Language Learning* 54: 227–275.
- Faerch, Claus and Gabriele Kasper
1989 Internal and external modification in interlanguage request realisation. In: Shoshana Blum-Kulka, Juliane House and Gabriele Kasper (eds.), *Cross-Cultural Pragmatics: Requests and Apologies*. 221–247. Norwood, NJ: Ablex.
- Félix-Brasdefer, J. César
2003 Declining an invitation: A cross-cultural study of pragmatic strategies in Latin American Spanish and American English. *Multilingua* 22: 225–255.
- Félix-Brasdefer, J. César
2005 Indirectness and politeness in Mexican requests. In: David Eddington (ed.), *Selected Proceedings of the 7th Hispanic Linguistics Symposium*, 66–78. Somerville, MA: Cascadilla.
- Félix-Brasdefer, J. César
2006 Teaching the negotiation of multi-turn speech acts: Using conversation-analytic tools to teach pragmatics in the classroom. In: Kathleen Bardovi-Harlig, J. César Félix-Brasdefer and Alwiya S. Omar (eds.), *Pragmatics and Language Learning*, Volume 11, 165–197. Honolulu, HI: University of Hawai'i Press.

- Félix-Brasdefer, J. César
 2007 Pragmatic development in the Spanish as a FL classroom: A cross-sectional study of learner requests. *Intercultural Pragmatics* 4(2): 253–286.
- Félix-Brasdefer, J. César
 2010 Data collection in speech act performance. In: Alicia Martinez-Flor and Esther Usó-Juan (eds.), *Speech Act Performance: Theoretical, Empirical and Methodological Issues*, 41–56. Amsterdam/Philadelphia: John Benjamins.
- Félix-Brasdefer, J. César and Dale A. Koike
 2012 Introduction: Pragmatic variation in first and second language contexts. In: J. César Félix-Brasdefer and Dale A. Koike (eds.), *Pragmatic Variation in First and Second Language Contexts: Methodological Issues*, 1–16. Amsterdam/Philadelphia: John Benjamins.
- Fukushima, Saeko
 2000 *Requests and Culture*. Bern: Peter Lang.
- Gao, Hong
 1999 Features of request strategies in Chinese. *Working Papers, Lund University, Dept. of Linguistics* 47: 73–86.
- Garcia, Carmen
 2008 Different realizations of solidarity politeness: Comparing Venezuelan and Argentinean invitations. In: Klaus P. Schneider and Anne Barron (eds.), *Variational Pragmatics: A Focus on Regional Varieties in Pluricentric Languages*, 269–305. Amsterdam/Philadelphia: John Benjamins.
- Gass, Susan and Alison Mackey
 2000 *Stimulated Recall Methodology in Second Language Research*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Gibbs, Raymond W. Jr.
 1979 Contextual effects in understanding indirect requests. *Discourse Processes* 2: 107–143.
- Gibbs, Raymond W. Jr.
 1982 A critical examination of the contribution of literal meaning to understanding nonliteral discourse. *Text* 2(1–3): 9–27.
- Gibbs, Raymond W. Jr.
 1983 Do people always process the literal meanings of indirect requests? *Journal of Experimental Psychology* 9: 524–533.
- Gibbs, Raymond W. Jr.
 2002 A new look at literal meaning in understanding what is said and implicated. *Journal of Pragmatics* 34(4): 457–486.
- González-Lloret, Marta
 2010 Conversation analysis and speech act performance. In: Alicia Martinez-Flor and Esther Usó Juan (eds.), *Speech Act Performance: Theoretical, Empirical and Methodological Issues*, 57–73. Amsterdam/Philadelphia: John Benjamins.
- Göy, Elif, Deniz Zeyrek and Bahar Otçu
 2012 Developmental patterns in internal modification of requests: A quantitative study on Turkish learners of English. In: Maria Economidou-Kogetsidis and Helen Woodfield (eds.), *Interlanguage Request Modification*, 51–86. Amsterdam/Philadelphia: John Benjamins.

- Grice, H. Paul
1975 Logic and conversation. In Peter Cole and Jerry Morgan (eds.), *Syntax and Semantics*, Volume 3: *Speech Acts*, 41–58. New York: Academic Press.
- Hartford, Beverly S. and Kathleen Bardovi-Harlig
1992 Closing the conversation: Evidence from the academic advising session. *Discourse Processes* 15: 93–116.
- Hassall, Tim
2008 Pragmatic performance: What are learners thinking? In: Eva Alcón Soler and Alicia Martínez-Flor (eds.), *Investigating Pragmatics in Foreign Language Learning, Teaching and Testing*, 72–93. Bristol: Multilingual Matters.
- Hendriks, Berna
2002 *More on Dutch-English...please? A study on request performance by Dutch native speakers, English native speakers and Dutch learners of English*. PhD dissertation. Nijmegen: University of Nijmegen.
- Hendriks, Berna
2008 Dutch English requests: A study of request performance by Dutch learners of English. In: Martin Pütz and JoAnne Neff-van Aertselaer (eds.), *Developing Contrastive Pragmatics: Interlanguage and Cross-Cultural Perspectives*, 335–354. Berlin/New York: Mouton de Gruyter.
- Hill, Beverly, Sachiko Ide, Shako Ikuta, Akiko Kawasaki and Tsunao Ogino
1986 Universals of linguistic politeness: Quantitative evidence from Japanese and American English. *Journal of Pragmatics* 10(3): 347–371.
- Hill, Thomas
1997 *The Development of Pragmatic Competence in an EFL Context*. PhD dissertation. Philadelphia: Temple University.
- House, Juliane
1989 Politeness in English and German: The functions of *please* and *bitte*. In: Shoshana Blum-Kulka, Juliane House and Gabriele Kasper (eds.), *Cross-Cultural Pragmatics: Requests and Apologies*, 96–119. Norwood, NJ: Ablex.
- House, Juliane and Gabriele Kasper
1987 Interlanguage pragmatics: Requesting in a foreign language. In: Wolfgang Lörcher and Rainer Schulze (eds.), *Perspectives on Language in Performance: Festschrift for Werner Hüllen*, 1250–1288. Tübingen: Narr.
- Ide, Sachiko
1989 Formal forms and discernment: Two neglected aspects of universals of linguistic politeness. *Multilingua* 8: 223–248.
- Johns, Andrew and J. César Félix-Brasdefer
2015 Linguistic politeness and pragmatic variation in request production in Dakar French. *Journal of Politeness* 11(1): 131–164.
- Johnston, Bill, Gabriele Kasper and Steven Ross
1998 Effect of rejoinders in production questionnaires. *Applied Linguistics* 19(2): 157–182.
- Kádár, Dániel Z. and Sara Mills
2013 Rethinking discernment. *Journal of Politeness Research* 9(2): 133–158.
- Kasper, Gabriele
1989 Variation in interlanguage speech act realisation. In: Susan Gass, Carolyn Madden, Dennis Preston and Larry Selinker (eds.), *Variation in Second Lan-*

- guage Acquisition*, Volume 1: *Discourse and Pragmatics*, 37–58. Clevedon: Multilingual Matters.
- Kasper, Gabriele
1990 Linguistic politeness: Current research issues. *Journal of Pragmatics* 14: 193–218.
- Kasper, Gabriele
1996 Interlanguage pragmatics in SLA. *Studies in Second Language Acquisition* 18(2): 145–148.
- Kasper, Gabriele
2000 Data collection in pragmatics research. In: Helen Spencer-Oatey (ed.), *Culturally Speaking: Culture, Communication and Politeness Theory*, 317–341. London: Continuum.
- Kasper, Gabriele
2001 Four perspectives on L2 pragmatic development. *Applied Linguistics* 22(4): 502–530.
- Kasper, Gabriele
2006 Speech acts in interaction: Towards discursive pragmatics. In: Kathleen Bardovi-Harlig, César Félix-Brasdefer and Alwiya S. Omar (eds.), *Pragmatics and Language Learning*, Volume 11, 281–314. Honolulu, HI: University of Hawai'i Press.
- Kasper Gabriele and Shoshana Blum-Kulka (eds.)
1993 *Interlanguage Pragmatics*. Oxford/New York: Oxford University Press.
- Kasper, Gabriele and Kenneth R. Rose
2002 *Pragmatic Development in a Second Language*. Malden, MA/Oxford: Blackwell.
- Kasper, Gabriele and Richard Schmidt
1996 Developmental issues in interlanguage pragmatics. *Studies in Second Language Acquisition* 18: 149–169.
- Koike, Dale A.
1989 Requests and the role of deixis in politeness. *Journal of Pragmatics* 13: 187–202.
- Lee, Cynthia
2005 A cross-linguistic study on the linguistic expressions of Cantonese and English requests. *Pragmatics* 15(4): 395–422.
- Lee Wong, Song-Mei
1994 Imperatives in requests: Direct or impolite-observations from Chinese. *Pragmatics* 4: 491–515.
- Leech, Geoffrey N.
1983 *Principles of Pragmatics*. London: Longman.
- Leow, Ronald P. and Kara Morgan-Short
2004 To think aloud or not to think aloud: The issue of reactivity in SLA research methodology. *Studies in Second Language Acquisition* 26(1): 35–57.
- LoCastro, Virginia
1997 Politeness and pragmatic competence in foreign language education. *Language Teaching Research* 1(3): 239–267.

- Marti, Leyla
2006 Indirectness and politeness in Turkish-German bilingual and Turkish monolingual requests. *Journal of Pragmatics* 38: 1836–1869.
- Matsumoto, Yoshiko
1988 Re-examination of the universality of face: Politeness phenomena in Japanese. *Journal of Pragmatics* 12: 403–426.
- Mills, Sara
2003 *Gender and Politeness*. Cambridge: Cambridge University Press.
- Morgan, Jerry
1978 Two types of convention in indirect speech acts. In: Peter Cole (ed.), *Syntax and Semantics*, Volume 9: *Pragmatics*, 261–280. New York: Academic Press.
- Nwoye, Onuigbo G.
1992 Linguistic politeness and socio-cultural variations of the notion of face. *Journal of Pragmatics* 18(4): 309–328.
- Ogiermann, Eva
2009 Politeness and in-directness across cultures: A comparison of English, German, Polish and Russian requests. *Journal of Politeness Research* 5: 189–216.
- Otçu, Bahar and Deniz Zeyrek
2006 Requesting in L2: Pragmatic development of Turkish learners of English. (Series A: General and Theoretical Papers 680). Essen: Linguistic Agency/Universität Duisburg-Essen.
- Otçu, Bahar and Deniz Zeyrek
2008 Development of requests: A study on Turkish learners of English. In: Martin Pütz and JoAnne Neff-van Aertselaer (eds.), *Interlanguage and Cross-Cultural Perspectives*, 265–298. Berlin/New York: Mouton de Gruyter.
- Rathmayr, Renate
1994 Pragmatische und sprachlich konzeptualisierte Charakteristika russischer direkter Sprechakte. In: Hans Robert Mehling (ed.), *Slavistische Linguistik 1993*, 251–277. München: Otto Sagner.
- Ren, Wei
2013 A longitudinal investigation into L2 learners' cognitive processing during study abroad. *Applied Linguistics* 35(5): 575–594.
- Robinson, Mary A.
1992 Introspective methodology in interlanguage pragmatics research. In: Gabriele Kasper (ed.), *Pragmatics of Japanese as a Native and Target Language*, 27–82. Honolulu, HI: University of Hawai'i Press.
- Roever, Carsten
2004 Difficulty and practicality in tests of interlanguage pragmatics. In: Diane Boxer and Andrew D. Cohen (eds.), *Studying Speaking to Inform Second Language Learning*. 283–301. Clevedon: Multilingual Matters.
- Roever, Carsten
2006 Validation of a web-based test of ESL pragmalinguistics. *Language Testing* 23(2): 229–256.
- Roever, Carsten
2009 Teaching and testing pragmatics. In: Michael H. Long and Catherine J. Doughty (eds.), *The Handbook of Language Teaching*, 560–577. Malden/Oxford: Wiley-Blackwell.

- Rose, Kenneth, R.
1994 On the validity of discourse completion tests in non-western contexts. *Applied Linguistics* 15(1): 1–14.
- Rose, Kenneth R.
2000 An exploratory cross-sectional study of interlanguage pragmatic development. *Studies in Second Language Acquisition* 22(1): 27–67.
- Rose, Kenneth, R.
2009 Interlanguage pragmatic development in Hong Kong Phase 2. *Journal of Pragmatics* 41(11): 2345–2364.
- Schauer, Gila, A.
2004 May you speak louder maybe? Interlanguage pragmatic development in requests. In: Susan H. Foster-Cohen, Michael Sharwood Smith, Antonella Sorace and Mitsuhiro Ota (eds.), *EUROSLA Yearbook*, 253–273. Amsterdam/Philadelphia: John Benjamins.
- Schauer, Gila, A.
2006 Pragmatic awareness in ESL and EFL contexts: Contrast and development. *Language Learning* 56: 269–318.
- Schauer, Gila, A.
2007 Finding the right words in the study abroad context. *Intercultural Pragmatics* 4(2): 193–220.
- Schmidt, Richard
1983 Interaction, acculturation and the acquisition of communicative competence. In: Nessa Wolfson and Elliot Judd (eds.), *Sociolinguistics and Second Language Acquisition*, 137–174. Rowley, MA: Newbury House.
- Schmidt, Richard
1993 Consciousness, learning and interlanguage pragmatics. In: Gabriele Kasper and Shoshana Blum-Kulka (eds.), *Interlanguage Pragmatics*, 21–42. Oxford: Oxford University Press.
- Schmidt, Richard
1995 Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning. In: Richard Schmidt (ed.), *Attention and Awareness in Foreign Language Learning*, 1–63. Honolulu, HI: University of Hawai'i, Second Language Teaching and Curriculum Center.
- Schneider, Klaus P. and Anne Barron
2008 Where pragmatics and dialectology meet: Introducing variational pragmatics. In: Klaus P. Schneider and Anne Barron (eds.), *Variational Pragmatics: A Focus on Regional Varieties in Pluricentric Languages*, 1–32. Amsterdam/Philadelphia: John Benjamins.
- Schneider, Klaus P. and Anne Barron (eds.)
2008 *Variational Pragmatics: A Focus on Regional Varieties in Pluricentric Languages*. Amsterdam/Philadelphia: John Benjamins.
- Schölmberger, Ursula
2008 Apologizing in French French and Canadian French. In: Klaus P. Schneider and Anne Barron (eds.), *Variational Pragmatics: A Focus on Regional Varieties in Pluricentric Languages*, 333–354. Amsterdam/Philadelphia: John Benjamins.
- Scollon, Ron and Suzanne W. Scollon
2001 *Intercultural Communication*. Second edition. Malden, MA: Blackwell.

- Searle, John R.
1975 Indirect speech acts. In: Peter Cole and Jerry L. Morgan (eds.), *Syntax and Semantics*, Volume 3: *Speech Acts*, 59–82. New York: Academic Press.
- Sifianou, Maria
1997 Politeness and off-record indirectness. *International Journal of the Sociology of Language* 126(1): 163–179.
- Taguchi, Naoko
2001 The effect of L2 proficiency and study-abroad experience on pragmatic comprehension. *Language Learning* 61(3): 904–939.
- Taguchi, Naoko
2010 Longitudinal studies in interlanguage pragmatics. In: Anna Trosborg (ed.), *Pragmatics Across Languages and Cultures*, 333–361. (Handbook of Pragmatics 7) Berlin/New York: De Gruyter Mouton.
- Taguchi, Naoko
2011 Rater variation in the assessment of speech acts. *Pragmatics* 21: 453–471.
- Takahashi, Satomi and Herbert L. Roitblatt
1994 Comprehension process of second language indirect requests. *Applied Psycholinguistics* 15: 475–506.
- Tanaka, Noriko
1988 Politeness: Some problems for Japanese speakers of English. *Japanese Association of Language Teaching Journal* 9(2): 81–102.
- Thomas, Jenny A.
1983 Cross-cultural pragmatic failure. *Applied Linguistics* 4(2): 91–112.
- Trosborg, Anna
1995 *Interlanguage Pragmatics*. Berlin: Mouton de Gruyter.
- Upadhyay, Shiv R.
2003 Nepali requestive acts: Linguistic indirectness and politeness reconsidered. *Journal of Pragmatics* 35: 1651–677.
- van Compernelle, Rémi A.
2014 *Sociocultural Theory and L2 Instructional Pragmatics*. Bristol: Multilingual Matters.
- van Compernelle, Rémi A. and Lawrence Williams
2012 Variationist sociolinguistics, L2 sociopragmatic competence, and corpus analysis of classroom-based synchronous computer-mediated discourse. In: J. César Félix-Brasdefer and Dale April Koike (eds.), *Pragmatic Variation in First and Second Language Contexts: Methodological Issues*, 239–269. Amsterdam/Philadelphia: John Benjamins.
- Vellenga, Heidi
2004 Learning pragmatics from ESL and EFL textbooks: How likely? *Teaching English as a Second or Foreign Language Electronic Journal* 8(2): 1–18.
- Vilar-Beltran, Elina
2008 The use of mitigation in role-play activities: A comparison between native and non-native speakers of English. In: Eva Alcón-Soler (ed.), *Learning how to Request in an Instructed Language Learning Context*, 127–142. Berlin: Peter Lang.
- Walker, Traci, Paul Drew and John Local
2011 Responding indirectly. *Journal of Pragmatics* 43(9): 2434–2451.

- Walters, Joel
1980 Grammar, meaning and sociological appropriateness in second language acquisition. *Canadian Journal of Psychology/Revue Canadienne de Psychologie* 34: 337–345.
- Warga, Muriel
2008 Requesting in German as a pluricentric language. In: Klaus P. Schneider and Anne Barron (eds.), *Variational Pragmatics: A Focus on Regional Varieties in Pluricentric Languages*, 245–266. Amsterdam/Philadelphia: John Benjamins.
- Watts, Richard
1992 Linguistic politeness and politic verbal behaviour: Reconsidering claims for universality. In: Richard Watts, Sachiko Ide and Konrad Ehlich (eds.), *Politeness in Language: Studies in its History, Theory and Practice*. Berlin/New York: Mouton de Gruyter.
- Weizman, Elda
1989 Requestive hints. In: Shoshana Blum-Kulka, Juliane House and Gabriele Kasper (eds.), *Cross-Cultural Pragmatics: Requests and Apologies*, 71–95. Norwood, NJ: Ablex.
- Widjaja, Christina
1997 A study of date refusal: Taiwanese females vs. American females. *University of Hawai'i Working Papers in ESL* 15(2): 1–43.
- Wierzbicka, Anna
1985 Different cultures, different languages, different speech acts. *Journal of Pragmatics* 9: 145–178.
- Wierzbicka, Anna
2003 *Cross-Cultural Pragmatics: The Semantics of Human Interaction*. (Second edition.) Berlin/New York: Mouton de Gruyter.
- Woodfield, Helen
2008 Interlanguage requests: A contrastive study. In: Martin Pütz and JoAnne Neff-van Aertselaer (eds.), *Developing Contrastive Pragmatics: Interlanguage and Cross-Cultural Perspectives*, 231–264. Berlin/New York: Mouton de Gruyter.
- Woodfield, Helen
2010 What lies beneath? Verbal report in interlanguage requests in English. *Multilingua* 29: 1–27.
- Woodfield, Helen
2012 Pragmatic variation in learner perception: The role of retrospective verbal report in L2 speech act research. In: J. César Félix-Brasdefer and Dale A. Koike (eds.), *Pragmatic Variation in First and Second Language Contexts: Methodological Issues*. Amsterdam/Philadelphia: John Benjamins.
- Woodfield, Helen and Maria Economidou-Kogetsidis
2010 'I just need more time': A study of native and non-native requests to faculty for an extension. *Multilingua* 29(1): 77–118.
- Yoon, Yeon Bom and David Kellogg
2002 'Ducks' and 'parrots': Elaboration, duplication and duplicity in a cartoon discourse completion test. *Evaluation and Research in Education* 16(4): 218–239.
- Zhao, Na
2009 Do the modern Chinese request strategies fit into CCSARP? An analysis of the novel *Red Poppy*. *US-China Foreign Language* 7: 14–21.

12. Comprehension of implicatures and humor in a second language

Naoko Taguchi and Nancy D. Bell

Abstract: This chapter reviews existing studies on comprehension of indirect meaning among second language (L2) users. Our review focuses on two areas of indirect meaning: conversational implicature and humor. Both types of indirect meaning are universal, but their form and content are often culture specific. L2 users' abilities to comprehend implicature and humor are closely intertwined with their linguistic and pragmatic knowledge, as well as their understanding of cultural conventions and norms of interaction. In this chapter, we will first present theoretical frameworks of meaning comprehension: Cooperative Principle (Grice 1975), Relevance Theory (Sperber and Wilson 1995), the Socio-Cognitive Approach (Kecskes 2014), marked informativeness (Giora 1991), and the space-structuring model (Coulson and Kutas 2001). Then, we will survey empirical findings in L2 studies over the last three decades, focusing on factors affecting L2 comprehension (e. g., degrees of indirectness encoded in items, learners' general proficiency, cognitive abilities, and target language experiences).

1. Introduction

Indirect meanings abound in our everyday communication. Understanding how we comprehend non-literal, implied meaning gives us insights into how we think, communicate, and interact with each other. According to Thomas (1995), meaning has two levels: utterance meaning, or the literal sense of words produced; and force, or the speaker's intention behind the words. Comprehension of indirect meaning entails both levels. It is a process of recognizing a mismatch between the literal and intended meaning, and comprehending the implied meaning.

This chapter discusses how second language (L2) learners comprehend indirect meaning. When comprehending indirect utterances, L2 learners need layers of knowledge that encompass a wide range of properties, including linguistic knowledge, knowledge of Gricean maxims of conversation (i. e., presumption of relevance) (Grice 1975), and knowledge of conventions and social norms of interaction in the target language culture. L2 learners need to know the vocabulary and grammar of the utterances. At the same time, they need to understand culturally specific forms, conventions, and norms of interaction that accompany the utterances. Although the presumption of relevance is part of basic human cognition (Baron-Cohen, Leslie and Frith 1985) and thus available in both L1 and L2 pro-

<https://doi.org/10.1515/9783110431056-012>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 331–359.

Berlin/Boston: De Gruyter Mouton.

cessing, these multiple layers of knowledge that are requisite to understanding the L2 make it difficult for learners to comprehend meaning, both direct and indirect. Yet, indirectness comprehension is critical as learners develop their communicative repertoires, which facilitate participation in the target community.

This chapter reviews current literature focusing on empirical methods used to examine the construct of indirectness comprehension and general findings gleaned from existent studies. Our review focuses on two areas of indirect meaning: implicatures and humour. Implicatures arises from violations of the basic principles of communication (e. g., being relevant), which generates meaning beyond what is expressed literally. A specific variant of implicatures is humour. Humour serves its function (being funny) because it goes against the expectations that people should convey useful information in the most efficient manner. Both implicatures and humour are universal, but their form and content are often culturally unique. Hence, the ability to understand implicatures and humour is a direct reflection of learners' developing linguistic and pragmatic knowledge, as well as their knowledge of cultural conventions and norms. Below we will first present theoretical background and key concepts, and then move on to review empirical methods and findings in the current L2 literature of implicatures and humour comprehension. We will begin with three pragmatic theories related to conversational implicatures and pragmatic inferences: Grice's maxims, Relevance Theory, and the socio-cognitive approach.

2. Comprehension of conversational implicatures

2.1. Theoretical underpinnings and key concepts

2.1.1. *Grice's maxims and the cooperative principle*

Grice (1975) introduced the term *conversational implicatures*, which refers to the meaning that we derive based on the context of an utterance and our knowledge of conversation mechanisms. Grice explains the process of implicature comprehension based on the cooperative principle, a set of assumptions that people follow to achieve mutual understanding. Grice proposed four maxims of conversation that people follow in communication (quality, quantity, relevance, and manner). During conversation, we assume that each participant makes an appropriate contribution in a way that it suits the direction of conversation. Hence, when the speaker produces an utterance, the listener assumes that the message is relevant to the discourse and draws the most plausible interpretation of the utterance. See the example conversation, which has been adapted from the Santa Barbara Corpus of Spoken American English (Du Bois et al. 2000):

- 1 A: Hey, do you wanna do something tonight?
- 2 B: I don't know. I was just gonna watch TV.
- 3 A: I wanna go out. Maybe we can go to the new restaurant?
- 4 B: I don't have any money this week to pay the bills.

Assuming that B is following the maxim of relevance and has made an appropriate response to A's invitation (line 3), A draws the conclusion that B does not want to accept A's invitation or B wants A to pay for the meal, although such intention is not explicitly stated in B's response in line 4. Understanding a message is a process of working out what the speaker means based on the linguistic knowledge, contextual information, and the assumption of relevance (Grice 1975). Implicatures are understood based on the assumption that the speaker operates under the cooperative principle and that the listener is able to supply contextual information to make inferences.

As described above, Grice situated expression and recognition of intentions as the fundamental goal of human communication. When the speaker produces an utterance, the hearer interprets the speaker's utterance as a means of expressing his/her communicative intentions. Implicatures can be understood based on this inferential model of communication.

2.1.2. *Relevance Theory*

Although Grice (1975) did not propose any specific cognitive account of how inferences are put into effect in comprehension, Relevance Theory (Sperber and Wilson 1995) explains the actual cognitive mechanisms underlying the process of inferring. The theory claims that communication is achieved by decoding linguistic stimuli, as well as by interpreting contextual cues and using them as evidence to infer speakers' intentions. The theory's central claim is the Principle of Relevance, which indicates that human cognition is geared toward the maximization of relevance. When comprehending a message, many stimuli compete for one's processing resources, but not all the stimuli are relevant enough to deserve attention. People select the most relevant one and use it as evidence toward the intended interpretation of the speaker's utterance. People do not take all possible interpretations into consideration. They consider the most relevant one, and then move on to the next one only when the first one turns out to be irrelevant. To put it differently, people select an interpretation that has the greatest contextual effect (the most relevant interpretation) for the smallest processing effort. Processing effort is reflected in the linguistic complexity of the utterance and the range of contextual cues to be processed. The more complex the utterance is and the greater the number of cues to be processed, the more extensive the search for meaning becomes, leading to greater processing effort.

According to Relevance Theory, contextual cues go beyond physical settings or the immediately preceding discourse. Internal aspects such as one's knowledge

and experiences about the world including “expectations about future, scientific hypotheses or religious beliefs, anecdotal memories, general cultural assumptions, beliefs about the mental state of the speaker” (Sperber and Wilson 1995: 15) also assist meaning interpretation. Sperber and Wilson (1995) define context as cognitive environment, namely the set of all the facts that the listener is aware of or is capable of becoming aware of in the environment of an utterance.

According to Relevance Theory, the inferential process is not a sequential process that proceeds from premises (e. g., message content) to conclusions in a lineal manner (Sperber and Wilson, 1998). Quite the contrary, it is a dynamic process that involves both forward and backward inferences. Forward inferences involve a shift from premises to conclusions, whereas backward inferences involve a move from an anticipated conclusion to premises that derive the conclusion. See the following example (1) adapted from the Santa Barbara Corpus:

(1)

- 1 A: Thanks for this gift. It’s a really pretty sweater.
- 2 B: You’re welcome. If it’s too big, your mother can take it.
- 3 A: Or I can wear some shirts underneath it. Let me try it on.
- 4 B: Is it too big?
- 5 A: I’ve still got room for another 10 pounds.

The most plausible conclusion drawn from A’s utterance in line 5 is that the sweater is too big. If we use forward inferences, the phrases such as *room* and *another 10 pounds* can contribute to our understanding of the specific message content. We draw inferences based on our understanding of these phrases. However, the content can also be adjusted by using backward inferences. Because B’s question in line 4 requires a yes/no answer, we expect that A’s answer will claim either affirmative or negative – whether the sweater is too big or not. In this example, the answer is positive, meaning that the sweater is too big. This expected conclusion in turn allows us to use a backward inference towards the content, assuming that the content conforms to either an affirmative or negative claim.

To summarize, utterance interpretation is a dynamic process with multiple inferencing processes interacting with each other at a given time. Sperber and Wilson have advanced Grice’s claims by explicating the actual cognitive mechanisms behind the act of inferencing. Relevance Theory specifies the relationship among contextual cues and processing effort in implicature comprehension. The degree of indirectness in an utterance is a function of the amount of effort that the listener has to put in to comprehend the message. This effort is influenced by the number of contextual cues that the listener has to process.

2.1.3. *The Socio-Cognitive Approach*

More recently, Kecskes (2014) proposed the socio-cognitive approach to explain the process of inferencing. This approach combines the cognitive-philosophical perspective, which views intention as the *priori* mental state of the speaker (e. g., Grice 1975; Sperber and Wilson 1995), and the sociocultural-interactional perspective, which views intention as a *post factum* phenomenon jointly constructed by the speaker and listener in the course of interaction.

According to Kecskes, both Grice's theory and Relevance Theory, which fit in the cognitive-philosophical approach, situate intention as the central element of communication. These theories view that communication is achieved if the hearer understands the speaker's intention through inferences. For this communication to be successful, the speaker is expected to construct a model of the hearer's knowledge when he/she produces an utterance, while the hearer is expected to construct a model of the speaker's knowledge to understand the intention encoded in the utterance. Hence, meaning is considered as something that is recovered by the hearer through pragmatic inferences, although it may not match the speaker's intention because the speaker and hearer have different assumptions and expectations. After all, what is actually recovered is the hearer's meaning, not the speaker's meaning. As such, Grice's theory and Relevance Theory are one-sided. They take the hearer-oriented view toward meaning interpretation with less emphasis on the speaker's position.

In contrast, the socio-cognitive approach combines the speaker and hearer's perspectives in the process of meaning interpretation. This approach diverges from the cognitive-philosophical approach because it assumes a dialectical relationship between a pre-planned intention and emergent intention. Intention is something that the speaker has in mind before producing the utterance, and the hearer recognizes the intention when processing the utterance. At the same time, intention is also seen as emergent, as the speaker and hearer co-construct and mutually develop what is actually communicated. According to Kecskes (2014: 47), intention is a "cooperation-directed practice". In a dynamic interaction, "intention is not necessarily a *priori* phenomenon: it can be generated and changed during the communication process" (9). Hence, like Grice's theory and Relevance Theory, the socio-cognitive approach also acknowledges the centrality of intention in conversation. However, the approach differs from the other two theories because it emphasizes the dynamic process in which intention is invoked in the course of interaction. The emergent and social nature of intention is illustrated in Kecskes's example (2014: 9) below (2)

(2)

Sam: Coming for a drink?

Andy: Sorry, I can't. My doctor won't let me.

Sam: What's wrong with you?

In this conversation, Sam's last utterance is ambiguous and thus generates implicatures. It could be asking for what is wrong with him physically (what medical conditions preclude Sam from having a drink) or mentally (why Sam listens to the doctor's advice seriously and refuses a drink). The traditional, utterance-level interpretation in the Gricean paradigm does not help with meaning disambiguation. Following the socio-cognitive approach, the meaning of Sam's utterance is derived at discourse-level as Sam and Andy jointly construct understanding. For example, in order to disambiguate meaning, Sam and Andy may go through a negotiation sequence after Sam's question. Andy might ask a clarification question such as 'What do you mean by 'what's wrong'? Or he might present his interpretation of the question by saying 'I have liver problem' to see whether Sam accepts the interpretation. Hence, actual meaning behind Sam's question is constructed between Sam and Andy.

In summary, according to Kecskes (2014), the socio-cognitive approach attends to two types of intention in synergy – prior intention and emergent intention. Intention is individual, preplanned, and a priori to action, but it is also emergent, reflecting actual situational experience. Because the socio-cognitive approach emphasizes both encoded and co-constructed sides of intentions, and incorporates both the speaker and hearer's positions, it provides a realistic view of communication processes.

2.2. Comprehension of implicatures in a second language

The previous section has discussed various pragmatic theories that have attempted to explain the process of inferencing. This section discusses how these theories can inform the investigation of L2 implicature comprehension. Comprehension of implicatures involves understanding linguistic and contextual cues, and then using them to make inferences about the speaker's implied intentions behind these cues (Sperber and Wilson 1995). This is a challenging task for L2 learners because they have to recognize the gap between the literal utterance and the intended meaning, and re-process literal cues to infer implied meaning. Although it is challenging, because relevance processing is part of general cognition acquired along with normal human development (Baron-Cohen, Leslie and Frith 1985), implicature comprehension can directly transfer to L2 comprehension processes and facilitate comprehension. Thus, pragmatic theories of the cooperative principle and conversation maxims, Relevance Theory, and the socio-cognitive approach can serve as guiding theoretical frameworks for investigating L2 comprehension of indirect meaning as we illustrate in the next section.

To date, existing studies have revealed two primary factors affecting L2 comprehension of implicatures: *within-implicature factors* and *learner-related factors*. The former refers to different types of implicatures and different comprehension loads resulting from those types. Previous studies revealed that some implica-

tures are more difficult and require a longer time to comprehend, while others are understood quickly with ease. The latter, learner-related factors refer to learners' individual characteristics and experiences. Previous studies identified three factors affecting comprehension: proficiency, cognitive factors, and target language experiences. The next section presents empirical findings illustrating these trends.

2.2.1. *Within-implicature factors: Implicature types affecting comprehension*

Sperber and Wilson's (1995) Relevance Theory makes an explicit connection between the degree of indirectness involved in an utterance and the amount of effort required when comprehending the utterance. Comprehension is easier and faster when the propositional meaning is transparent and immediately accessible. But when the proposition is not immediate or salient, listeners need to construct a mental structure that helps bridge the utterance and proposition; as a result, comprehension becomes slower and more difficult.

Conventionality can help increase the contextual effect and reduce processing load. When implicatures carry conventional meaning, that is, when meaning is linguistically coded or embedded within a predictable pattern of discourse, we do not attend to many contextual cues and thus processing load decreases. Indirect speech acts form a type of such conventional implicatures. For instance, the expression *you might want to* is often used when someone is giving a suggestion. According to Morgan (1978), this belongs to the convention of language because conventionality is encoded in linguistic forms. In another example, when refusing someone's invitation, people often give a reason for not accepting the invitation rather than saying 'no' directly. This is an example of the convention of usage, where a certain discourse pattern is typically used to frame certain meaning. According to Morgan (1978), these indirect speech acts are short-circuited implicatures: people derive meaning relatively quickly based on conventions of language and language use, without processing a great number of contextual cues.

In contrast, there are less conventional implicatures that do not operate within conventional frames. See the example (3) adapted from the Santa Barbara Corpus.

(3)

- 1 A: So, you and your husband just moved to New York?
- 2 B: Yes, last year.
- 3 A: Do you like living in New York?
- 4 B: We looked around for two years. My husband and I went all over the United States, and we didn't find any place we liked better.

Because the linguistic expressions used to communicate how much B likes New York are idiosyncratic and variant, meaning in B's utterance (line 4) is less predictable than conventional implicatures and thus requires more extensive inferencing.

Greater processing effort and longer response times are needed to comprehend non-conventional implicatures because the listener must search for meaning more extensively by processing a greater number of contextual cues.

The relationship among contextual cues, processing effort, and conventionality has been supported in empirical studies. Studies have reached a generalization that L2 comprehension is easier and faster with conventional implicatures than non-conventional ones, as long as the conventionality encoded in the utterance is shared between L1 and L2. Bouton (1992, 1994, 1999) developed a written multiple-choice test assessing comprehension of relevance implicatures, Pope implicatures (saying *Is the Pope catholic?* to mean that something is obvious), irony, indirect criticisms, and sequence implicatures. Pope questions, indirect criticism, sequence implicatures, and irony remained difficult for learners after 17 months of stay in the U.S. A. After over four years, only the comprehension of relevance-based implicatures became native-like. These findings illustrate different levels of comprehension load among implicatures types. Relevance-based implicatures showed faster development because, as their general proficiency improved, learners became able to apply their L1-based maxim of relevance to infer meaning in their L2. Learners did not progress as quickly with Pope implicatures or irony because the maxim of relevance did not help their comprehension due to the L2-specific nature of these implicatures.

More recently, Taguchi's (2005, 2007, 2008a) studies, which included response times as an additional measure of L2 comprehension, found similar effects of implicature type on comprehension. She developed a computer-based listening test to assess L2 English learners' comprehension of conventional and non-conventional implicatures. Conventional implicatures were indirect refusals, which followed a common, predictable discourse pattern (giving a reason for refusal). In contrast, non-conventional implicatures included indirect opinions, which involved idiosyncratic forms of expressing positive or negative opinions. See below for sample items (4–5).

(4)

Conventional implicatures – indirect refusals

A: Hey, John, what're you doing?

B: I'm working on my paper for the English class.

A: You've been working on that paper for a week. Why don't you take a break? Let's go to the movies tonight.

B: I have to finish my paper by eight in the morning.

Question: Is John going to the movie?

(5)

Non-conventional implicatures – indirect opinions

A: Hey, Mary, you've got a package? From who?

B: It's from my cousin in Florida. He sent me a gift for my birthday.

A: Oh, that's nice. Did you like it?

B: The wrapping paper was nice.

Question: Does Mary like the gift?

Comprehension was analyzed for accuracy (scores) and response times (time taken to answer items correctly). Results showed that indirect refusals were easier and faster to comprehend than indirect opinions. Both implicature types developed over time, but the gain size was larger for refusals than for opinions. This facilitation effect of conventionality was also confirmed in L2 Japanese (Taguchi 2008b) and L2 Chinese (Taguchi, Li and Liu 2013).

Conventional implicatures (i. e., indirect refusals) were easier to comprehend not only because they pose a smaller processing load (due to conventionality), but also because the means to encode refusals (giving a reason for refusal) were shared between L1 and L2. The ability to comprehend non-conventional implicatures does not develop as quickly. Since there are no constant conventional representations, comprehension of indirect opinions requires word-by-word bottom-up processing that involves analysis of syntactic and lexical information and contextual cues. Using these analyses, learners are most likely to understand the literal meaning of the utterance first, and then work deductively toward the implied speaker's intention. Due to the multiple levels of processing, along with more drastic deviation from the Gricean maxims, the degree of inferencing that learners have to make in non-conventional implicatures becomes extensive, resulting in greater comprehension difficulty and slower-paced improvement in comprehension over time.

2.2.2. *Learner-related factors affecting comprehension*

Shifting from implicature-specific factors, this section presents learner-related factors that affect L2 comprehension of implicatures. Three types of factors are discussed: general proficiency, cognitive factors, and target language experiences.

2.2.2.1. *General proficiency and implicature comprehension*

Because comprehension of indirect meaning is built upon general abilities of text comprehension, which draws on grammatical knowledge and vocabulary, proficiency is a strong indicator of implicature comprehension (e. g., Carrell 1984; Cook and Liddicoat 2002; Garcia 2004; Koike 1996; Taguchi 2005, 2011; Roever 2005, 2013; Wang, Brophy and Roever 2014; Yamanaka 2003). The effects of proficiency found in these studies are notable in that they often override that of other factors. For instance, Wang, Brophy and Roever (2014) showed that, of three predictor

variables (gender, exposure, proficiency), proficiency (determined by course level) was the only significant predictor for implicature comprehension in L2 English.

Previous studies found this proficiency advantage in a wider range of indirectness that higher proficiency learners are able to understand compared with their lower proficiency counterparts. Using video clips from TV shows, Yamanaka (2003) assessed L2 English learners' comprehension of four implicature types: irony/sarcasm, negative evaluation, parody, and rhetorical question. Learners' comprehension accuracy significantly correlated with proficiency measured by a cloze test. Irony/sarcasm items were most difficult, but higher proficiency learners were more accurate in comprehension. Garcia (2004) compared comprehension of indirect speech acts between higher and lower proficiency L2 English speakers based on TOEFL scores. Comprehension of indirect requests, suggestions, corrections, and offers were assessed using a listening test developed from corpora of naturalistic conversations. She found that proficient speakers were more accurate with all types of speech acts than less proficient counterparts, except for indirect requests. These findings indicate that the higher the proficiency is, the wider the range of directness levels that learners can handle.

Although the positive proficiency effect on comprehension accuracy is consistent across studies, when it comes to comprehension speed, some studies found no effect (Taguchi 2005, 2009). Taguchi (2005) assessed L2 English learners' comprehension of conventional and non-conventional implicatures. Conventional implicatures involved fixed discourse patterns (e. g., giving a reason for refusal), while non-conventional implicatures involved idiosyncratic expressions (e. g., expressing a negative opinion of a movie by saying *I was glad when it was over*). Proficiency (determined by TOEFL) affected accuracy, with the higher proficiency group achieving higher scores than the lower group. However, no between-group difference was found on response times. Hence, knowledge of implicature comprehension (as measured by score) and on-line processing of implicatures (as measured by response times) form separate dimensions and are affected by proficiency differently.

Despite these variations between comprehension accuracy and speed, the strong effect of proficiency on implicature comprehension is noteworthy. Proficiency affects implicature comprehension because learners have to recognize the mismatch between literal and implied meaning through a flouting of a Gricean maxim. Because lower proficiency learners have limited abilities to comprehend the literal meaning of an utterance, they may not be able to detect the maxim flouting. Advanced-level learners are more efficient in applying their L1-based inferential skills to L2. Unless implicatures are culture-specific (e. g., Pope questions), advanced learners have abilities to make an inference of the implied meaning by using contextual cues, which they developed in their L1.

2.2.2.2. *Cognitive factors and implicature comprehension*

Pragmatic competence involves acquiring pragmatic knowledge and developing cognitive control in processing the knowledge (Kasper 2001). This claim suggests that pragmatic competence involves two dimensions: pragmatic knowledge and processing capacity for the knowledge. Based on this claim, previous studies have examined the processing dimension of pragmatic competence by assessing how L2 learners access and process pragmatic information in real time. A line of studies that assessed response times in implicature comprehension fall in this category (e. g., Taguchi 2007, 2008a, 2009, 2012). Another line of studies have examined whether cognitive factors directly support processing of implicatures. Because cognition governs the general mechanisms behind how we process information, implicature comprehension – which also draws on general processing – is likely to be bound to one's cognitive capacities.

Based on this premise, Taguchi (2008c) examined whether accurate and speedy comprehension of implicatures is related to listening proficiency and cognitive variables (i. e., working memory and lexical access skill). Japanese learners of English completed five tests: (1) a pragmatic listening test measuring comprehension of implicatures; (2) a working memory test (reading span test); (3) a lexical access test; (4) a TOEFL listening section; and (5) a phonemic discrimination test. Working memory underlies listening because listening involves processing acoustic input and thus is subject to memory constraints. Lexical access skill (the ability to retrieve word meaning quickly) is also considered to support comprehension. Comprehension involves the lower-level processing of attending to and assigning meaning to individual words. It also involves the higher-level processing of supplementing linguistic information with non-linguistic information to derive meaning. Lexical access skill is part of the lower-level processes that contribute to comprehension. Working memory and lexical access can jointly contribute to comprehension. Speedy processing of lower-order information, such as lexis, can free up learners' memory space and reduce their processing load. As a result, more working memory becomes available for higher-order processing, such as implicature comprehension.

However, Taguchi's study found that only lexical access skill significantly correlated with speedy processing of implicatures (measured by response times) ($r=.50$). Working memory bore no relationship to comprehension speed ($r=.23$) or accuracy ($r=.18$). Listening proficiency, measured by TOEFL, correlated with accuracy scores but not with response times. Similar findings were found in Taguchi (2007), which revealed a significant correlation between lexical access skill and response times ($r=.40$), but not with comprehension accuracy ($r=.01$). Longitudinal studies also revealed similar patterns (Taguchi 2008a). Over a four-month study abroad period, gains in comprehension speed significantly correlated with lexical access skill ($r=.34$), but no correlation was found with gains in accuracy scores ($r=.14$).

This section has reviewed several studies on the role of cognitive variables in implicature comprehension. Existing findings suggest that lexical access skill directly underlies fluent processing of implicatures. Speedy processing of a lower-component process – lexical access – is related to the speedy processing of higher-order information – processing of implied speakers’ intentions. These findings reinforce the notion that comprehension of implicatures is not free from general cognitive considerations; deriving implied meaning from an utterance draws on general cognitive mechanisms of attention to linguistic and non-linguistic input, efficient processing of the input, and background knowledge, experiences, and expectations of the interlocutor.

2.2.2.3. Target language experience and implicature comprehension

Other than proficiency and cognitive factors, previous studies found that learners’ target language experience also affects implicature comprehension. These studies have used different metrics to operationalize target language experience. Some studies compared groups of learners with or without residence abroad (Roever 2005; Taguchi 2008d, 2011), while others assessed the effect of target language contact or length of stay abroad on implicature comprehension (Taguchi 2008a; Yamanaka 2003). Yet another group of studies has applied the case study approach by examining individual learners’ unique experiences leading to skilled comprehension of implied meaning (Taguchi 2012).

Regarding the effect of residence abroad on implicature comprehension, previous findings are generally mixed. Some studies found a positive effect, while others found no effect. Roever (2005) compared ESL (English as a second language) and EFL (English as a foreign language) groups on comprehension of formulaic implicatures (i. e., Pope questions) and idiosyncratic implicatures. Both groups showed similar performances, indicating no positive effect of residence abroad. Similarly, Taguchi’s (2008c) study revealed no study abroad effect. She compared EFL and ESL learners’ ability to comprehend conventional and non-conventional implicatures (indirect refusals and indirect opinions). She found that the EFL group showed significantly greater gains than the ESL group in the accurate comprehension of indirect refusals, but the groups were similar in the comprehension of indirect opinions. There was no significant group difference on response times for either item category.

In contrast to these studies, Taguchi (2011) found a positive residence abroad effect. She compared two EFL groups who had similar proficiency but differed on their study abroad experiences. One group had a minimum of one-year study abroad, but the other group did not. There was a significant difference in the comprehension accuracy of non-conventional implicatures, with the group with target country experience outperforming the other group. The group who had studied abroad also achieved higher scores on the comprehension of routines (e. g., fixed

expressions such as *For here or to go?*). However, no group difference was found in the comprehension of indirect refusals. Learners who had never studied abroad were as competent as their counterparts with study abroad experience.

How can we account for these mixed findings? One interpretation is that implicature comprehension is more strongly supported by basic comprehension skills (e. g., listening) than study abroad experiences, particularly among implicatures that operate on shared conventions between L1 and L2 (i. e., indirect refusals). EFL learners in these studies were enrolled in an intensive English program where they received instruction in English. Learners' listening skills improved along with their intensive study. As a result, their comprehension of indirect refusals improved and even surpassed that of their ESL counterparts in some cases. Target country experience did not add much because what learners needed was the threshold proficiency that allows them to take advantage of shared conventionality between L1 and L2.

In contrast, there was a clear study abroad advantage on routines and non-conventional implicatures. Because routines are tied to specific situations, the target country provided access to many similar situations, which consequently assisted comprehension of routines. Study abroad experience was also advantageous for non-conventional implicatures. Opportunities to practice non-conventional implicatures were probably more accessible in the target language community. Because violations of Gricean maxims are common in daily communication, learners who spent time abroad probably had plenty of practice with inferential processing while abroad, which led to their superior performance, compared with their at-home counterparts.

Several other studies examined the length of residence and amount of language contact as factors affecting implicature comprehension. Yamanaka (2003) compared implicature comprehension across participants of different length of stay in the U.S. A. There were three groups: short-term (0–17 months), medium-term (18–53 months), and long term (more than 54 months). Significant differences in comprehension scores were found between the short- and long-term groups. After 54 months of residence, learners' comprehension became native-like. Adding to these findings, Taguchi (2008a) assessed the precise effect of exposure by collecting information about learners' perceived amount of time spent in various target language activities while abroad. The amount of speaking and reading activities that participants reported on the language contact survey correlated with the gains in comprehension speed, but not with accuracy of comprehension during a four-month period in the U.S. A.

As described above, previous literature revealed complex effects of residence abroad, length of stay, and target language contact on implicature comprehension. Learners who spent time abroad have plenty of exposure to target language input, which serves as an opportunity to practice inferential processing. However, benefits of target country experience, length of stay, and amount of exposure are revealed differently across different implicature types (conventional and non-conventional)

and dimensions of comprehension (accuracy and speed). These findings indicate that target language experience does not have a uniform effect. It is the interaction between L2 exposure and the construct of implicature comprehension that provides meaningful interpretation of target language effects on indirectness comprehension.

Continuing with the theme of target language experience, below we will describe a qualitative case study to illustrate the relationship among learner agency, opportunities for practice, and development of implicature comprehension. Taguchi's (2012) year-long study traced change in implicature comprehension among 48 Japanese EFL students in an English-medium university in Japan. Qualitative data from interviews and observation revealed learners' individual characteristics interacting with the context of learning, jointly accounting for the unique trajectories of change in comprehension.

Asako (pseudonym) was one of the focal informants who showed a dramatic gain in implicature comprehension after the first semester. Her score increased by 11 points, when the average gain of the entire group was only two points. Her score was the third highest in the group. This was rather surprising, because Asako was shy and rarely spoke up in class. Other top-ranked students were all active, out-going, and confident, and had extensive social networks with international students on campus. Clearly Asako had different personal qualities. Nonetheless, she successfully established her membership in a small group of international students. Asako became friends with three international students who regularly came to the library to study, and soon after, it became her routine to sit at the same desk with them and do homework while eavesdropping on their conversation using English as a common language.

This sustained, extensive listening practice probably contributed to Asako's dramatic gain in implicature comprehension. Indirect communication is likely to occur in a long stretch of discourse among people who share the same background and experience. Shared context and knowledge that people construct over numerous turns make it possible to understand meaning that is conveyed implicitly. An involved conversation of multiple parties often includes a variety of conversational implicatures, as well as other forms of indirect communication such as sarcasm and jokes. Hence, it is probable that the long, extended conversations that Asako was exposed to on a daily basis contributed to her gain in implicature comprehension.

2.3. Summary and future directions

This section has described how theories of pragmatics (i. e., Grice's maxims, Relevance Theory, and the socio-cognitive approach) can inform L2 research on implicature comprehension. We understand that the degree of indirectness of an utterance is closely related to the amount of "work" that the listener has to put in. Conventional implicatures are relatively easy and take less time to comprehend because features of conventionality can reduce processing load, when conven-

tionality is shared between L1 and L2. In contrast, culture-specific implicatures or non-conventional implicatures demand bottom-up processing of linguistic and contextual cues to infer meaning, adding to their processing load.

Although L2 studies on implicature comprehension are still limited, existing findings demonstrate that individual learner characteristics, specifically proficiency and cognitive processing factors (i. e., lexical access), can account for learners' ability to comprehend implied meaning. Proficiency has been found to be the determining factor for comprehension accuracy, while lexical access skill is related to comprehension speed. Learners' target language experience, such as host country experience, length of stay, amount of language contact, and availability of extensive listening practice also affect comprehension. Critically, these learner-related factors interact with implicature types in a complex manner. Transfer of L1-based inferential skills to L2 implicature comprehension seems to occur with increased proficiency when the implicatures involve shared conventions between L1 and L2. However, when the conventions are L2-specific as in the case of routines, or when implicatures do not operate within shared conventionality, like the case of non-conventional implicatures, residence abroad may become beneficial.

The body of available studies certainly point to potential research growth in L2 comprehension of implicatures. In closing, we will present several directions for future research.

1. *Authenticity of test items.* Previous studies used a highly controlled, decontextualized comprehension task that contained a series of artificial dialogues. Because the degree of correspondence between test items and target language use domains was minimal, we do not know whether learners' comprehension abilities demonstrated in these tasks can be generalizable to their real-life situations. This limitation can be remedied in future research by observing learners in naturalistic communicative situations for their real-life inferential practices.
2. *Indirectness comprehension beyond utterance-level.* In authentic conversations, indirectness is conveyed through various discourse and conversational features, including deixis and reference words, ellipsis, incomplete sentences, intonation, and hesitation markers. These features could jointly contribute to the overall indirectness of a message. Future research should identify those features in authentic interactions and use them to create a task that assesses comprehension of indirect meaning. In addition, there is a need to incorporate audio-visual cues in test items. Other than Yamanaka (2003), none of the previous studies used visual input to assess comprehension. Because implicatures are often conveyed via paralinguistic cues (e. g., facial expressions and gesture), future research can use digital tools to incorporate audio-visual information in listening task items.

3. *Multimodal processing and eye tracking research.* Related to the point above, we need to cultivate ways to analyze multimodal processing of indirect messages. Although previous studies measured response times, the literature is considerably limited in assessing how on-line processing of pragmatic input reveals cognitive processes of inferencing. Comprehension is not merely the decoding of linguistic input: It is a global process in which all available cues, both linguistic and non-linguistic (visual and auditory cues), are simultaneously used to arrive at meaning. One of the ways to analyze multimodal processing is using eye tracking. Eye movement reflects underlying processing mechanisms: what parts of written linguistic input learners attend to most; whether their eye fixation patterns differ from those of native speakers; and whether they regress like native speakers upon encountering ambiguous input. When applied to implicature comprehension, eye tracking could prove a useful tool to reveal whether or not L2 listeners attend to non-linguistic, visual cues such as facial expressions and gestures, as well as other contextual cues, during comprehension.
4. *Implicature comprehension in interaction.* Studies that have applied the socio-cognitive approach to the process of inferencing (Kecskes 2014) are considerably limited and thus warrant attention in the future. As Kecskes (2014) claims, implicatures are often resolved during interaction as an outcome of joint meaning construction and common ground seeking. Future studies can conduct qualitative analyses of intercultural communication to reveal how disambiguation of indirect meaning is achieved linguistically and interactionally among speakers of different language and cultural backgrounds. Such studies can focus on adaptability and contingency in interaction as speakers co-construct meaning using available resources. This type of analysis will help us move from the analysis of comprehension as an individual process to a locally negotiated process among participants in interaction.

3. Comprehension of humor

3.1. Theoretical underpinnings and key concepts

While implicatures can range from more to less conventional, with consequences for their comprehension, humor relies on hearers' knowledge of certain linguistic, social, and/or cultural conventions. Knowledge of these conventions allows hearers to be surprised by an unconventional (and thus unexpected) element which then causes them to reassess the larger message. The surprise, plus the reanalysis, gives rise to a feeling of mirth. That said, humor can be more or less conventional and rely to a greater or lesser extent on universal human experiences, rather than

culturally specific ones. Given the range of utterances and speech activities that fall under the classification of “humor,” we can expect to see variations in L2 users’ abilities to comprehend humor depending on such factors.

As with implicatures, the comprehension of humor has been conceptualized in both (neo) Gricean theory (e. g., Attardo 1993; Dynel 2008; Raskin and Attardo 1994) and relevance theory (e. g., Yus 2003, 2008). More recently, cognitive linguistics-influenced approaches have taken hold. At the heart of most modern theories of humor is the notion of incongruity and the idea that humor is the reaction of hearers to something that goes against their expectations, given the context. Generally it is thought that two incongruent elements are brought together unexpectedly, forcing hearers to reconsider their initial interpretations. Experimental work on humor detection and comprehension from the perspective of experimental pragmatics and cognitive linguistics is elaborating on these notions and establishing a growing body of evidence in favor of such a model. Below we examine two such efforts: Rachel Giora’s notions of marked informativeness, graded salience, and optimal innovation and Seana Coulson’s space structuring model. These models have both been and continue to be developed in ongoing research, and while they elaborate on different aspects of humor comprehension, they remain compatible.

3.1.1. *Giora’s model of humor comprehension*

Giora’s (1991) marked informativeness requirement for jokes specifies the linguistic conditions for incongruity in joke texts. The theory indicates that unlike prototypically informative non-joke texts, the jokes are markedly informative as their punch lines “are marked in that they are too distant, in terms of number of similar features, from the messages preceding them” (Giora 1991: 469). They are, however, still relevant to those messages, forcing the hearer to abandon the original unmarked interpretation in favor of the marked one.

Not all incongruities or figurative language evoke pleasure, however, and more recently, Giora (2003) has proposed the notion of optimal innovation in order to explain the conditions under which such incongruity results in aesthetic pleasure, including the sense of mirth. Optimally salient texts walk a line between creativity and literal accuracy of expression, calling up:

- a. a novel – less or nonsalient – response to a familiar stimulus, alongside
- b. a salient response from which, however, it differs (both quantitatively and qualitatively), so that both make sense (Giora et al. 2015: 133).

With the greater specificity that these propositions provide, we are able to determine whether a particular incongruity will be understood as humorous or merely unusual or creative.

To illustrate both marked informativeness and optimal innovation, consider the following joke, widely available on the internet:

Two tourists were driving through Louisiana. As they approached Natchitoches, they started arguing about the pronunciation of the town. They went back and forth until they stopped for lunch. At the counter, one tourist asked the employee, “Before we order, could you please settle an argument for us? Would you please pronounce where we are very slowly?” The guy leaned over the counter and said, “Burr-gerrr Kiiiing.”

The punch line here is a relevant – and thus informative – response to the question of how to pronounce *where we are*. It is, however, marked, in that the employee has interpreted *where we are* much more narrowly, as the restaurant, rather than the town, which would be the most salient response. His answer is also not the expected one given the unusual pronunciation of the town’s name, which certainly elicits this type of question regularly from those passing through who are unfamiliar with it, while the name of the restaurant would typically be assumed to be easy to pronounce. In terms of optimal innovation the response offers the right amount of innovation to arouse a sense of amusement. The salient and expected response (pronunciation of the city name) offers no innovation. A response that provides the name of a little-known, local restaurant would be unfamiliar to most listeners and thus not funny. The choice of Burger King offers both the element of surprise, while also being familiar enough to allow the hearer to resolve the incongruity.

In comprehending a joke like this, Giora’s model posits that top-down, contextual information and bottom-up, linguistic information initially work on parallel tracks. Salient meanings are more readily available and are always accessed. In serious discourse, the salient meaning and context often match. However, when the most salient lexical information does not match the context, a less salient meaning must be accessed and the utterance reinterpreted in light of that meaning. Experimental evidence in favor of this model of humor processing, in addition to that produced by Giora and her colleagues, is growing (e. g., Coulson and Kutas 2001, Vaid et al. 2003). Another theory, compatible with Giora’s, is Seana Coulson’s space-structuring model.

3.1.2. *Coulson’s space-structuring model*

To explain how humor is comprehended, Seana Coulson’s space structuring model relies on the concept of frame-shifting (Coulson and Kutas 2001). From this perspective, frames are used by hearers to actively build cognitive models of the ongoing discourse situation, which are used to guide their expectations. In the Burger King joke above, hearers construct a model (rather than merely accessing a pre-existing model) of an information-seeking situation in which the pronunciation of an unusual name is sought. The employee’s answer forces the hearers to reconstruct that model into one in which *this place* has been interpreted much more narrowly than the couple anticipated. This reinterpretation is the frame shift. Using a variety

of experimental techniques (self-paced reading, event related potentials [ERPs], and eye-tracking), the validity of frame-shifting in such cases has been established (see Coulson 2015 for an overview). Furthermore, this work as a whole has demonstrated that joke comprehension is cognitively demanding. There is a processing cost associated with humor, as readers (in the case of Coulson's studies) backtrack and revisit the prior context, apparently to help them make sense of the incongruous portion of the text. Furthermore, both eye-tracking and ERP data indicate that the processing cost associated with interpreting humor is not merely due to word recognition, but is instead associated with higher level processing.

Finally, it is worth noting that it is quite possible that our models of humor comprehension will develop increasing complexity. Based on the findings of an ERP study of joke processing, Coulson and Kutas (2001) suggested that a two-stage model, wherein surprise is followed by a reanalysis, which allows a return to coherence, is too simple. Since then, some evidence has been found to suggest that a three-stage model in which the affective dimension of humor (mirth, appreciation) represents a third stage is more accurate (e. g. Du et al. 2013; Amir et al. 2015).

3.2. Comprehension of humor in a second language

Despite interest in the ways that L2 users interpret figurative language in general (e. g. Chen and Lai 2014; Slabakova, Amaro and Kang 2016), the more narrow study of humor comprehension by L2 users remains a neglected topic. In addition to the paucity of studies on this subject, L2 humor interpretation has also been examined largely from a qualitative perspective, with virtually no attention given to experimental methods. It is certainly possible that, given the basic structure of humor, the interpretive procedures might be the same in an L1 and an L2. On the other hand, the processing demands that humor comprehension places on hearers would lead us to expect it to be, at least, more challenging in an L2. In fact, in a study of the problems that advanced L2 users encountered in trying to understand humor, Bell and Attardo (2010) found that the issues they faced in detecting, comprehending, and appreciating humor seemed to be the same as those faced by L1 users. The difference was simply one of quantity: these problems occurred more frequently for the L2 users, largely due to gaps in their L2 cultural, pragmatic, or linguistic knowledge. The scant research into L2 humor and irony comprehension points to some tentative findings, some supporting the idea that humor comprehension is the same no matter what language is used and others suggesting it may not be. Perhaps most importantly, this body of work provides intriguing avenues for further exploration. Below we examine these findings with an eye to understanding how language, L2 proficiency, and interlocutor factors may affect L2 humor interpretation.

3.2.1. *Language and humor comprehension*

A fairly recent topic in applied linguistics has involved the effects of language choice on emotions. Do we perceive and appreciate humor differently in each language we use? While anecdotal evidence exists for differential humor comprehension and appreciation, a survey study of balanced Spanish-English bilinguals designed by Vaid (2006) found that this was not the case. Although largely centered on production, only a minority of the participants in the study reported that their sense of humor changed depending on which language they were using or that they thought they came across as having a different sense of humor than they felt they had.

One experimental study, however, suggests that language does indeed affect emotional response and specifically may influence how funny a joke is perceived to be. Erdodi and Lajiness-O'Neill (2012) asked Americans, Hungarians, and bilingual Hungarians who were raised in Hungary, but who had moved to the U.S. and were considered fully acculturated to rate how funny they found a set of 32 jokes. The Hungarian and American groups received the jokes in their native (and only) language, while the bilingual groups read half in Hungarian and half in English. The bilingual group self-assessed their English and Hungarian proficiency on a visual scale and were subsequently classified as balanced, English-dominant, or Hungarian dominant. The researchers hypothesized that jokes presented in a participant's dominant language would be deemed funnier than those presented in the weaker language. The jokes fell into four categories: non-aggressive sexual, ethnic, gay, and Eastern European. Although there was a non-significant trend among the bilinguals for finding jokes in their dominant language funnier, there was a significant difference with a large effect between the Hungarian vs. the English dominant bilinguals with respect to the jokes involving situations specific to Eastern Europe. For those jokes, Hungarian dominant bilinguals found them much funnier when presented in Hungarian than in English. Although the authors refer to this as a pilot study, it is important in demonstrating that the language in which a joke is presented may affect how funny it is perceived to be.

3.2.2. *L2 proficiency and humor comprehension*

The literature on L2 humor has generally assumed that its interpretation poses a challenge for L2 users. While this may be the case, humor comprehension certainly varies with proficiency and exposure to the target language, and some research even suggests that, for balanced bilinguals, there may be a humor advantage. For instance, in Vaid's (2006) survey a majority of participants agreed or strongly agreed with the following statement: "Knowing two languages and belonging to two cultures has expanded what I find funny – I find humor in more things compared to those who know only one language/culture" (Vaid 2006: 172). More recently, Vaid, Lopez and

Martinez (2015) asked English monolinguals and Spanish-English balanced bilinguals to read sentences on a computer screen and press a button to indicate whether the sentence was a joke or not. The recorded response times demonstrated that although the balanced bilinguals were slower than the monolinguals at identifying humor, they were more accurate in doing so. This finding is in keeping with other research that has shown bilinguals to be more flexible thinkers, but also suggests that, when it comes to identifying humor, they are also more careful and deliberate.

Such findings are interesting, but the question remains as to how humor comprehension works and develops across other, lower levels of L2 proficiency. For instance, Bouton's (1999) study of implicatures found that irony (often, but not always humorous) remained challenging even for participants who had been immersed in their L2 for 4–7 years. At the same time, qualitative research shows that even novices can participate in L2 humor, particularly when in communication with a supportive interlocutor (e. g. Davies 2003; also see below). At the same time, it seems generally safe to assume that understanding humorous discourse will tend to be more difficult for beginning L2 users than for more advanced users, given its linguistic, cultural and processing demands.

Although little work has been done to confirm this, Shively, Menke, and Manzón-Omundson's (2008) investigation of the perception of irony by learners of Spanish has demonstrated that understanding of ironic humor increases with proficiency. In this study, university students in their second, fourth, and sixth semesters of Spanish were asked to interpret the meaning of ironic utterances (not overtly identified as such for the participants) in movie scenes. They were also asked to indicate their understanding of the ironic speaker's tone of voice (e. g., authoritative, sad, joking) by checking selections from a list that always included sarcastic/ironic as one option. In addition to inquiring into changes in irony comprehension across the proficiency levels, the study was also designed to examine whether the audiovisual context facilitated learners in making their interpretations. This was done by providing only the written text to half the participants, while the other half viewed the film clips. Interestingly, being able to interpret the utterance in its context was only helpful to the advanced students. The authors suggested that the processing load required for lower level learners to merely decode and interpret the utterance may have been such that it precluded them from also being able to attend to nonverbal and other contextual information. Advanced learners, whose comprehension processes were likely to be more automated, were likely able to take advantage of these additional cues.

3.2.3. *Interlocutor influence on humor comprehension*

While proficiency is generally conceptualized in cognitive terms involving internal storage of and access to L2 forms, there is no denying that it is also social, formed and influenced by interaction. One factor that can strongly influence the degree to

which L2 users are able to construct themselves as proficient is the extent to which their interlocutor is willing and able to support the interaction in ways that are helpful to the L2 user. At present, three qualitative studies have found that humor seems to be a special case of indirect communication, in which those communicating with L2 users generally recognize humor as a challenging mode of discourse and make adjustments to ensure that their conversational partner understands the joke. Bell's (2007) longitudinal study of three L2 users, for example, found that jokes on ribald topics, such as sex and alcohol, were only rarely used in the presence of the L2 users. In addition, aggressive forms of humor, such as teasing, were generally avoided, likely because they carry more interactional risk, particularly if misunderstood. Finally, conversational partners reported being careful about their use of humor when speaking to these L2 users, noting specifically that they adjusted their lexical choices to ensure comprehension of any jokes they intended. In general, in the instances of intercultural interaction collected for that study, humor was constructed around familiar, concrete topics; it was rarely aggressive; and it was clearly contextualized as an attempt to amuse. Both Moalla (2015) and Shively (2015) also examined humor in naturally-occurring intercultural conversations and found virtually the same set of adjustments and accommodations made for L2 users. In addition, their L1 participants also reported that they were aware of the difficulties that humor could cause when interacting with L2 users and that they, therefore, made adjustments to the types, topics, and presentation of humor in those cases.

3.3. Summary and future directions

In this section we have presented two models of humor comprehension that have been used to examine L1 humor processing. While it seems likely that the basic structure of humor, and thus its comprehension, are likely to be similar for L1 and L2 users, the research on L2 humor comprehension reviewed here suggests that there may be differences attributable to – at least – language itself (including implicatures), L2 proficiency, and interlocutor factors. As this short review suggests, we are just beginning to understand how humor is comprehended in monolingual language users, thus many questions remain regarding the comprehension of L2 humor. Some of these are as follows:

1. *The developmental trajectory of humor comprehension.* At present, the best we are able to say regarding the ability to interpret L2 humor is that it improves with increased exposure to and proficiency in the L2. This is, however, a very general statement that gives us little idea of how learners begin to comprehend humor in a new language and what factors facilitate or impede that ability. Which types of humor are more easily understood and which take longer to acquire? How do different factors affect development? For instance, both Bell (2007) and Shively (2015) have noted that the adjustments interlocutors make

to assist L2 learners in participating in humorous interaction can also deprive learners of opportunities to engage with and thus develop the ability to comprehend more complex and culturally specific forms of humor and, as Shively noted, may even lead L2 users to believe, incorrectly, that certain forms of humor are not even used.

2. *The teachability of humor comprehension.* Related to the prior point, we know very little about the extent to which pedagogical innovations might be applied to guide learners toward better identification, comprehension, and appreciation of target language humor. With increasing research into the structure and functions of humor to draw on, teachers now have ample guidance if they wish to construct lessons based on empirical findings (e. g. Bell and Pomerantz 2015). However, little systematic research work has been done to explore the extent to which comprehension of humor can be increased, as well as which types of activities might facilitate this and how much time is necessary to do so. Kim's (2014, 2017) implementation of systemic-theoretical instruction showed an increase in the comprehension of sarcasm by Korean L2 learners of English, but beyond this thorough study we have little to go on.
3. *Type of humor and comprehension.* Among the factors that might be examined, specifically for how they interact with proficiency, consideration of different types of humor and the extent to which they are easier or more difficult for L2 users to interpret seems both useful and easy enough to explore. It is likely that verbal humor is more challenging than non-verbal humor (think slipping on a banana peel); however, verbal humor may rely on linguistic or non-linguistic knowledge. For instance, some humor uses puns, or relies on lexical or syntactic ambiguity, while other humor uses language, but not wordplay. Rather, understanding the joke hinges on knowledge of the world. Vaid, Lopez and Martinez (2015) found that both monolinguals and bilinguals took longer to identify a text as a joke when the humor relied on wordplay, rather than extra-linguistic factors, suggesting that this type of humor will be more challenging for L2 learners.
4. *Multimodal cues for humor.* Similar to work on implicatures, a growing number of studies are establishing the cues we rely on for detecting humorous intent. Where laughter was once assumed to be the main way of contextualizing humor and irony, we now recognize, through a variety of experimental studies, that non-verbal cues such as smiling (Attardo, Pickering and Baker 2011; Attardo et al. 2013; Kaukoma, Peräkylä and Ruusuvuori 2013) and certain bodily movements and gestures (Ford and Fox 2010; Gonzalez-Fuente, Escandell-Vidal and Prieto 2015) may be even more important. This work, however, has yet to include comparisons of what L1 and L2 users attend to in

conversation. As suggested by Shively, Menke and Manzón-Omundson (2008), in simply understanding the surface meaning of an utterance, the processing capacity of emerging bilinguals may reach its limit, rendering them unable to attend to these cues that we now understand to be crucial to the identification of humorous intent. Experimental studies that use eye-tracking or humor identification tasks will help us identify whether differences exist in what L2 learners at different levels of proficiency attend to when encountering humor and how that may change over time. In addition, these methods would be helpful for examining whether or not instruction in these cues changes L2 user behaviors.

4. Conclusion

In this chapter we have examined the comprehension of indirect meaning by L2 users, focusing on implicatures and humor. From this review, it should be clear that non-literal meanings are a) challenging for L2 users, and thus develop over a long period of time, and b) under-researched. Arguing for the teaching of conceptual fluency that would help L2 learners develop an understanding specifically of the foundation for L2 metaphors, Danesi (1992) has lamented the “‘literalness’ of learner discourse” (Danesi 1992: 491). Given the pervasiveness of non-literal language, the comprehension of indirect meaning is now recognized as an important part of L2 development, as it allows emergent bilinguals to take part in a broader range of L2 discourse and such participation, of course, is likely to lead to further L2 development. While the state of research at present has allowed us to describe some processes in detail, there remain abundant avenues for future research.

References

- Amir, Ori, Irving Biederman, Zhuangjun Wang and Xiaokun Xu
 2015 Ha ha! Versus aha! A direct comparison of humor to nonhumorous insight for determining the neural correlates of mirth. *Cerebral Cortex* 25: 1405–1413.
- Attardo, Salvatore
 1993 Violation of conversational maxims and cooperation: The case of jokes. *Journal of Pragmatics* 19: 537–558.
- Attardo, Salvatore, Lucy Pickering and Amanda Baker
 2011 Prosodic and multimodal markers of humor in conversation. *Pragmatics and Cognition* 19(2): 224–247.
- Attardo, Salvatore, Lucy Pickering, Fofó Lomotey and Shigehito Menjo
 2013 Multimodality in conversational humor. *Review of Cognitive Linguistics* 11(2): 402–416.
- Baron-Cohen, Simon, Alan M. Leslie and Uta Frith
 1985 Does the autistic child have a “theory of mind”? *Cognition* 21: 37–46.

- Bell, Nancy
2007 How native and non-native English speakers adapt to humor in intercultural interaction. *Humor* 20(1): 27–48.
- Bell, Nancy and Anne Pomerantz
2015 *Humor in the Classroom: A Guide for Language Teachers and Educational Researchers*. New York: Routledge.
- Bell, Nancy and Salvatore Attardo
2010 Failed humor: Issues in non-native speakers' appreciation and understanding of humor. *Intercultural Pragmatics* 7: 423–447.
- Bouton, Lawrence F.
1992 The interpretation of implicatures in English by NNS: Does it come automatically without being explicitly taught? In: Lawrence F. Bouton and Yamuna Kachru (eds.), *Pragmatics and Language Learning Monograph Series*, Volume 3, 64–77. Urbana-Champaign, IL: Division of English as an International Language.
- Bouton Lawrence F.
1994 Can NNS skill in interpreting implicatures in American English be improved through explicit instruction? A pilot study. In: Lawrence F. Bouton and Yamuna Kachru (eds.), *Pragmatics and Language Learning Monograph Series*, Volume 5, 88–108. Urbana-Champaign, IL: Division of English as an International Language.
- Bouton, Lawrence F.
1999 Developing nonnative speaker skills in interpreting conversational implicatures in English. In: Eli Hinkel (ed.), *Culture in Second Language Teaching and Learning*, 47–70. Cambridge: Cambridge University Press.
- Carrell, Patricia
1984 Inferencing in ESL: Presuppositions and implications of factive and implicature predicates. *Language Learning* 34: 1–19.
- Chen, Yi-chen and Huei-ling Lai
2014 The influence of cultural universality and specificity on EFL learners' comprehension of metaphor and metonymy. *International Journal of applied Linguistics* 24(3): 312–336.
- Cook, Misty and Anthony Liddicoat
2002 The development of comprehension in interlanguage pragmatics: The case of request strategies in English. *Australian Review of Applied Linguistics* 25: 19–39.
- Coulson, Seana and Marta Kutas
2001 Getting it: Human event-related brain response to jokes in good and poor comprehenders. *Neuroscience Letters* 316: 71–74.
- Coulson, Seana
2015 Frame-shifting and frame semantics: Joke comprehension on the space structuring model. In: Geert Brône, Kurt Feyaerts and Tony Veale (eds.), *Cognitive Linguistics and Humor Research*, 167–190. Berlin/Boston: De Gruyter Mouton.
- Danesi, Marcel
1992 Metaphorical competence in second language acquisition and second language teaching: The neglected dimension. In: James E. Alatis (ed.), *Georgetown University Round Table on Languages and Linguistics: Language, Communica-*

- tion, and Social Meaning*, 489–500). Washington, D.C.: Georgetown University Press.
- Davies, Catherine Evans
2003 How English-learners joke with native speakers: An interactional sociolinguistic perspective on humor as collaborative discourse across cultures. *Journal of Pragmatics* 35: 1361–1385.
- Du Bois, John W., Wallace L. Chafe, Charles Meyer and Sandra A. Thompson
2000 *Santa Barbara Corpus of Spoken American English*, Part 1. Philadelphia: Linguistic Data Consortium.
- Du, Xue, Yigui Qin, Shen Tu, Huazhan Yin, Ting Wang, Caiyun Yu and Jiang Qiu
2013 Differentiation of stages in joke comprehension: Evidence from an ERP study. *International Journal of Psychology* 48(2): 149–157.
- Dynel, Marta
2008 There is method in the humorous speaker's madness: Humour and Grice's model. *Lodz Papers in Pragmatics* 4(1): 159–185.
- Erdodi, Laszlo and Renee Lajiness-O'Neill
2012 Humor perception in bilinguals: Is language more than a code? *Humor* 25(4): 459–468.
- Ford, Cecelia and Barbara Fox
2010 Multiple practices for constructing laughables. In: Dagmar Barth-Weingarten, Elisabeth Reber and Margret Selting (eds.), *Prosody in Interaction*, 339–368. Amsterdam/Philadelphia: John Benjamins.
- Garcia, Paula
2004 Developmental differences in speech act recognition: A pragmatic awareness study. *Language Awareness* 13: 96–115.
- Giora, Rachel
1991 On the cognitive aspects of the joke. *Journal of Pragmatics* 16: 465–485.
- Giora, Rachel
2003 *On our Mind: Salience, Context, and Figurative Language*. New York: Oxford University Press.
- Giora, Rachel, Ofer Fein, Nurit Kotler and Noa Shuval
2015 In Geert Brône, Kurt Feyaerts, and Tony Veale (eds.), *Cognitive Linguistics and Humor Research*, 129–146. Berlin/Boston: De Gruyter Mouton.
- Gonzalez-Fuente, Santiago, Victoria Escandell-Vidal and Pilar Prieto
2015 Gestural codas pave the way to the understanding of verbal irony. *Journal of Pragmatics* 90: 26–47.
- Grice, H. Paul
1975 Logic and conversation. In: Peter Cole and Jerry L. Morgan (eds.), *Syntax and Semantics*, Volume 3: *Speech Acts*, 41–58. New York: Academic Press.
- Grice, H. Paul
1989 *Studies in the Way of Words*. Cambridge, MA: Harvard University Press.
- Kasper, Gabriele
2001 Four perspectives on L2 pragmatic development. *Applied Linguistics* 22: 502–530.
- Kaukomaa, Timo, Anssi Peräkylä and Johanna Ruusuvuori
2013 Turn-opening smiles: Facial expression constructing emotional transition in conversation. *Journal of Pragmatics* 55: 21–42.

- Keckses, Istvan
2014 *Intercultural Pragmatics*. New York: Oxford University Press.
- Kim, Jiyun
2014 How Korean EFL learners understand sarcasm in L2 English. *Journal of Pragmatics* 60: 193–206.
- Kim, Jiyun
2017 Teaching language learners how to understand sarcasm in L2 English. In: Nancy Bell (ed.), *Multiple Perspectives on Language Play*, 317–346. Berlin/Boston: De Gruyter Mouton.
- Koike, Dale A.
1996 Transfer of pragmatic competence and suggestions in Spanish foreign language learning. In: Susan Gass and Joyce Neu (eds.), *Speech Acts Across Cultures*, 257–281. Berlin: Mouton de Gruyter.
- Moalla, Asma
2015 Intercultural strategies to co-construct and interpret humor. *International Journal of Applied Linguistics* 25(3): 366–385.
- Morgan, Jerry L.
1978 Two types of convention in indirect speech acts. In: Peter Cole (ed.), *Syntax and Semantics*, Volume 9: *Pragmatics*, 261–280. New York: Academic Press.
- Raskin, Victor and Salvatore Attardo
1994 Non-literality and non-bona-fide in language: An approach to formal and computational treatments of humor. *Pragmatics and Cognition* 2(1): 31–69.
- Roever, Carsten
2005 *Testing ESL Pragmatics*. Frankfurt: Peter Lang.
- Roever, Carsten
2013 Testing implicatures under operational conditions. In: Gabriele Kasper and Steven Ross (eds.), *Assessing Second Language Pragmatics*, 43–64. New York: Palgrave-MacMillan.
- Shively, Rachel
2015 Joking around during study abroad: Humor in everyday conversation in Spain. Paper presented at the Second Language Research Forum, Atlanta, GA, 29–31 October 2015.
- Shively, Rachel, Mandy Menke and Sandra Manzón-Omundson
2008 Perception of irony by L2 learners of Spanish. *Issues in Applied Linguistics* 16(2): 101–132.
- Slabakova, Roumyana, Jennifer Cabrelli Amaro and Sang Kyun Kang
2016 Regular and novel metonymy: Can you curl up with a good Agatha Christie in your second language? *Applied Linguistics* 37(2): 175–196.
- Sperber, Dan and Deirdre Wilson
1995 *Relevance: Communication and Cognition* (2nd edition). Cambridge: Cambridge University Press.
- Sperber, Dan and Deirdre Wilson
1998 The mapping between the mental and the public lexicon. In: Peter Carruthers and Jill Boucher (eds.), *Language and Thought: Interdisciplinary Themes*, 184–200. Cambridge: Cambridge University Press.
- Taguchi, Naoko, Shai Li and Yan Liu
2013 Comprehension of conversational implicatures in L2 Chinese. *Pragmatics and Cognition* 21: 139–157.

- Taguchi, Naoko
2005 Comprehending implied meaning in English as a second language. *Modern Language Journal* 89: 543–562.
- Taguchi, Naoko
2007 Development of speed and accuracy in pragmatic comprehension in English as a foreign language. *TESOL Quarterly* 41: 313–338.
- Taguchi, Naoko
2008a Cognition, language contact, and development of pragmatic comprehension in a study-abroad context. *Language Learning* 58: 33–71.
- Taguchi, Naoko
2008b Pragmatic comprehension in Japanese as a foreign language. *Modern Language Journal* 92: 558–576.
- Taguchi, Naoko
2008c The effect of working memory, semantic access, and listening abilities on the comprehension of conversational implicatures in L2 English. *Pragmatics and Cognition* 16: 517–538.
- Taguchi, Naoko
2008d The role of learning environment in the development of pragmatic comprehension: A comparison of gains between EFL and ESL learners. *Studies in Second Language Acquisition* 30: 423–452.
- Taguchi, Naoko
2009 Corpus-informed assessment of comprehension of conversational implicatures in L2 English. *TESOL Quarterly* 43(4): 738–749.
- Taguchi, Naoko
2011 The effect of L2 proficiency and study-abroad experience in pragmatic comprehension. *Language Learning* 61: 904–939.
- Taguchi, Naoko
2012 *Context, Individual Differences, and Pragmatic Competence*. New York/Bristol: Multilingual Matters.
- Thomas, Jenny
1995 *Meaning in Interaction: An Introduction to Pragmatics*. London: Longman.
- Vaid, Jyotsna, Rachel Hull, Roberto Heredia, David Gerken and Francisco Martinez
2003 Getting a joke: The time course of meaning activation in verbal humor. *Journal of Pragmatics* 35: 1431–1449.
- Vaid, Jyotsna
2006 Joking across languages: Perspectives on humor, emotion, and bilingualism. In: Aneta Pavlenko (ed.), *Bilingual Minds: Emotional Experience, Expression, and Representation*, 152–182. Clevedon: Multilingual Matters.
- Vaid, Jyotsna, Belem Lopez and Francisco Martinez
2015 Linking the figurative to the creative: Bilinguals' comprehension of metaphors, jokes, and remote associates. In: Roberto Heredia and Anna Cieslicka (eds.), *Bilingual Figurative Language Processing*, 53–86). Cambridge: Cambridge University Press.
- Wang, Stanley, Stephanie Brophy and Carsten Roever
2014 Learner background factors and learning of second language pragmatics. *International Review of Applied Linguistics* 52: 377–401.

Yamanaka, Janice

2003 Effects of proficiency and length of residence on the pragmatic comprehension of Japanese ESL Learners. *Second Language Studies* 22: 107–175.

Yus, Francisco

2003 Humor and the search for relevance. *Journal of Pragmatics* 35: 1295–1331.

Yus, Francisco

2008 A relevance-theoretic classification of jokes. *Lodz Papers in Pragmatics* 4(1): 131–157.

13. Pragmatic transfer

J. César Félix-Brasdefer

Abstract: This chapter offers a comprehensive analysis of the concept of pragmatic transfer in second language (L2) pragmatics. Pragmatic transfer, a recurrent topic in L2 pragmatics research, is broadly defined as the “effect of L1 sociopragmatic or pragmalinguistic knowledge on second language pragmatics (but can also proceed from second to the first language), and can be positive or negative” (Taguchi and Roever 2017: 16). In this chapter, I present a review of pragmatic transfer with attention to the pragmatic target analyzed, methods used, native speaker and learner populations, and central issues examined to account for pragmatic transfer in foreign and second language contexts. I focus on the structural and non-structural factors that are necessary for pragmatic transfer to occur. Finally, I end this chapter with future directions for furthering our understanding of pragmatic transfer in different learning contexts.

1. Introduction

Second language (L2) pragmatics, like Second Language Acquisition (SLA) and Pragmatics, is an interdisciplinary field that has been studied from various theoretical and methodological perspectives. Researchers in SLA often refer to three linguistic systems: 1) the interlanguage, or the language produced by second language learners (IL); 2) the learner’s native language (NL), also called the mother tongue, or the first language (L1); and, 3) the target language (TL) or the language being learned (Selinker 1972). In this chapter, I adopt Crystal’s (1997: 301) definition of pragmatics to examine communicative action at the utterance and discourse levels: “the study of language from the point of view of users, especially of the choices they make, the constraints they encounter in using language in social interaction and the effects their use of language has on other participants in the act of communication.” Pragmatic transfer represents a recurrent topic in L2 pragmatics research and is generally defined as the “effect of L1 sociopragmatic or pragmalinguistic knowledge on second language pragmatics (but can also proceed from second to the first language), and can be positive or negative” (Taguchi and Roever 2017: 16). While pragmalinguistic knowledge refers to the grammar (or linguistic resources) for the service of pragmatics, sociopragmatic knowledge centers on the learner’s ability to communicate appropriately (e. g., knowledge of polite and impolite behavior, perception of social power and distance, and degree of imposition). (See Li [2018] for a

<https://doi.org/10.1515/9783110431056-013>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 361–391. Berlin/Boston: De Gruyter Mouton.

recent overview of pragmatic transfer in foreign (FL) and second language (SL) contexts).¹

This chapter is organized as follows. In Section 2, I present an overview of language transfer based on early work on applied linguistics and SLA. In Section 3, I explain the notion of pragmatic knowledge and types of pragmatic transfer, namely, pragmalinguistic and sociopragmatic transfer. Section 4 offers a selective account of research on pragmatic transfer with regard to the structural and non-structural factors that are necessary for pragmatic transfer to occur. In Section 5, I offer a selective account of 42 studies that address critical issues on pragmatic transfer, taking into account the pragmatic target analyzed, the data collection method used, the characteristics of the learners and NSs, and central issues examined to account for pragmatic transfer in foreign and second language contexts. Finally, I end this chapter with future directions (Section 6).

2. Defining the scope of transfer

The concept of transfer was influenced by early applied linguists in Contrastive Analysis that attempted to account for language transfer resulting from the NL to the TL (Fries 1945), Weinreich's (1953) notion of transfer as a result of languages in contact or bilingual studies, and Lado's (1957) influential work on transfer from the NL to the TL for pedagogical purposes. In his model of "transfer grammar," Harris (1954) accounted for differences in the grammatical structure of two languages at the phonological, morphological, and syntactic level. He noted that this model was useful for shedding light on the learning of second languages by looking at the differences between the NL and the FL, alluding to instances of transfer from the L1 to the target language. With regard to Contrastive Analysis and FL learning, Lado observed that

individuals tend to transfer the forms and meanings, and the distribution of forms and meanings of their native language and culture to the foreign language and culture – both productively when attempting to speak the language and to act in the culture, and receptively when attempting to grasp and understand the language and the culture as practiced by natives (Lado 1957: 2)

¹ For the purposes of the present study, SL–FL distinction (target language) will refer to the following: a SL is presumably being learned in a context where that language is used by the dominant language group (e. g., Germans studying Spanish in Mexico) and a FL is being learned in a formal context where the language may have far more limited use (e. g., Americans studying Spanish at Indiana University).

The focus of Contrastive Analysis was on contrasting structural features of the NL and the learner's TL with attention to analysis of learner data or language learning over time. This understanding makes general reference to transfer of meanings, including conventional and non-conventional meanings, and sociocultural information to the TL.

In the early 1960s, second language researchers made efforts to develop the notion of transfer from a cognitive perspective with a focus on the learning process. For example, Selinker (1969) examined language transfer with experimental studies that looked at syntactic transfer among Hebrew learners of English. Specifically, Selinker analyzed the conditions that are necessary for transfer to occur. He operationalized language transfer as "a process occurring from the native to the foreign language if frequency analysis shows that a statistically significant trend in the speaker's native language appears toward the same alternative in the speaker's interlanguage behavior" (Selinker 1969: 90). In his 1972 paper, the author argued for interlingual identifications with three types of data sets: NS, TL, and interlanguage. Further, Odlin (1989) provided an in-depth analysis of transfer with regard to structural (phonological, syntactic, semantic, and discourse) and non-structural factors (individual factors, proficiency, and the social context) that may influence transfer from the NL to the target language (FL or SL). Odlin (1989: 27) defined transfer as "the influence resulting from similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired." The notion of transfer was later re-examined at different structural levels, looking at phonological, semantic, syntactic, and, to a lesser degree, discourse transfer (see for example, edited volumes by Gass and Selinker 1983 [1994]). Finally, in his detailed analysis of language transfer, Ellis (2008) also looked at the structural and non-structural conditions necessary for linguistic transfer to occur. Based on previous accounts of transfer (Odlin 1989; Jarvis 2000), Ellis defined language transfer as

any instance of learner data where a statistically significant correlation (or probability based-relation) is shown to exist between some feature of the target language and any other language that has been previously acquired. (Ellis 2008: 351)

Although there is no agreement among researchers on a common definition of the term 'transfer' (vs. interference or borrowing) (e. g., Corder 1994; Schachter 1994), transfer is generally understood as the influence from the NL and from any other language(s) that has been previously acquired, including the learner as a multilingual speaker in intercultural situations. The focus is on the learner's production and comprehension of forms and meanings, including conventional and non-conventional meanings resulting from any influence of (an)other language(s) that has been acquired or is in the process of being learned. This includes both transfer from the L1 to the L2 (target language, FL or SL) (forward transfer) or transfer from the L2 to the L1 (backward transfer) (Cenoz 2003). In the next section, I provide

a selective account of our current understanding of the notion of transfer at the utterance and discourse levels.

3. Pragmatic competence and types of pragmatic transfer

Following Leech (1983) and Thomas (1983), researchers in L2 pragmatics generally distinguish between two types of pragmatic competence. *Pragmalinguistic competence* refers to knowledge about and performance of the conventions of language use or the linguistic resources available in a given language that convey “particular illocutions” in contextually appropriate situations (Leech 1983: 11). It includes knowledge of the performance of speech acts (e. g., directness, conventional indirectness) and the linguistic and non-linguistic resources (e. g., prosody, such as high and low pitch) used to convey pragmatic meaning. For example, the linguistic resources used to express an apology (e. g., *I'm [so, very, awfully, terribly] sorry; I apologize; please forgive me*) or a request for a letter or recommendation (e. g., *Can/Could you please...; I was wondering if it would be possible for you to write a letter*). In contrast, *sociopragmatic competence* refers to knowledge about and performance consistent with the social norms in specific situations in a given society, as well as familiarity with assessments of (im)politeness and variables of social power and social distance (Thomas 1983). To illustrate, the form *I can't* (literal form) can be used in English to express a refusal to an invitation. But when refusing an invitation to a birthday party a speaker can select from a variety of other linguistic forms to convey the refusal, for example: *Thanks, but I really can't; I'm sorry, but I have plans; I don't know, I have to think about it*. Further, sociopragmatic knowledge encompasses knowledge of what expressions are appropriate (or are not appropriate) to use in an L2 when refusing a professor's advice to take a class or apologizing to a friend for crashing his/her car over the weekend. It includes perceptions of sociocultural norms of what is considered appropriate (or inappropriate) during the production and perception of communicative action. Sociopragmatic knowledge includes perception not only of speech acts (e. g., apologizing, complaining, refusing), but also any other type of social practice that involves the inference of pragmatic meaning, such as the assessment of (im)polite behavior, the interpretation of forms of address in formal and informal contexts, or the understanding of irony and humor.

Overall, for an expression to be pragmatically appropriate (e. g., a request for a letter or recommendation for a professor, ‘I was wondering if you could write a recommendation for graduate school’), it has to be used in the appropriate sociocultural context and according to the sociocultural expectations of the target culture. Thus, the pragmalinguistic and sociopragmatic distinction cannot be separable, and should be understood as two sides of the same coin.

Following Thomas' (1983) initial conceptualization of pragmatic transfer,

Kasper (1992) revised the notion of pragmalinguistic and sociopragmatic transfer as follows. Pragmalinguistic transfer refers to the “process whereby the illocutionary force or politeness value assigned to particular linguistic material in L1 influences learners’ perception and production of form-function mappings in L2” (Kasper 1992: 209). It includes transfer of use of grammatical (pragmalinguistic) resources for the service of pragmatics. In contrast, sociopragmatic transfer occurs “when the social perceptions underlying language users’ interpretation and performance of linguistic action in L2 are influenced by the assessment of subjectively equivalent L1 contexts” (Kasper 1992: 209). Overall, this type of transfer is more complex and more difficult to learn, as it requires knowledge of the sociocultural expectations (and contextual factors) of what is considered appropriate or inappropriate from the L1 to a second or third language.

Following previous notions of cross-linguistic transfer (Lado 1957; also Selinker 1969 and Ellis 2008), Kasper (1998) defines pragmatic transfer as follows: positive transfer occurs “when learners’ production of a pragmatic feature is the same (structurally, functionally, distributionally) as a feature used by target language speakers in the same context and when this feature is paralleled by a feature in learners’ L1” (Kasper 1998: 193). Negative transfer, on the other hand, is observed “when a pragmatic feature in the interlanguage is (structurally, functionally, distributionally) the same as in L1 but different from L2” (Kasper 1992: 194). In the following section, I will explain and illustrate some of the most frequent structural and non-structural factors (e. g., proficiency level, learning context) that account for pragmatic transfer.

4. Research on pragmatic transfer

Kasper’s (1992) pioneer study, and later research on L2 pragmatics (e. g., Kasper 2001; Kasper and Rose 2002; Kasper and Schmidt 1996), offer an assessment of pragmatic transfer from a cognitive and developmental SLA perspective. Takahashi (1996, 2000; see also Kasper and Rose 2002) expands the scope on the conditions of pragmatic transfer (e. g., transferability) and the interaction of transfer with non-structural factors (e. g., proficiency, length of residence, context of learning). Further, Beebe, Takahashi and Uliss-Weltz (1990) influenced our understanding of pragmatic transfer with their study among Japanese learners of English found in the frequency, content (or tone), and order of semantic formulas, including transfer of the NL (Japanese) to the TL in the use of direct and indirect refusals, and adjuncts to refusals. This study influenced research in other speech acts with regard to sociopragmatic transfer when refusing requests, offers, suggestions, and invitations in formal and informal contexts. Li (2018) offers a recent account on pragmatic transfer (pragmalinguistic and sociopragmatic) with reference to Chinese learners of English when requesting and refusing. Early empirical studies

on pragmatic transfer focused on speech acts. For instance, using a Discourse Completion Test (DCT), Cohen and Olshtain (1981) examined the speech act of apologies among speakers of Hebrew learning English (ESL) and data from NSs of Hebrew and NSs of English. Their findings showed instances of sociocultural Hebrew patterns when performing L2 apologies in English. In a different study that also looked at apologies, Olshtain (1983) analyzed role-play and perception data of Russian learners of English compared to NS data from English, Hebrew, and Russian. Transfer was found in the frequency and content of semantic formulas of apology (pragmalinguistic transfer) as well as in the perception of refusals from L1 to L2 contexts (sociopragmatic transfer). Pragmalinguistic transfer was also reported by Eisenstein and Bodman (1986) who analyzed the expression of gratitude among L2 learners. These authors noted that “[e]xtensive syntactic and lexical problems appeared in the written responses of all the advanced students” (Eisenstein and Bodman 1986: 175), including problems with intensifiers, tense, word order, and prepositions. These studies focused on pragmalinguistic transfer to L2 contexts with little attention to proficiency differences and the effect of the learning context. Further, in her study on L2 service encounters in Spain, Shively (2011) found evidence of pragmatic transfer in the perspective of the request for service. When asking for a service in commercial and non-commercial settings, American learners of Spanish used speaker-oriented requests (L1 transfer) (e. g. *Puedo tener* ‘Can I have...’) instead of the expected hearer request in Spain (e. g. *Me da or puede darme...* ‘Give me’ or ‘Can you give me’).

Research on sociopragmatic transfer has been conducted in different learning contexts. With learners in a second language context (studying English in the US), Robinson (1992) examined sociopragmatic transfer from Japanese L1 to L2 English using three methods to collect refusal data: a production questionnaire (DCT) and two types of verbal reports, concurrent and retrospective. During the task, ESL learners were instructed to think aloud about what they were writing, explaining the process of how they arrived at their response. The learners planned an indirect refusal, transferring their knowledge of the Japanese culture. The results of the verbal reports showed that learners were aware of appropriate ways to refuse in US English, reporting that it is appropriate to give a direct refusal in English: “saying a true feeling,” or being indirect, “is not a bad idea in the States” (Robinson 1992: 63). Studying learners in a FL context (i. e., Americans learning Spanish in the US), Félix-Brasdefer (2008) found evidence of sociopragmatic transfer in the perception of refusals to invitations among Spanish learners. Specifically, retrospective verbal reports revealed that learners transferred their sociocultural norms of refusing from L1 English to L2 Spanish, resulting in negative sociopragmatic transfer. In a different FL setting, Li (2018) analyzed sociopragmatic transfer among Chinese learners of English in China with attention to the effects of relative power (refusals and requests) and the size of the imposition of requests. Overall, learners (low and high proficiency levels) showed more sensitivity to social power than to size of

imposition when making requests. Within the context of heritage language learners, Elias (2016) examined sociopragmatic transfer of refusals to invitations among nine bilingual Spanish heritage speakers using role-play data and retrospective verbal reports. The heritage language learners were second-generation Spanish speakers of Mexican descent, were born in the United States, and both parents were born in Mexico. The author found transfer in the speaker's perceptions with regard to sociocultural norms of what is considered an appropriate refusal in English and Spanish, as well as the perception of insistence to an invitation in both English and Spanish.

Other studies examined the effect of non-structural factors such as proficiency and the learning context as conditioning factors of pragmatic transfer. For instance, Takahashi and Beebe (1987) addressed the issue of pragmatic transfer by looking at written L2 refusal data (DCTs) among NSs of Japanese learners of English in two learning contexts (EFL and ESL) and at two proficiency levels (low and high). Refusal data from NSs of Japanese and English were compared to the learner data. Their findings showed evidence of pragmatic transfer among the learners in both learning contexts and at both proficiency levels in the order, frequency, and content of direct and indirect refusals. More importantly, pragmatic transfer was conditioned by the learning context and proficiency level: transfer in the frequency, tone, and order of semantic formulas predominated in the ESL and high proficiency groups, and less transfer was noted among the EFL and low-proficiency learners. The authors proposed the positive correlation hypothesis: pragmatic transfer increases with higher proficiency, that is, "higher proficiency learners transfer more than lower proficiency learners" (Takahashi and Beebe 1987: 149) because advanced learners have "the rope to hang themselves with" (Takahashi and Beebe 1987: 151).

The positive correlation hypothesis between transfer and proficiency proposed by Takahashi and Beebe (1987) was tested in other studies with different speech acts, various data collection methods, and diverse learner populations. For instance, Maeshiba et al. (1996) examined the effect of proficiency among Japanese learners of English (ESL) when producing (in a written questionnaire) and assessing (through an assessment questionnaire) L2 apologies at two proficiency levels: intermediate and advanced. Their findings did not support the positive correlation hypothesis, as intermediate learners transferred more features (in six instances) from their NL to L2 English than the advanced learners who only transferred in two instances. Thus, Maeshiba et al.'s study accounted for the negative correlation view according to which learners' language proficiency is negatively correlated with pragmatic transfer. However, their results should be analyzed with care as the advanced learner group in the Maeshiba et al.'s study was a mix of undergraduate and graduate students, where in Takahashi and Beebe only graduate students represented the advanced learners. Also, a DCT was used in Takahashi and Beebe, whereas two instruments were utilized in the Maeshiba et al.'s study: a

Dialogue Construction Questionnaire (production data in two turns) and an assessment questionnaire which asked questions regarding the learners' perceptions of social variables of the situation (social distance, social power, seriousness of the offense, obligation to apologize). Further, in a different study that looked at pragmatic transfer in L2 requests, Takahashi (1996) examined how learners' pragmatic transferability perception of L1 Japanese indirect request strategies is influenced by their L2 proficiency and the degree of imposition. The author defined pragmatic transferability as the "probability with which a given L1 indirect request strategy will be transferred relative to other L1 indirect request strategies" (Takahashi 1996: 195). The author used the following formula to measure transferability: pragmatic transferability rate = perception rate of the contextual appropriateness of the L1 request strategy + perception rate of the equivalence in contextual appropriateness between the L1 strategy and its L2 equivalent" (Takahashi (1996: 201). Two EFL groups (low and high proficiency) completed a transferability judgment questionnaire in which learners rated the appropriateness of the L1 indirect request strategy to corresponding L1 English contexts. Results showed no support for either the positive correlation hypothesis (between transfer and proficiency) which predicts that pragmatic transfer increases with proficiency, or for the negative correlation hypothesis, which predicts that pragmatic transfer is more frequent in lower proficiency groups than among learners with higher proficiency. According to this study, other factors may influence pragmatic transfer such as familiarity with the situation and degree of imposition.

Pragmatic transfer among FL learners has also been examined with different speech acts and learner populations. For example, Félix-Brasdefer found evidence of pragmatic transfer from the NL to the TL when producing refusals (2004) and requests (2007). Specifically, Félix-Brasdefer (2004) showed that learners with short terms abroad (1 to 5 months) in the target culture transferred the frequency and content of direct and indirect refusals from L1 English to L2 Spanish contexts. In contrast, learners with longer lengths of residence abroad (9 to 30 months) showed less evidence of transfer and approximation to NS norms of the target culture. Similar results were found in Félix-Brasdefer (2007) in which more transfer was found among learners with a low proficiency level than among high proficiency learners who transferred less with regard to the type of direct and indirect requests and the perspective of the request, namely, speaker-oriented common in English (e. g., *Can I borrow your notes?*) vs. hearer-oriented preferred in Spanish (e. g., *Me prestas tus apuntes?* 'Can you lend me your notes?'). In his recent study of pragmatic transfer among EFL learners, Li (2018) lends support to the positive correlation hypothesis, that is, "negative transfer [both pragmalinguistic and sociopragmatic] increases as learners' language proficiency increases" (Li 2018: 209). Overall, in light of the mixed results with learners in a FL context (Félix-Brasdefer [support for the negative correlation hypothesis] and Li [support for the positive correlation hypothesis]), it is possible that the learning context and proficiency level influence

the degree of pragmatic transfer. In Félix-Brasdefer (2007) advanced learners spent time abroad, and the focus in the (2004) study was on sociopragmatic competence after spending different lengths of time abroad. Félix-Brasdefer collected the data through open role plays (face-to-face interactions), while Li used a written email questionnaire (DCT) to collect write data (non interactional data).

Further, Koike (1989) observed that performing speech acts in an L2 requires knowledge of both the grammatical/lexical level and the pragmatic level of use. Some evidence of transfer was found in one of the two request situations (DCT) with beginning learners transferring L1 politeness rules to the L2, producing requests similar to those in their L1. In a later study that looked at L2 suggestions, Koike (1996) examined the written production and perception of L2 suggestions among FL learners of Spanish. The author found evidence of transfer from L1 speech act knowledge to L2 understanding. And, in a different study that examined the pragmatic transfer in an L3, Koike and Palmiere (2011) looked at transfer of L1 and L2 requests by Spanish-speaking L3 learners of Portuguese as follows: speaker-based requests, their overuse of *please* and *thank you*, and the frequent use of addressee-based interrogative requests by heritage speaker learners of Spanish and L3 Portuguese. According to these authors, the modality, oral vs. written request, is another factor that influences pragmatic transfer. The oral modality elicits more features of spontaneous oral language than written data (DCTs), and thus, pragmatic transfer is also influenced by the selection of the modality – spoken vs. written.

Pragmatic transfer from the NL was also observed in longitudinal studies which looked at learners' ability to produce and comprehend communicative action over time. In his three-year observation of grammatical and communicative competence, Schmidt (1983) examined the pragmatic and discourse competence of a NS of Japanese learning English in Hawai'i, Wes, in formal and non formal contexts. Although Wes made little progress in his grammatical competence, his pragmatic and discourse ability improved over time. Pragmatic transfer from L1 Japanese norms was noted when producing acceptable speech acts such as complaints and non-conventional indirect requests (or hints) in L2 English. Other aspects of the learner's conversational ability in L2 English were transferred from L1 Japanese conversation. Unlike the previous study which focused on pragmatic development of English in Hawai'i (ESL), Cohen (1997) reports on his own learning experience with regard to his development of pragmatic ability when learning Japanese as a FL in Hawai'i during a first-year Japanese course. By the end of four months, the author reports development of his pragmatic ability to produce speech acts such as requesting, thanking, and apologizing, as well as some conversational strategies with Japanese speakers outside the class. Since Japanese was his eleventh foreign language, Cohen reported interference from other languages such as Spanish and Hebrew when choosing formality markers in conversation. He also mentions avoidance of negative pragmatic transfer when using appropriate address forms and other speech acts with his Japanese teacher.

The aforementioned studies provide evidence of pragmatic transfer from the L1 into the L2 (or L3) language. These studies show some support for Takahashi and Beebe's (1987) positive correlation hypothesis between transfer and increasing proficiency. Structural factors may influence pragmatic transfer among learners with low or high proficiency such as the type of speech act (e. g., refusals, requests, apologies), directness, mitigation, presence or absence of internal or external modification, or degree of conventional indirectness. For the most part, these studies looked at pragmalinguistic transfer with a focus on speech acts. Those studies that examined sociopragmatic transfer used verbal report protocols to examine the learners' processes with regard to appropriateness of transfer from the L1 to L2 (e. g., Elias 2016; Félix-Brasdefer 2008; Robinson 1992). Further, some of the non-structural factors conditioning pragmatic transfer include the learning context (EFL vs. ESL), proficiency level (low vs. high), length of residence in the target community, the familiarity of the situation, individual differences, the modality of the task (written vs. oral), and the learner's understanding of the sociocultural norms of what is considered appropriate or inappropriate behavior in the target culture. Finally, while most of the studies reviewed above provide evidence of pragmatic transfer from the L1 into the L2 (or L3, L4, ...) language, there is also the possibility for bi-directional transfer with evidence of backward transfer (L2 to L1) (Cenoz 2003) with learners of English that transfer some of the L2 pragmalinguistic features into Spanish, their L1, such as the use of indirect strategies and lexical and syntactic mitigators. For a recent overview of pragmatic transfer, see Li (2018: chapters 2 and 3).

The following section examines current issues of pragmatic transfer at the structural and non-structural level.

5. Current issues and topics on pragmatic transfer

In this section, I present a selective account of forty-two studies that address different dimensions of pragmatic transfer, including pragmalinguistic and sociopragmatic transfer. The studies were selected based on the following criteria: 'pragmatic transfer' was either mentioned in the title or was the main objective of the study. The list of studies below is by no means comprehensive. All studies were taken from journals and peer-reviewed book chapters.

The information in Table 1 is organized as follows: study, pragmatic target, data collection method (method), NS group, IL group, and main results. In 'main results' pragmatic transfer is understood as negative transfer from the NL to the L2 (forward transfer), transfer from the L2 to the L1 (backward transfer), or transfer from any previous language (L2, L3, L4, ...) to the current language being learned.

Table 1: Research on pragmatic transfer in L2 pragmatics (1980–2018)

Study	Pragmatic target	Method	NS Group	IL Group	Main results
Li (2018)	Requests & refusals	DCT (email production questionnaire)	35 NSs Mandarin Chinese 35 NSs Australian English	Chinese EFL learners 35 low level 35 high level	Pragmalinguistic (frequency, form content) and socio-pragmatic transfer (social power, size of imposition)
Voltmer (2018)	Requests (modal particles)	DCT Likert Scale	4 NSs of German	German learners of English	Negative sociopragmatic transfer (L2 inappropriate requests)
Barros García and Bachelor (2018)	Requests	DCT and Oral DCT	18	Heritage language learners 8 learners (L2 experiential, second semester Spanish) 8 learners (L2 control, second semester Spanish)	No evidence of pragmatic transfer among Heritage Speakers from English to Spanish
Al-Hhaza'leh (2018)	Apologies	DCT & Scaled Responses Questionnaire	40 NSs of British English	40 high level Jordanian EFL learners 40 low level Jordanian EFL learners	Negative sociopragmatic transfer (+social power influenced their perception)
Han and Burguc-Tazegül (2016)	Refusals	Role plays	18 NSs 9 NSs of British English 9 NSs of Turkish	18 EFL Turkish learners 9 low level 9 intermediate level	Direct refusals frequently used among low-level learners. Negative pragmatic transfer of L2 refusals in frequency and content.

Study	Pragmatic target	Method	NS Group	IL Group	Main results
Yun (2015)	Compliment responses	Conversational role play & Retrospective verbal report	20 NSs of English 20 NSs of Korean	20 Korean ESL intermediate learners of English (in the US)	Learners covertly transfer Korean cultural norms. Higher frequency of reject strategy in L2; Americans accepted compliments.
Turco, Dimroth and Braun (2015)	Prosody and lexical marking (information structure)	Production task responding to visual situations (one sentence per picture)	14 NS of Italian	14 German learners of Italian 14 Dutch learners of Italian	Transfer of information structure (prosodic marking) from L1 to L2. Learners produced polarity contrast markers more frequently than Italian NSs.
Babaie and Shahrokhi (2015)	Offering advice	DCT	20 NSs of English	82 Iranian EFL learners: Low level: 19 Mid level: 37 High level: 36	Pragmalinguistic transfer from L1 direct strategies to L2
Jiang (2015)	Refusals	DCT	38 NSs of Chinese 40 NSs of English	45 low level Chinese EFL learners 42 high level Chinese EFL	Pragmatic transfer in content and frequency of refusals. NSs of English used more direct refusals than EFL groups
Huwari and Al-Shboul (2015)	Refusals	DCT & Scaled-Response Questionnaire	15 NSs of US English 15 NSs of Jordanian Arabic	30 Jordanian intermediate EFL learners	Sociopragmatic transfer in the learners' perception.

Study	Pragmatic target	Method	NS Group	IL Group	Main results
Wijayanto and Surakarta (2014)	Refusals	DCT	20 NSs of British English 35 NSs of Japanese	50 intermediate learners of English	Transfer of content of refusal strategies from L1 Javanese cultural values to L2 (e. g., tentativeness & verbosity)
Tavakoli and Shirinbakhsh (2014)	Refusals	Role plays	20 NSs of Persian	24 Persian EFL learners: 8 elementary 8 intermediate 8 advanced	Transfer in the frequency and content of refusal strategies. Evidence of backward pragmatic transfer. Support for the positive correlation hypothesis (Takahashi & Beebe 1987)
Su (2012)	Apologies	DCT	30 NSs of US English 30 NSs of Chinese (Taiwan)	30 Chinese intermediate EFL learners 30 Chinese advanced EFL learners	Cross-linguistic influence from both directions were observed. Proficiency effects
Saeidi, Moghaddam and Gharagozlou (2014)	Promising	DCT	4 NSs of English (2 US & 2 British)	20 Iranian EFL learners	Transfer in the frequency & content of strategy types. Transfer of L1 sociopragmatic norms to L2
Bu (2012)	Requests	DCT	10 NSs of Chinese 10 NSs of English	10 low proficiency EFL learners of Chinese 10 high EFL proficiency learners of Chinese	Transfer in the frequency and content of semantic formulas. Partial support for the positive correlation hypothesis (Takahashi & Beebe 1987)

Study	Pragmatic target	Method	NS Group	IL Group	Main results
Phoocharoen-sil (2012)	Compliment responses	DCT	10 NSs of US English 10 NSs of Thai	10 Thai learners of EFL (low proficiency) 20 Thai learners of EFL (high proficiency)	Proficiency effects: high-proficiency learners approximate L2 English norms; did not support positive correlation hypotheses (Takahashi & Beebe 1987)
Koike and Palmiere (2011)	Requests	Oral DCT	5 NSs of Spanish 5 NSs of English	13 bilingual English-Spanish heritage speakers	Pragmatic transfer from L3. Some evidence of socio-pragmatic transfer in learners' perceptions. Heritage speaker group uses more deviations than the other two groups
Abed (2011)	Refusals	DCT	15 NSs of Iraqi Arabic 10 NSs of US English	30 Iraqi EFL learners	Pragmalinguistic transfer in the frequency and content of semantic formulas. Some sociopragmatic transfer.
Su (2010)	Requests	DCT	30 NSs of US English 30 NSs of Chinese (Taiwan)	30 Chinese intermediate EFL learners 30 Chinese advanced EFL learners	Evidence of bi-directional pragmatic transfer. Learners were more direct and less indirect than NSs of English.
Chang (2009)	Refusals	DCT	35 NSs of US English 40 NSs of Chinese	40 English-major freshman (low proficiency) 41 English-major seniors (high proficiency)	Transfer in the frequency and content of semantic formulas. Did not support Takahashi & Beebe's (1987) positive correlation hypothesis

Study	Pragmatic target	Method	NS Group	IL Group	Main results
Tran (2008)	Compliment responses	Naturalized Role Play	20 NSs of Australian English 20 NSs of Vietnamese	20 Vietnamese advanced learners of English	Transfer in the selection of semantic formulas from L1 Vietnamese to L2 English.
Wannaruk (2008)	Refusals	DCT	40 NSs of US English 40 NSs of Thai	40 Thai EFL learners	Transfer in the frequency, content, and type of refusal strategy. Sociopragmatic transfer
Keshavarz, Eslami and Ghahraman (2006)	Refusals	DCT & Semi-Structured Interviews	40 Iranian NSs of Persian 37 NS of US English	22 Iranian beginning EFL learners 43 Iranian advanced intermediate	Pragmalinguistic transfer in the frequency/content of semantic formulas. Socio-pragmatic transfer (learners' perceptions)
Koike and Flanzer (2004)	Requests and apologies	DCT		10 bilingual English-Spanish heritage speakers 20 US learners of Spanish	Transfer from the L1 (Spanish) to L3 Portuguese. Greater transfer when languages are typologically similar
Al-Issa (2003)	Refusals	DCT & Semi-Structured Interviews	50 NSs of Arabic (Jordan) 50 NSs of US English	Jordanian intermediate EFL learners	Transfer in the content of semantic formulas, and length of responses. Socio-pragmatic transfer (perceptions of L2 cultural norms).
Tran (2002)	Complaints	DCT	18 NSs of English	18 Vietnamese learners of English (advanced-intermediate)	Pragmalinguistic transfer in the frequency and selection of complaining strategies

Study	Pragmatic target	Method	NS Group	IL Group	Main results
Itakura (2002)	Topic Development	Elicited Conversation	1 Japanese-Japanese 10-minute conversation	1 learner-learner conversation in L2 English (Japanese EFL)	Transfer of L1 discourse norms to L2
DeCapua (1998)	Complaints	DCT	50 NSs of US English 50 NSs of German	NSs of English provided two data sets: L1 English and L2 German	Pragmalinguistic transfer in frequency/selection of semantic formulas. Sociopragmatic transfer in cultural values, L1 German to L2 English
Kang and Lim-Chang (1998)	Agreement-disagreement Sequences	Questionnaire & Interview	45 Korean speakers of English	5 NSs of English (children)	Transfer from L1 to L2 in disagreement responses. Backward transfer (L2 to L1) in use of negative questions. Sociopragmatic transfer in norms of indirectness and politeness
Doğançay-Aktuna and Kâmişli (1997)	Chastisements	DCT	80 NSs of Turkish 14 NSs of US English	68 Turkish EFL learners	Pragmalinguistic transfer in strategy type and frequency
Saito and Beecken (1997)	Compliment responses	Oral DCT	10 NSs of US English 10 NSs of Japanese	10 US learners of Japanese (3 years studying Japanese)	Pragmalinguistic transfer (non-use of avoidance strategies in L2).

Study	Pragmatic target	Method	NS Group	IL Group	Main results
Holist (1997)	Requests, refusal, disagreement, embarrassing comment	DCT	18 NSs of English	37 NSs Japanese learners of English (high school teachers). Responded in Japanese and English	Pragmalinguistic transfer of L1 indirect strategies to L2 English. Some evidence of sociopragmatic transfer (power differences)
Koike (1996)	Suggestions	DCT, Understanding of a speech act, & Likert Scale	7 NSs of Spanish	46 L2 Spanish (first year) 34 L2 Spanish (second year) 34 L2 Spanish (third & fourth year)	Transfer from L1 speech act knowledge to L2 understanding. Misunderstanding of the intent of the speech act by advanced group. Proficiency effects
Takahashi (1996)	Indirect Requests	Judgment Questionnaire		65 low proficiency Japanese EFL learners 77 high proficiency EFL learners	Sociopragmatic transfer. Little proficiency effect on the learners' perception of L1 requests
Maeshiba et al. (1996)	Apologies	Dialogue Construction Questionnaire & Assessment questionnaire	30 NSs of English 30 NSs of Japanese	30 Japanese intermediate learners of English 30 Japanese advanced learners of English	Intermediate learners displayed higher evidence of pragmatic transfer than advanced learners. Sociopragmatic transfer at the perception level

Study	Pragmatic target	Method	NS Group	IL Group	Main results
Scarcella (1994)	Conversational features	Conversational dyads & play-back interviews	15 NSs of Mexican Spanish (5 dyads) 15 NSs of US English (5 dyads)	Five dyads between NSs of English and Mexican speakers of English L2 (advanced proficiency) (5 dyads)	Discourse transfer from L1 Spanish to L2 English in use of conversational features (sequence of topic, topic selection, abrupt topic shifts, interruption, repetition)
Liu (1995)	Compliment Responses	Observation + Metapragmatic Questionnaire (cultural values in Chinese & English)		20 Chinese learners of English	Sociopragmatic transfer. Raising awareness of socio-cultural values in compliment responses and cultural values in Chinese and L2 English
Ghawi (1993)	Apologies	Oral DCT & Short Interview	17 NSs of English 17 NSs of Arabic	17 Arabic learners of English	Pragmalinguistic transfer in the frequency and selection of semantic formulas. Sociopragmatic transfer in learners' perceptions of apologizing in L2
Beebe et al. (1990)	Refusals	DCT	20 NSs of US English 20 NSs of Japanese	20 Japanese learners of English	Pragmalinguistic & socio-pragmatic transfer in the order, content, and frequency of refusals

Study	Pragmatic target	Method	NS Group	IL Group	Main results
Takahashi and Beebe (1987)	Refusals	DCT	20 NSs of Japanese 20 NSs of English	20 Japanese learners of English in Japan (EFL); 10 undergraduates (low proficiency); 10 graduates (high proficiency) 20 Japanese learners of English in the US (ESL); 10 undergraduates (low proficiency); 10 graduates (high proficiency)	Transfer in both EFL and ESL contexts at both proficiency levels. More transfer in EFL groups. More transfer in high proficiency learners: content, selection, and frequency of semantic formulas. Positive correlation between transfer and proficiency
Olshtain (1983)	Apologies	Role play, verbal reports	12 NSs of Hebrew 12 NSs of US English 12 NSs of Russian	13 US learners of Hebrew 14 Russian learners of Hebrew	Pragmalinguistic transfer in the frequency and content of apologies. Sociopragmatic transfer (perception of apology)
Cohen and Olshtain (1981)	Apologies	DCT	12 NSs of English	32 NSs of Hebrew learning English (intermediate ESL)	Transfer of sociocultural patterns from L1 Hebrew to L2 English

The 42 empirical studies in Table 1 examine different dimensions of pragmatic transfer. With respect to the pragmatic targets analyzed, speech acts represent the most frequent unit of analysis for examining pragmalinguistic and sociopragmatic transfer with 93% (or 39 of 42 studies). Of these, refusals predominate (33.3% or 14/42 studies), followed by requests (19% or 8/42 studies), apologies (16.6% or 7/42 studies), compliment responses (12% or 5/42 studies), and complaints (5% or 2/42 studies). Three studies examined two or more speech acts including requests and apologies (Koike and Flanzer 2004), agreement-disagreement-sequences (Kang and Lim-Chang 1998), and requests, refusals, disagreements, and embarrassing comments (Holst 1997). And three studies looked at pragmatic transfer in three underinvestigated speech acts: promising (Saeidi, Moghaddam and Gharagozlou 2014), chastisement (Doğançay-Aktuna and Kamişli 1997), and suggestions (Koike 1996). Further, three studies investigated pragmatic transfer at the prosodic (Turco, Dimroth and Braun 2015) and discourse level, including transfer of L1 discourse norms to L2 (Itakura 2002) and discourse transfer of topic selection, interruption, back channels, and repetition in conversational interactions between NSs of English and Mexicans speaking L2 English (Scarcella 1994). The studies using role plays examined interactional data in learner-learner interaction or learner-NS interaction.

In the studies above, the data collection methods employed for examining pragmatic transfer included production questionnaires, role plays, metapragmatic instruments, and elicited conversation. Of the 42 studies in Table 1, 20 (47.6%) used a production questionnaire in the form of a DCT. Although production questionnaires include different formats (Félix-Brasdefer 2010; Félix-Brasdefer and Hasler-Barker 2017; Kasper 2000), the most frequent format used to examine pragmatic transfer is the DCT, where participants are asked to respond in writing to a hypothetical speech act scenario (20 studies), followed by two studies which utilized the oral DCT (or closed role play). In the oral DCT, participants are asked to respond orally to a speech act scenario in one turn. While in the written DCT the participant has more time to produce the speech act, in the oral DCT the participant provides the response spontaneously orally. Oral DCTs contain some features of spoken interaction (e. g., Koike and Palmiere 2011), such as pauses, repetition, and prosodic features, namely, falling or rising intonation, and loudness or duration to convey a pragmatic effect. Only three studies used role plays to examine pragmatic transfer. Also, of the 42 studies, 13 (31%) triangulated data from two or more methods such as DCT and a scaled-response instrument, DCT and oral DCT, DCT and semi-structured interview, DCT and interview, and role play and verbal reports. In these studies, the DCT and role-play methods provided the primary data, followed by perception or interview data to complement the production data (e. g., Al-Issa 2003; Maeshiba et al. 1996; Olshtain 1983). Studies that used data from two or more methods offer more valid conclusions with respect to transfer than those that used data from only one method. More importantly, while production data account for evidence of negative pragmalinguistic transfer, data

collected from verbal reports or scaled-response (or judgment) questionnaires are more suitable for analyzing sociopragmatic transfer with regard to perception of appropriate communicative behavior.

The third and fourth columns in the Table 1 describe the characteristics of the NSs and learners selected to examine different aspects of pragmatic transfer. In the majority of these studies, three types of data sets were analyzed: learner data from one or two proficiency levels and in one or two learning contexts (EFL or ESL), and data from the learners L1 and the TL. Besides Holst (1997), very few studies collected NS data and learner data from the same learners. Further, most of the studies in Table 1 examined instances of pragmatic transfer among adult learners, with the exception of Kang and Lim-Chang (1998) who looked at pragmatic transfer among children. The data from the NS control groups included varieties of English (US, British, and Australian), Arabic (Jordanian, Iraqi), Persian, Spanish (Mexican), Javanese, Thai, Chinese, Japanese, Vietnamese, German, and Turkish. The learners' target languages included L2 English (majority), L2 Spanish, L2 Russian, L2 Hebrew, and L3 Portuguese. With regard to proficiency effects, most of the studies in Table 1 compared intermediate and advanced learners or low and high proficiency groups (e. g., Li 2018). The aim of these studies was to address the issue of the positive correlation hypothesis between transfer and proficiency that states that learners with high proficiency will show more evidence of transfer than learners at low proficiency (Takahashi and Beebe 1987). Some studies examined pragmatic transfer at one proficiency level, either among intermediate or advanced levels (e. g., Al-Issa 2003; Huwari and Al-Shboul 2015; Tran 2008). Some studies included bilingual speakers such as Spanish heritage speakers for the analysis of pragmatic transfer in L3 Portuguese (e. g., Koike and Palmiere 2011). While most of the studies reported proficiency levels as low or high, some reported the groups based on year by placement, that is, first year vs. third year Spanish (e. g., Koike 1996). In addition to proficiency effects, most studies analyzed pragmatic transfer among learners of English in FL contexts, and very few studies looked at the effects of the learning context, such as EFL or ESL (e. g., Takahashi and Beebe 1987). Most of these studies did not explain how proficiency was determined; instead, they used beginning, intermediate, and advanced learners based on year of placement or number of years studying the target language.

Finally, the last column presents the main findings of the studies with regard to the types of pragmatic transfer and relevant issues identified. All studies examined one aspect of pragmalinguistic or sociopragmatic transfer. Most of the studies in Table 1 focused on negative pragmatic transfer. Specifically, the majority examined pragmalinguistic transfer with regard to the frequency, order, and content of semantic formulas from the NL to the L2, or from a previous non-native language to the current language being learned (e. g., Cohen 1997). Specifically, negative pragmalinguistic transfer was found when the frequency, content (or tone), or order of the semantic formulas of the speech act analyzed did not match sequentially, structurally,

and functionally the pragmatic expectations and appropriateness of the target language. Negative sociopragmatic transfer was the focus of fewer studies with respect to learner's perceptions of social distance, social power, degree of imposition, or perception of (im)politeness in the NL and target language (e. g., Beebe, Takahashi and Uliss-Weltz 1990; Li 2018). For example, Huwari and Al-Shboul (2015) noted sociopragmatic transfer in the learners' perceptions from L1 collectivistic values to the L2. Other studies found sociopragmatic transfer in the inappropriate perception of L2 cultural norms from English to Arabic (Al-Issa 2003) or transfer of L1 sociocultural patterns from L1 Hebrew to L2 English. Further, while most studies examined transfer from the NL to the L2, two studies looked at backward transfer from the L2 to the L1 (Kang and Lim-Chang 1998; Tavakoli and Shirinbakhsh 2014). In a previous study, Cenoz (1997) proposed the intercultural hypothesis to account for instances of transfer from L2 English among advanced learners of English to their NL Spanish with inappropriately high levels of indirectness and mitigation. Further, the correlation hypothesis between transfer and proficiency (Takahashi and Beebe 1987) was examined in studies that focused on proficiency effects. While some studies provided support for the positive correlation hypothesis that states that negative transfer is more likely to occur among advanced learners, others found either partial support (Bu 2012), no support (Chang 2009; Phoocharoensil 2012), support for the negative correlation hypothesis, with pragmatic transfer more likely to occur among low-proficiency learners (Maeshiba et al. 1996), or mixed results with no support for either the positive or negative correlation hypothesis (Takahashi 1996). Likewise, pragmatic transfer was found to be conditioned by the gender of the learners, with female learners being more sensitive to higher status situations (Itakura 2002) or when the languages compared (NS and L2) were typologically similar (Koike and Flanzer 2004). Finally, while most of the studies above focused on pragmatic transfer from the NL to the L2, very few studies examined transfer among bilingual speakers (L1 and L2) to L3, L4, etc.

As can be seen from this discussion, pragmatic transfer is a complex and frequent topic in L2 pragmatics research. Transfer should be seen as a bi-directional process manifested through positive or negative pragmalinguistic or sociopragmatic transfer from the NL to the L2, from a previously learned language to the L2, L3, L4, etc. Transfer also occurs from the L2 to the learner's L1 (backward transfer). In addition, the data collection method selected influences the degree of transfer, as most studies to date employ production questionnaires during the production or perception of one speech act, and little research focuses on methods that use interactional data to examine instances of transfer at the discourse level (Taleghani-Nikazm and Huth 2010). Overall, based on the studies reviewed above, these are some of the factors that may condition (positive or negative) pragmatic transfer: structural factors such as conventional indirectness, internal or external mitigation, frequency, order, and content of semantic formulas for the realization of the speech act. Some of the non-structural factors that may influence pragmatic

transfer include proficiency level, learning context (EFL vs. EFL), length of residence abroad, the social and psychological distance between the NL and the TL, contextual familiarity of the situation, and the modality of the task, specifically, oral vs. written. Further, some individual differences, such as motivation, gender, and age, also play a role in the transfer (or non-transfer) of pragmalinguistic and sociopragmatic competence.

6. Future directions

After reviewing the central issues and topics pertaining to pragmatic transfer and the conditions that are necessary for pragmatic transfer to occur, the following topics need further investigation. First, given the predominant focus on speech acts, researchers should study the transfer of pragmatic knowledge by examining other dimensions of pragmatic competence such as knowledge of implicature, social deixis, information discourse (e. g., focus, topic), and transfer of features at the discourse level such as discourse markers, repair, turn-taking, and the negotiation of speech acts in interaction, such as complaint–response or invitation–response. Unlike refusals, requests, and apologies, which have received considerable attention, pragmatic transfer should also be analyzed in less commonly investigated speech acts at the sequential level, such as complaints, disinvolutions, and disagreements utilizing a pragmatic discursive approach (Félix-Brasdefer, 2015, 2019; Kasper 2006; see also Taguchi [2019] for topics related to L2 pragmatics at the discourse level). In addition, future research should include transfer of impolite behavior from the L1 to the L2, such as responses to rudeness (Beebe and Waring 2005; Félix-Brasdefer and McKinnon 2017) in other learning contexts and with other learner populations, and perceptions of impolite behavior for the analysis of sociopragmatic transfer. Further, since most of the studies on transfer in Table 1 used a production questionnaire (mainly DCTs), researchers should investigate pragmatic transfer using other methods of data collection such as role plays (Félix-Brasdefer 2018) for the analysis of transfer at the discourse level, complemented by verbal report protocols (concurrent and retrospective) that provide insights into the learners' processes and perceptions of sociocultural knowledge in the L1 and L2 (Cohen 2012; Félix-Brasdefer and Hasler-Barker 2017; Kasper 2000). Pragmatic transfer should also be analyzed in other modalities such computer-mediated discourse (Herring and Androutsopoulos 2015).

Research on pragmatic transfer should include data triangulation with both production and perception data, such as verbal reports or judgment instruments to account for sociocultural transfer in formal and non-formal contexts. The priority should be the careful analysis of learner data. Furthermore, to expand the scope of pragmatic competence, research should look at sociolinguistic factors that may influence pragmatic transfer such as linguistic variation in the L2, awareness of

regional variation of the target language, resistance to adopt L2 sociocultural values that differ from the L1, the formality of the register, and the age of the interlocutor.

Finally, since the positive correlation hypothesis between transfer and proficiency (Takahashi and Beebe 1987) has not produced conclusive results, researchers should include learner populations across different proficiency levels (beginning, intermediate, advanced) or placement by year and in different learning contexts, namely, FL and SL. Also, research is needed in one-way and two-way immersion contexts in countries where the official language is not the target language, such as learning Spanish or French in the United States, as well as transfers among heritage language learners. The role of length of residence or intensity of interaction, or both, also condition pragmatic transfer, and these variables should be analyzed in more detail. These factors, along with proficiency (Bardovi-Harlig and Bastos 2011) and the type of instruction (Bardovi-Harlig 1999; Bardovi-Harlig, Mossman and Vellenga 2015; Taguchi and Roever, 2017: ch. 8), influence the learner's pragmatic development. Overall, in light of the existing research on pragmatic transfer, researchers should further examine or investigate new structural and non-structural factors that influence pragmatic transfer. In particular, more research is needed to examine sociopragmatic transfer, along with a closer look at bi-directional transfer, L1 to L2 transfer and L2 to L1 transfer in bilingual and multilingual contexts.

References

- Abed, Ahmed Q.
2011 Pragmatic transfer in Iraqi EFL learners' refusals. *International Journal of English Linguistics* 1: 166–185.
- Al-Khaza'leh, Bilal Ayed
2018 Influence of social power on perception of speech act of apology by Jordanian second language speakers. *Journal of Language and Linguistic Studies* 14: 211–229.
- Al-Issa, Ahmad
2003 Sociocultural transfer in L2 speech behaviors: Evidence and motivating factors. *International Journal of Intercultural Relations* 27: 581–601.
- Babaie, Sherveh and Mohsen Shahrokhi
2015 A cross-cultural study of offering advice speech acts by Iranian EFL learners and English native speakers: Pragmatic transfer in focus. *English Language Teaching* 8: 133–140.
- Bardovi-Harlig, Kathleen
1999 Exploring the interlanguage of interlanguage pragmatics: A research agenda for acquisitional pragmatics. *Language Learning* 49: 677–713.
- Bardovi-Harlig, Kathleen
2013 Developing L2 pragmatics. *Language Learning* 63: 68–86.

- Bardovi-Harlig, Kathleen and Maria-Thereza Bastos
2011 Proficiency, length of stay, and intensity of interaction, and the acquisition of conventional expressions in L2 pragmatics. *Intercultural Pragmatics* 8: 347–384.
- Bardovi-Harlig, Kathleen, Sabrina Mossman and Heidi E. Vellenga
2015 The effect of instruction on pragmatic routines in academic discussion. *Language Teaching Research* 19: 324–350.
- Barros García, María J. and Jeremy W. Bachelor
2018 Pragmatic instruction may not be necessary among heritage speakers of Spanish: A study on requests. *Journal of Foreign Language Education and Technology* 3: 163–193.
- Beebe, Leslie M., Tomoko Takahashi and Robin Uliss-Weltz
1990 Pragmatic transfer in ESL refusals. In: Robin C. Scarcella, Elaine Andersen, and Stephen D. Krashen (eds.), *Developing Communicative Competence in Second Language*, 55–73. New York: Newbury House.
- Beebe, Leslie M. and Hansun Z. Waring
2005 Pragmatic development in responding to rudeness. In: Jan M. Frodesen and Chirstine A. Holten (eds.), *The Power of Context in Language Teaching and Learning*, 67–79. (Festschrift in honor of Marianne Celce-Murcia.) Boston, MA: Heinle & Heinle.
- Brown, Penelope and Stephen Levinson
1987 *Politeness: Some Universals in Language Use*. Cambridge, UK: Cambridge University Press.
- Bu, Jiemin
2012 A study of relationships between L1 pragmatic transfer and L2 proficiency. *English Language Teaching* 5: 32–43.
- Cenoz, Jasone
2003 The intercultural style hypothesis: L1 and L2 interaction in requesting behavior. In: Vivian Cook (ed.), *Effects of the Second Language on the First*, 62–80. Clevedon, UK: Multilingual Matters.
- Chang, Yuh-Fang
2009 How to say no: An analysis of cross-cultural difference and pragmatic transfer. *Language Sciences* 31: 477–493.
- Cohen, Andrew D.
1987 Using verbal reports in research on language learning. In: Claus Færch and Gabriele Kasper (eds.), *Introspection in Second Language Research*, 82–95. Philadelphia, PA: Multilingual Matters.
- Cohen, Andrew D.
1996 Speech acts. In: Sandra McKay and Nancy Hornberger (eds.), *Sociolinguistics and Language Teaching*, 383–420. Cambridge, UK: Cambridge University Press.
- Cohen, Andrew D.
1997 Developing pragmatic ability: Insights from the accelerated study of Japanese. In: Haruko M. Cook, Kyoko Hijirida, and Mildred Tahara (eds.), *New Trends and Issues in Teaching Japanese Language and Culture*, 133–159. (Technical Report #15). Honolulu: University of Hawai'i, Second Language Teaching and Curriculum Center.

- Cohen, Andrew D.
2012 Research methods for describing variation in intercultural pragmatics for cultures in contact and conflict. In: J. César Félix-Brasdefer and Dale A. Koike (eds.), *Pragmatic Variation in First and Second Language Contexts*, 271–294. Amsterdam/Philadelphia: John Benjamins.
- Cohen, Andrew D. and Elite Olshtain
1981 Developing a measure of sociolinguistic competence: The case of apology. *Language Learning* 31: 112–134.
- Corder, Pit S.
1994 A role of the mother tongue. In: Susan M. Gass and Larry Selinker (eds.), *Language Transfer in Language Learning*, 18–31. Amsterdam/Philadelphia: John Benjamins.
- Crystal, David (ed.)
1997 *The Cambridge Encyclopedia of Language* (2nd ed.). New York: Cambridge University Press.
- DeCapua, Andrea
1998 The transfer of native language speech behavior into a second language: A basic for cultural stereotypes. *Issues in Applied Linguistics* 9: 21–35.
- Doğançay-Aktuna, Seran and Sibel Kamaşlı
1997 Pragmatic transfer in interlanguage development: A case study of advanced EFL learners. *ITL: International Journal of Applied Linguistics*, 117/118: 151–173.
- Eisenstein, Miriam and Jean Bodman
1986 I very appreciate: Expressions of gratitude by native and nonnative speakers of American English. *Applied Linguistics* 7: 167–185.
- Elias, Vanessa
2016 Pragmalinguistic and sociopragmatic variation: Refusing among Spanish heritage speakers. *IULC Working Papers* 15: 1–32.
- Ellis, Rod
2008 *The Study of Second Language Acquisition*. Oxford: Oxford University Press.
- Félix-Brasdefer, J. César
2003 Declining an invitation: A cross-cultural study of pragmatic strategies in Latin American Spanish and American English. *Multilingua* 22: 225–255.
- Félix-Brasdefer, J. César
2004 Interlanguage refusals: Linguistic politeness and length of residence in the target community. *Language Learning* 54: 587–653.
- Félix-Brasdefer, J. César
2007 Pragmatic development in the Spanish as an FL classroom: A cross-sectional study of learner requests. *Intercultural Pragmatics* 4: 253–286.
- Félix-Brasdefer, J. César
2008 Perceptions of refusals to invitations: Exploring the minds of foreign language learners. *Language Awareness* 17: 195–211.
- Félix-Brasdefer, J. César
2010 Intra-lingual pragmatic variation in Mexico City and San José, Costa Rica: A focus on regional differences in female requests. *Journal of Pragmatics* 42: 2992–3011.

- Félix-Brasdefer, J. César
2015 *The Language of Service Encounters: A Pragmatic-Discursive Approach*. Cambridge: Cambridge University Press.
- Félix-Brasdefer, J. César
2018 Role plays. In: Andreas Jucker, Klaus P. Schneider, and Wolfram Bublitz (eds.), *Methods in Pragmatics*, 305–332. Berlin/Boston: De Gruyter Mouton.
- Félix-Brasdefer, J. César
2019 Speech acts in interaction: Negotiating joint action in a second language. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Pragmatics*, 17–30 New York/Oxford, UK: Routledge.
- Félix-Brasdefer, J. César and Maria Hasler-Barker
2017 Elicited data. In: Anne Barron, Yueguo Gu and Gerard Steen (eds.), *The Routledge Handbook of Pragmatics*, 27–40. Abingdon/New York: Routledge.
- Félix-Brasdefer, J. César and Sean McKinnon
2017 Perceptions of impolite behavior in study abroad contexts and the teaching of impoliteness in L2 Spanish. *Journal of Spanish Language Teaching* 3: 99–113.
- Fries, Charles C.
1945 *Teaching and Learning English as a Foreign Language*. Ann Arbor: University of Michigan Press.
- Gass, Susan and Larry Selinker (eds.)
1983 [1994] *Language Transfer in Language Learning*. Rowley, MA: Newbury House Publishers.
- Ghawi, Mohammed
1993 Pragmatic transfer in Arabic learners of English. *El Two Talk* 1: 39–52.
- Han, Turgay and Assiye Burgucu-Tazegül
2016 Realization of speech acts of refusals and pragmatic competence by Turkish EFL learners. *Reading Matrix: An International Online Journal* 16: 161–178.
- Herring, Susan and Jannis Androutsopoulos
2015 Computer-mediated discourse 2.0. In: Deborah Tannen, Heidi E. Hamilton, and Deborah Schiffrin (eds.), *The Handbook of Discourse Analysis*, 127–151. (2nd ed.) Chichester: Wiley Blackwell.
- Holst, Mark
1997 An investigation into the transfer of communication strategies from Japanese into English. *Genko Bunkabu* 32: 183–213.
- Huwari, Ibrahim Fathi and Yasser Al-Shboul
2015 A study on the perception of Jordanian EFL learners' pragmatic transfer of refusals. *Advances in Language and Literary Studies* 6: 46–54.
- Itakura, Hiroko
2002 Gender and pragmatic transfer in topic development. *Language, Culture and Curriculum* 15: 161–183.
- Jarvis, Scott
2000 Methodological rigor in the study of transfer: Identifying L1 influence in the interlanguage lexicon. *Language Learning* 50: 245–309.
- Jaworski, Adam
1994 Pragmatic failure in a second language: Greeting responses in English by Polish students. *International Review of Applied Linguistics in Language Teaching* 32: 41–55.

- Jiang, Lingyun
2015 An empirical study on pragmatic transfer in refusal speech act produced by Chinese high school EFL learners. *English Language Teaching* 8: 95–113.
- Kang, Seung-Man and Yoonsook Lim-Chang
1998 No, I am a student: A study of linguistic and pragmatic transfer in SLA. *The SECOL review* 22: 106–129.
- Kasper, Gabriele
1992 Pragmatic transfer. *Second Language Research* 8: 203–231.
- Kasper, Gabriele
1998 Interlanguage Pragmatics. In: Heidi Byrnes (ed.), *Learning Foreign and Second Languages*, 183–208. New York: Modern Language Association.
- Kasper, Gabriele
2000 Data collection in pragmatics research. In: Helen Spencer-Oatey (ed.), *Culturally Speaking: Managing Rapport through Talk across Cultures*, 316–369. London, UK: Continuum.
- Kasper, Gabriele
2001 Classroom research on interlanguage pragmatics. In: Kenneth R. Rose and Gabriele Kasper (eds.), *Pragmatics in Language Teaching*, 33–60. New York: Cambridge University Press.
- Kasper, Gabriele
2006 Speech acts in interaction. In: Kathleen Bardovi-Harlig, J. César Félix-Brasdefer, and Alwiya Omar (eds.), *Pragmatics and Language Learning*, Volume 11, 281–314. University of Hawai'i at Manoa: National Foreign Language Resource Center.
- Kasper, Gabriele and Kenneth R. Rose
2002 *Pragmatic Development in a Second Language*. Malden, MA: Blackwell.
- Kasper, Gabriele and Richard Schmidt
1996 Developmental issues in interlanguage pragmatics. *Studies in Second Language Acquisition* 18: 149–169.
- Keshavarz, Mohammad H., Zohreh Eslami and Vahid Ghahraman
2006 Pragmatic transfer and Iranian EFL refusals: A cross-cultural perspective of Persian and English. In: Kathleen Bardovi-Harlig, J. César Félix-Brasdefer, and Alwiya Omar (eds.), *Pragmatics and Language Learning*, Volume 11, 359–402. Manoa, HI: Second Language Teaching and Curriculum Center University of Hawai'i.
- Koike, Dale A.
1989 Pragmatic competence and adult L2 acquisition: Speech acts in interlanguage. *Modern Language Journal* 73: 279–289.
- Koike, Dale A.
1996 Transfer of pragmatic competence and suggestions in Spanish foreign language learning. In: Susan Gass and Joyce New (eds.), *Speech Acts across Cultures*, 257–281. Berlin: Mouton de Gruyter.
- Koike, Dale A. and Vivian Flanzer
2004 Pragmatic transfer from Spanish to Portuguese as an L3: Requests and apologies. In: Antônio R. M. Simões, Ana Maria Carvalho, and Lyris Widemann (eds.), *Portuguese for Spanish Speakers: Acquisition and Teaching* [Português para falantes de espanhol: Aquisição e ensino], 95–114. São Paulo: editor Pontes.

- Koike, Dale A. and Denise T. L. Palmiere
2011 First and second language pragmatics in third language oral and written modalities. *Foreign Language Annals* 44: 80–104.
- Lado, Robert
1957 *Linguistics across Cultures*. Ann Arbor: University of Michigan Press.
- Leech, Geoffrey N.
1983 *Principles of Pragmatics*. New York: Longman
- Liu, Dilin
1995 Sociocultural transfer and its effect on second language speakers' communication. *International Journal of Intercultural Relation* 19: 253–265.
- Li, Wei
2018 *Pragmatic Transfer and Development: Evidence from EFL learners in China*. Amsterdam/Philadelphia: John Benjamins.
- Maeshiba, Naoko, Naoko Yoshinaga, Gabriele Kasper and Steven Ross
1996 Transfer and proficiency in interlanguage apologizing. In: Susan Gass and Joyce Neu (eds.), *Speech Acts across Cultures*, 155–187. The Hague: Mouton de Gruyter.
- Odlin, Terence
1989 *Language Transfer: Cross-Linguistic Influence in Language Learning*. Cambridge: Cambridge University Press.
- Olshtain, Elite
1983 Sociocultural competence and language transfer: The case of apologies. In: Susan Gass and Larry Selinker (eds.), *Language Transfer in Language Learning*, 232–249. Rowley, MA: Newbury House Publishers.
- Phoocharoensil, Supakorn
2012 L2 English compliment responses: An investigation of pragmatic transfer. *International Journal of Applied Linguistics & English Literature* 1: 276–287.
- Robinson, Mary A.
1992 Introspective methodology in interlanguage pragmatics research. In: Gabriele Kasper (ed.), *Pragmatics of Japanese as a Native and Target Language*, 27–82. (Technical Report #3.) Second Language Teaching & Curriculum Center. Honolulu, HI: University of Hawai'i Press.
- Saeidi, Sayyid N., Masoud Yazdani Moghaddam and Reza Gharagozlou
2014 Pragmatic transfer in Iranian EFL learners as compared to native English speakers in realization of the speech act of promising. *International Journal of Educational Investigations* 1: 252–267.
- Saito, Hidetoshi and Masako Beecken
1997 An approach to instruction of pragmatic aspects: Implications of pragmatic transfer by American learners of Japanese. *The Modern Language Journal* 81: 363–377.
- Scarcella, Robin
1994 Interethnic conversation and second language acquisition: Discourse accent revisited. In: Susan M. Gass and Larry Selinker (eds.), *Language Transfer in Language Learning*, 109–137. Amsterdam/Philadelphia: John Benjamins.
- Schachter, Jacqueline
1994 A new account of language transfer. In: Susan M. Gass and Larry Selinker (eds.), *Language Transfer in Language Learning*, 32–46. Amsterdam/Philadelphia: John Benjamins.

- Schmidt, Richard
1983 Interaction, acculturation, and the acquisition of communicative competence: A case study of an adult. In: Nessa Wolfson and Elliot Judd (eds.), *Sociolinguistics and Language Acquisition*, 137–174. Rowley, MA: Newbury House.
- Selinker, Larry
1969 Language transfer. *General Linguistics* 9: 67–92.
- Selinker, Larry
1972 Interlanguage. *International Review of Applied Linguistics in Language Teaching* 10: 209–231.
- Shively, Rachel
2011 L2 pragmatic development in study abroad: A longitudinal study of Spanish service encounters. *Journal of Pragmatics* 43: 1818–1835.
- Stubbs, Michael
1983 *Discourse Analysis: The Sociolinguistic Analysis of Natural Language*. Oxford, UK: Blackwell.
- Su, I-Ru
2010 Transfer of pragmatic competences: A bi-directional perspective. *The Modern Language Journal* 94: 87–102.
- Su, I-Ru
2012 Bi-directional transfer in Chinese EFL learners' apologizing behavior. *Concentric: Studies in Linguistics* 38: 237–266.
- Taguchi, Naoko (ed.)
2019 *The Routledge Handbook of Second Language Pragmatics*. New York/Oxford, UK: Routledge.
- Taguchi, Naoko and Carsten Roever
2017 *Second Language Pragmatics*. Oxford: Oxford University Press.
- Takahashi, Satomi
1996 Pragmatic transferability. *Studies in Second Language Acquisition* 18: 189–223.
- Takahashi, Satomi
2000 Transfer in interlanguage pragmatics: New research agenda. *Studies in Language and Cultures* 11: 109–129.
- Takahashi, Tomoko and Leslie M. Beebe
1987 The development of pragmatic competence by Japanese learners of English. *JALT Journal* 8: 131–155.
- Taleghani-Nikazm, Carmen and Thorsten Huth
2010 L2 requests: Preference structure in talk-in interaction. *Multilingua* 29: 185–202.
- Tavakoli, Mansoor and Salva Shirinbakhsh
2014 Backward pragmatic transfer: The case of refusals in Persian. *International Journal of Society, Culture & Language* 2: 1–24.
- Thomas, Jenny
1983 Cross-cultural pragmatic failure. *Applied Linguistics* 4: 91–112.
- Tran, Giao Q.
2002 Pragmatic and discourse transfer in complaining. *Melbourne Papers in Linguistics and Applied Linguistics* 2: 71–97.

- Tran, Giao Q.
 2008 Pragmatic and discourse transfer of combination of compliment responses in second language learning and usage. *The Asian EFL Journal* 10: 1–16.
- Turco, Giuseppina, Christine Dimroth and Bettina Braun
 2015 Prosodic and lexical marking of contrast in L2 Italian. *Second Language Research* 31: 465–491.
- Voltmer, Kai A.
 2018 Cross-Cultural Communication in the EFL Classroom: Awareness and Pragmatic Transfer of German Modal Particles in Requests. In: Sara Martin, David Owen, and Elisabet Pladevall-Ballester (eds.), *Persistence and Resistance in English Studies: New Research*, 141–152. Newcastle upon Tyne, UK: Cambridge Scholars.
- Wannaruk, Anchalee
 2008 Pragmatic transfer in Thai EFL refusals. *RELC Journal* 39: 318–337.
- Weinreich, Uriel
 1953 *Languages in Contact*. New York: Linguistic Circle of New York.
- Wijayanto, Agus and Surakarta Muhammadiyah
 2014 Variability of refusal in L2: Evidence of L1 pragmalinguistic transfer and learner's idiosyncratic usage. *International Journal of Applied Linguistics* 26: 1–21.
- Yun, Seungmin
 2015 Covert Pragmatic Transfer: Intercultural Pragmatics among Korean Learners of English as a Second Language. *ProQuest Dissertations & Theses Global*, 77. Retrieved from <https://search-proquest-com.proxyiub.uits.iu.edu/docview/1805096768>

14. Developing pragmatic awareness

Troy McConachy and Helen Spencer-Oatey

Abstract: Since the communicative turn in L2 teaching and learning, the field has been grappling with the difficult theoretical question of what it means to be pragmatically competent in an L2, and the specific role that awareness plays in the development of pragmatic competence inside and outside the classroom. This chapter presents a critical review of the research on pragmatic awareness development within the context of L2 language learning. The chapter discusses theoretical tenets related to the conceptualization of awareness and its role within L2 pragmatic development within three main theoretical paradigms: the interlanguage paradigm, sociocultural theory, and intercultural language learning. Following discussion of theoretical tenets, the chapter then provides an overview of main empirical work within each paradigm and considers relative contributions and shortcomings. At the end of the chapter, there is a critical synthesis of the main issues and consideration of future directions for theorising and researching pragmatic awareness.

1. Introduction

Since the communicative turn in L2 teaching and learning, the field has been grappling with the difficult theoretical question of what it means to be pragmatically competent in an L2, and the specific role that awareness plays in the development of pragmatic competence inside and outside the classroom. Pragmatic competence tends to be minimally defined in terms of the ability to realise linguistic functions in a contextually appropriate way (Canale and Swain 1980; Bachman 1990; Celce-Murcia, Dornyei and Thurrell 1995), which assumes that there is a high degree of normativity in the pragmatic domain and consensus amongst language users as to what is considered appropriate. Pragmatic competence can also be seen from a broader perspective in which the focus is on how individuals negotiate social meanings and impressions within interpersonal roles and relationships, while constructing, negotiating, challenging, and sometimes damaging relationships (Spencer-Oatey 2008). Within such a perspective, pragmatic competence relates to the individual's ability to effectively use and interpret language as a form of social action in context while attending to a range of sociocultural, interpersonal and interactional dynamics.

The role of pragmatic awareness in L2 development has been discussed and investigated from a number of main theoretical perspectives over the last few decades. This chapter offers a critical review of this research from three of these:

<https://doi.org/10.1515/9783110431056-014>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 393–427. Berlin/Boston: De Gruyter Mouton.

1) the interlanguage paradigm 2) sociocultural theory (SCT) and 3) intercultural language learning. In each main section, we begin by discussing key theoretical tenets related to the conceptualization of awareness and its role within L2 pragmatic development. We then provide a critical review of relevant empirical work within each paradigm. At the end of the chapter, we synthesize the discussion and consider future directions. The scope of the chapter is limited to work on classroom-based learning, but it is acknowledged that there is a growing body of work on L2 pragmatic development outside the classroom (see Chapter 15 of this volume). Additionally, the primary focus in this chapter is the nature of pragmatic awareness development as a process of learning, not pedagogical strategies for aiding this learning in the classroom (see Chapter 10 of this volume for a comprehensive pedagogical orientation to pragmatic competence development more broadly).

2. Cross-cutting issues

It should be noted that across the different theoretical perspectives, there is a general tendency to conceive and empirically investigate the notion of pragmatic awareness in relation to the two primary domains of pragmalinguistics and sociopragmatics put forward by Thomas (1983). Pragmalinguistic awareness is commonly seen in terms of awareness of how linguistic forms conventionally achieve particular illocutionary or interactional functions (Kasper and Rose 2001). This can include the linguistic encoding of speech acts such as requests, compliments, apologies, as well as other pragmatic phenomena such as conversational routines, personal pronouns etc. It also includes awareness of how aspects of the linguistic code can be manipulated to modulate interpersonal effects such as directness, politeness and more. Meanwhile, sociopragmatic awareness is commonly seen in terms of awareness of how choice of linguistic forms in actual instances of communication is influenced by perceptions of the sociocultural context, including the relationship between speakers, power distance, potential imposition of particular acts, amongst a range of other variables (Takahashi 2013). Sociopragmatic awareness is thus closely tied to an individual's ability to discern the relative appropriateness or inappropriateness of ways of carrying out pragmatic acts given the relational and contextual dynamics at play in a given interaction. As will be discussed in more detail throughout the chapter, sociopragmatic awareness was relatively neglected in early research on L2 pragmatic awareness, but is now receiving more attention, particularly in sociocultural and intercultural work.

Another major issue that surfaces across the three paradigms to be discussed in this chapter is the potential distinction between pragmatic awareness and metapragmatic awareness. In the literature on L2 learning, the usage of these terms can become confusing. The term *pragmatic awareness* is frequently used to express learners' ability to detect pragmatically (in)appropriate language use, which can

involve some ability to weigh up pragmalinguistic options in view of context. The term *metapragmatic awareness* is often used when the focus is on learners' ability to verbalise the social meanings of language use. This viewpoint is in line with Kinginger and Farrell (2004), who define it as "knowledge of the social meaning of variable second language forms and awareness of the ways in which these forms mark different aspects of social contexts..." (Kinging and Farrell 2004: 20). More recently, however, van Compernelle and Kinginger (2013) have argued that the term *pragmatic awareness* should be seen as relating to pragmalinguistics, while *metapragmatic awareness* should be seen as relating to sociopragmatics. As will be discussed later in the chapter, this is closely related to the emphasis placed on sociopragmatics within SCT perspectives on pragmatic development. As a general observation, it is possible to say that the term metapragmatic awareness is used most frequently when there is particular emphasis on analysing language use and explicating the perceived relationships between linguistic forms, functions, contexts, assumptions about interpersonal relationships, and broader language ideologies. The development of metapragmatic awareness along these lines has been most emphasised and investigated within sociocultural theoretic perspectives and intercultural language learning. We now turn to an exploration of the three paradigms, starting with the interlanguage paradigm.

3. Pragmatic awareness in the interlanguage paradigm

Based on the notion of interlanguage as proposed by Selinker (1972), the interlanguage paradigm encapsulates a view of learning within which the L2 learner's linguistic system is seen as progressively moving along a developmental continuum towards native-speaker norms, and in which cross-linguistic influence tends to be viewed in terms of linguistic transfer. The notion of "interlanguage pragmatics" was first articulated by Kasper and Dahl (1991), who argued for the need to broaden the scope of SLA to incorporate the acquisition of pragmatic knowledge. They defined the agenda at that time as the investigation of "nonnative speakers' comprehension and production of speech acts, and how that L2-related knowledge is acquired" (Kasper and Dahl 1991: 216). Within this perspective, L2 pragmatic development is seen as a matter of reducing negative pragmalinguistic and sociopragmatic transfer from the learner's L1 while gradually incorporating more pragmatic knowledge into the learner's developing linguistic system, thus becoming able to use and interpret the L2 appropriately (Kasper 1992). Although early theories within the interlanguage paradigm assigned a relatively limited role to explicit knowledge or awareness (e. g. Krashen 1981), there now appears to be a broad consensus that a certain degree of awareness of language forms, functions and contexts is facilitative of second language development, particularly within classroom contexts (Bialystok 1993; Ellis 2008; Schmidt 1990; Takahashi 2010).

3.1. The noticing hypothesis

A great amount of attention to the role of awareness in L2 learning was generated by Schmidt's noticing hypothesis (e. g. 1990; 1993; 1995), which theorized awareness from the perspective of two related cognitive constructs: "noticing" and "understanding". Noticing was seen as the allocation of focal attention to features of input in specific instances of exposure. According to this hypothesis, in order for input to be first of all converted into intake for further cognitive processing, it was necessary for input to be noticed. Noticing is theorized to support acquisition in the sense that once input has been consciously registered, it is more likely to be encoded in memory and lead to rule learning through a process of induction over time. Schmidt (1990) distinguishes "noticing" as a lower-order form of awareness from a higher-order form of awareness referred to as "understanding", which is constituted by explicit knowledge of linguistic rules. The development of awareness thus incorporates the cognitive activities of attention, pattern detection, and gradual formalization of knowledge (Schmidt 1995). In relation to the acquisition of morphosyntax, noticing requires that learners are able to detect form-meaning mappings, whereas understanding implies that learners are able to explain the mappings in terms of linguistic rules or principles. The application of the concept to pragmatics requires a slightly different formulation. Specifically, it is suggested that for L2 pragmatic learning to occur, learners need to notice features of the input that allow them to draw associations between forms, functions, and aspects of context (Bialystok 1993; Schmidt 1993). That is, learners need to notice associations which help them tie together the pragmalinguistic and sociopragmatic dimensions of language in use. This is illustrated by Schmidt (1995) as follows:

In pragmatics, awareness that on a particular occasion someone says to their interlocutor something like, "I'm terribly sorry to bother you, but if you have time could you look at this problem?" is a matter of noticing. Relating the various forms used to their strategic deployment in the service of politeness and recognizing the co-occurrence with elements of context such as social distance, power, level of imposition and so on, are all matters of understanding (Schmidt 1995: 30).

Pragmatic awareness aids L2 pragmatic development as learners notice the linguistic construction of speech acts (among other pragmatic phenomena) and begin to develop explicit hypotheses as to how pragmalinguistic choices reflect sociopragmatic norms of appropriateness. Pragmatic development thus dually involves becoming familiar with the pragmalinguistic options for achieving illocutions and contextualizing them within broader norms and assumptions about how to interact given the sociocultural context and other relational variables.

3.2. The two-dimensional model

As a model that complements Schmidt's noticing hypothesis, Bialystok's (1993) two-dimensional model sees pragmatic development in terms of two key processes: analysis of knowledge and attentional control. These two processes influence the degree to which L2 learners can acquire and utilise relevant L2 pragmatic knowledge without unnecessary influence from pre-existing L1 knowledge. Bialystok (1993) points out that adult L2 learners bring with them a large amount of pragmatic knowledge derived from their L1, including symbolic representations of how particular linguistic forms map onto pragmatic functions and how use of particular forms is influenced by contextual variables. She suggests that the learner is faced with the cognitive challenge of gaining adequate attentional control over existing knowledge so that it is possible to discriminate between L1 and L2 pragmatic knowledge when determining how to communicate appropriately. Bialystok (1993) explains:

For adults, the problem to be solved for pragmatic competence is essentially to develop the control strategies to attend to the intended interpretations in contexts and to select the forms from the range of possibilities that satisfy the social and contextual needs of the communicative situation. Adults make pragmatic errors, not only because they do not understand forms and structures, or because they do not have sufficient vocabulary to express their intentions, but because they choose incorrectly (Bialystok 1993: 54).

Analysis of existing knowledge aids the development of attentional control over L1 and L2 knowledge as L1 pragmatic knowledge becomes more accessible to conscious awareness. This is particularly important when there are significant differences between the L1 and L2 pragmatic systems and it becomes necessary to construct new symbolic representations. At the level of pragmalinguistics, this might involve creating new representations for different ways of encoding social relationships through language (such as address forms or honorifics) or new representations for semantic formulae used for achieving speech acts. For example, at the level of pragmalinguistics, an L1 English speaker learning French would need to develop formal and symbolic representations of the T/V distinction in order to understand the different degrees of closeness or formality that are implied by their usage. At the sociopragmatic level, the development of new representations is closely related to acquiring new ways of assessing the impact of contextual variables on linguistic choices. This is, therefore, not simply a matter of mapping new linguistic forms onto existing pragmatic representations, but of creating new representations entirely. The gradual construction of new symbolic representations leads to higher-order pragmatic awareness, manifested in the learner's ability to reflect on the nature of their own knowledge and bring it into awareness. In this sense, the development of pragmatic awareness is an inherently cross-linguistic phenomenon, as the acquisition of L2 pragmatic

knowledge leads to enhanced awareness of the pragmatic features and mappings of both languages.

3.3. Empirical studies in the interlanguage paradigm

Within the field of interlanguage pragmatics, the majority of empirical studies have been cross-sectional rather than acquisitional in nature, typically examining the production of L2 learners in comparison to a native-speaker baseline (Bardovi-Harlig 1999; Kasper and Schmidt 1996). In recent years, there has been an increasing number of empirical studies on pragmatic competence development, but the analytical focus is the development of productive or receptive abilities rather than the development of awareness itself (e. g. Barron 2003; Schauer 2009; Shively 2011). There is, thus, a distinct lack of studies that have looked at the development of pragmatic awareness as a phenomenon in its own right from a longitudinal perspective. Within this section, we look at two main strands of research on pragmatic awareness.

The first major strand of research on pragmatic awareness has focused on the learner's ability to detect pragmatic infelicities and the extent to which this develops in ESL and EFL contexts respectively. Bardovi-Harlig and Dornyei (1998) conducted a seminal study which examined how EFL and ESL learners identified and assessed the relative seriousness of grammatical errors and pragmatic infelicities related to politeness. They examined this on the basis of video presentation of 22 scenarios involving requests, apologies, suggestions and refusals. The data showed that their selected population of EFL learners and users in Hungary and Italy more readily identified grammatical errors than pragmatic infelicities, while the opposite was true for ESL learners studying in the United States. The EFL learners also ranked grammatical errors as more serious. These results suggest the relative difficulty of developing pragmatic awareness in EFL contexts without instruction. Schauer (2006) aimed to replicate Bardovi-Harlig and Dornyei's (1998) study comparing recognition of grammatical errors and pragmatic infelicities among ESL learners in the U.K, and EFL learners in Germany, using the same instrument consisting of video plus questionnaire. Her results confirmed that ESL learners tend to be more sensitive to pragmatic infelicities and that this sensitivity is something which appears to develop in accordance with length of time spend in country. Meanwhile, a study by Niezgodna and Roever (2001) which also replicated Bardovi-Harlig and Dornyei's study found that EFL learners in the Czech Republic were better able to detect pragmatic infelicities than ESL learners in Hawaii. These authors attribute this finding to the fact that their particular population of learners were aspiring language teachers and thus more likely to be attuned to how language works. In terms of pragmatic awareness development, these studies support the perhaps commonsense expectation that learners who are studying a foreign language in an environment where

that language is used both inside and outside the classroom are going to have more opportunities to develop a sense for how language is used in a variety of real communicative situations.

However, this ability to detect pragmatic infelicities does not necessarily lead to the learner's ability to produce the language in accordance with L2 norms. While Bardovi-Harlig and Dornyei's (1998) study found that although ESL students clearly have a higher level of pragmatic awareness, it also found that pragmatic production still diverged from native speaker norms. They therefore suggest that "[h]igher pragmatic awareness does not necessarily translate into appropriate pragmatic production; that is, awareness is not likely to be a sufficient condition for the development of pragmatic competence" (Bardovi-Harlig and Dornyei 1998: 254–255). Such a conclusion was supported by Bardovi-Harlig and Griffin's (2005) study on 43 high-intermediate ESL learners in the U.S. which showed that although learners were readily able to detect pragmatic (sociopragmatic) infelicities in the realization of requests, apologies, suggestions and refusals even without explicit instruction, the ways in which learners attempted to fix the infelicities diverged from native norms. These authors speculate that this may be due to lack of awareness of differences in L1 and L2 realizations, or that awareness may be present but not yet able to be translated into appropriate production. In Bialystok's (1993) terms, learners' symbolic representations of L2 pragmatics or control over L1 pragmatic representations may not have developed enough to fully manipulate the L2 code. Alternatively, in Schmidt's (1993) terms, it may be that learners are beginning to notice the pragmatic patterns of L2 use, but more noticing over repeated instances is necessary to develop fuller understanding of the pattern and how it can be produced. As such studies suggest, awareness of the less preferable option does not guarantee that learners are able to make use of the better options in one's own linguistic performance. Moreover, as Bardovi-Harlig (2014) points out, tasks which require selection can allow learners to make inferences from the choices available even when pragmatic knowledge is absent.

The ability to detect pragmatically inappropriate language, whether from a pragmalinguistic or sociopragmatic standpoint, can be regarded as a lower-order form of pragmatic awareness which functions to support the inferencing process. Such awareness will be operative when learners are presented with tasks which require them to evaluate utterances relative to others. However, as is borne out by the research above, the awareness necessary to enable correct selections does not necessarily enable production that aligns with L2 norms (assuming that is what learners are aiming for). Takahashi (2010) has suggested that awareness as understanding is the minimal condition for the development of pragmatic competence, especially L2 production dimensions. This means that "learners realize why that particular form was used in relation to the contextual features such as the speaker/writer and listener/reader's relative social status, age, gender, distance, and the level of formality of the occasion" (Ishihara and Cohen 2010: 103). This would

represent a higher order form of awareness which allows learners to mobilize their own linguistic resources for appropriate L2 production.

The second major strand of research on pragmatic awareness within the interlanguage paradigm has investigated the effectiveness of awareness-raising instruction for the development of pragmatic competence. Again, the emphasis is primarily on the role of awareness in pragmatic development, rather than the specific development of awareness as a phenomenon in its own right. This line of research was stimulated by the noticing hypothesis (Schmidt 1990) and the question of whether pragmatic competence was actually teachable in second language classrooms. Many have pointed out that the input in language classrooms, as well as teaching materials, often fail to expose to learners an adequate number of contextualized pragmatic examples from a broad range of contexts (Bardovi-Harlig 1996; Gesuato 2018; Ishihara and Cohen 2010; McConachy and Hata 2013; Vellenga 2004). There has thus been a great deal of research interest in the ideal input conditions for learning; specifically whether more explicit instruction brings about greater learning effects than implicit forms of instruction. Awareness-raising instruction can be seen on a continuum of explicitness, with instruction involving metapragmatic explanation as the most explicit. Instructional methods that involve learners engaging in discovery tasks or comparing utterances from multiple individuals or contexts are more on the implicit end, with input enhancement being a highly implicit awareness-raising strategy (Kasper and Rose 2002; Sharwood-Smith 1993; Takahashi 2010).

There is now a significant number of studies in interlanguage pragmatics which have suggested the superiority of explicit metapragmatic instruction for learning, particularly in regard to pragmalinguistics (e. g. Alcon Soler 2005; House 1996; Jeon and Kaya 2006; Rose and Ng 2001; Shively 2011; Taguchi 2015a; Takahashi 2001, Tateyama 2001, Yang 2016). More explicit forms of instruction appear to lead to greater ability to recognize and produce target language forms in an appropriate way, which is assumed to be due to higher levels of pragmatic awareness (Takahashi 2001). However, it is also true that some studies have challenged this conclusion (e. g. LoCastro 1997). In terms of developing awareness through instruction, Takahashi (2010) claims that there are four conditions based on which intervention can hope to lead successfully to development: 1) learners' analysis of their own deficiencies, 2) active comparison of features of their own performance with that of natural L2 discourse, 3) self-initiated discovery of L2 pragmatic conventions, and 4) the experience of realistic communicative needs in language learning tasks (Takahashi 2013: 3). In other words, the development of pragmatic awareness for classroom L2 acquisition is not simply a matter of being instructed in pragmatic norms and internalizing them (going straight from explanation to "understanding" in Schmidt's terms), but ideally requires elements of discovery, both through analysis of linguistic data and reflection on one's own interactional experiences (Billmyer 1990; Takimoto 2006, 2007). While the empirical research

generally supports the notion that pragmatic awareness is necessary for acquisition, we know less about the nature and the extent of awareness that would allow for pragmatic development.

3.4. Reflective summary and discussion

The work on pragmatic awareness within the interlanguage paradigm has played a crucial role in establishing L2 pragmatic acquisition as an important focus within the field of SLA, which has helped generate an impetus for more attention to pragmatics within L2 pedagogy. The application of Schmidt's and Bialystok's theories on the role of attention and awareness to issues of L2 pragmatic development has also opened up important research avenues, particularly around the relative effects of implicit vs. explicit pragmatic instruction. Moreover, cross-sectional research within interlanguage pragmatics has helped reveal divergences between learners' L2 pragmatic awareness and pragmatic judgments and those of native speakers. This has been useful in identifying learners' needs and considering pedagogical responses, primarily in terms of guiding learners towards more native-like pragmatic production and contextual assessment.

It is important to note that whilst empirical research within interlanguage pragmatics frequently compares L2 learners to native speakers, there is wide recognition that language learners themselves may not necessarily wish to emulate native speakers and that the goal of developing pragmatic awareness does not necessarily imply coercion to do so (For example, Bardovi-Harlig 1996; Dewaele 2008; Dufon 2008; Judd 1999; LoCastro 2003; Ishihara and Tarone 2009; Ishihara and Cohen 2010; van Compernelle and Williams 2012; Yashima 2009). Ishihara and Cohen (2010: 87) argue for the need "to ensure that learners recognize the shared interpretation of their utterances in the community and potential consequences of their pragmatic behaviour." The key issue here is that what is being advocated is not ignorance of L2 pragmatic norms, but an awareness of two dimensions: what the norms themselves are, and what the potential consequences could be for diverging from the norms. Thus, many suggestions for pragmatic awareness raising in the L2 classroom have involved explicit comparison of L1 and L2 pragmatic norms. At the level of pragmatic awareness, this can involve learners brainstorming and comparing the realization strategies available for particular speech acts in the respective languages, whilst at the level of sociopragmatic awareness the focus is on which forms would be considered preferable for carrying out speech acts depending on contextual variables such as size of imposition, degree of power difference, and more (Judd 1999).

From a comparative perspective, development of pragmatic awareness is minimally understood as growing acknowledgment of differences between the pragmatics of the L1 and L2, which will help the learner avoid unintended pragmatic transfer (Bardovi-Harlig 1996; Eslami-Rasekh 2005; Ishihara and Cohen 2010; Kasper and Rose 2001; Martínez-Flor and Usó-Juan 2006). At a more general

level, pragmatic awareness enhances the learner's ability to consider the interactional consequences of particular linguistic strategies in interaction. In other words, it assists learners to "listen to interactions, to watch for reactions, to consider what may result from one choice of words over another" (Bardovi-Harlig 1996: 29). In this way, pragmatic awareness development can be seen as cultivation of sensitivity to the nature of communication which then empowers the learners to experiment with language and encode their own values into a "clear, unambiguous message" (Bardovi-Harlig 2001: 31).

One critique of the interlanguage paradigm is that the conceptualisation of the pragmatic domain in terms of mappings between form, functions, and context has engendered a rather narrow perspective on issues of pragmatic appropriateness. The emphasis in empirical research is frequently on learners' ability to discern "correct" pragmalinguistic choices given short contextual descriptions in DCTs or pragmatic judgment tasks. Such elicitation devices require learners to indicate the most appropriate way to "apologize to a friend" or "request an assignment extension from a professor", and therefore appear to assume that the meanings of relational categories such as "professor" or "friend" give rise to transparent expectations about the impact of social distance or power distance on pragmatic choices (McConachy 2018). In other words, the focus on correct pragmalinguistic selection as evidence of pragmatic awareness reflects a narrow view of the sociopragmatic domain in which sociopragmatic variables determine what is appropriate. A further issue is that elicitation methods that infer pragmatic awareness from the ability to select the most appropriate linguistic option or sentence-level pragmatic production, do not necessarily reveal the how learners perceive contextual elements and how it shapes their assessments of what is appropriate or inappropriate (van Compernelle and Kinginger 2013). Moreover, they do not elicit learners' awareness of the interactive elements of pragmatic meaning, such as how pragmatic selection shapes perception of context as discourse unfolds (Taguchi 2017). Within the interlanguage paradigm, the overemphasis on pragmalinguistic selection has meant that there has been little empirical attention to learners' own perceptions of the sociopragmatic domain and the kind of awareness that might be evidenced when they articulate these perceptions. Such awareness has been addressed more explicitly within work based on sociocultural theory, which will be discussed below.

4. Pragmatic awareness and sociocultural theory

4.1. Theoretical orientation

There is an increasing number of investigations which have adopted the lens of sociocultural theory (SCT) to examine the acquisition of L2 pragmatic competence (e. g. Alcon Soler 2002; Henery 2015; Kinginger 2008; Ohta 2001; Takam-

iya and Ishihara 2013; van Compernelle and Kinginger 2013; van Compernelle, Gomez-Laich and Weber 2016). A fundamental tenet of sociocultural theory is that learning is mediated by social interaction through a gradual process in which the learner appropriates knowledge and tools for mental development and ongoing learning from more competent others (Lantolf and Thorne 2006). Such learning is thought to occur in a space of scaffolded learning potentiality referred to as the zone of proximal development (Vygotsky 1978). Learning is closely related not simply to the acquisition of rules for behaviour, but also to the acquisition of concepts which mediate decision-making, including cognitive representations such as schemas, scripts, and assumptions. Such a theoretical perspective has generated new ways of looking at L2 pragmatic learning, particularly the co-construction of pragmatic knowledge and awareness, and the role of sociopragmatic concepts in developing understanding.

Within SCT work on pragmatic awareness, learners' development of awareness of pragmalinguistic resources and sociopragmatic notions are both important. However, the relationship between pragmalinguistic awareness and sociopragmatic awareness is treated in a distinctive way. Whereas work in the interlanguage paradigm tends to treat pragmalinguistics as primary, work in SCT treats sociopragmatics as primary (van Compernelle 2014). That is, pragmatic development is not seen as a matter of mapping forms onto context, but rather of developing analytical thinking about sociopragmatic notions that will enhance learners' ability to make contextual assessments and select linguistic forms in a sensitive and flexible way. In other words, pragmatic selection is seen as mediated by learners' conceptual understanding of sociopragmatic notions such as politeness, power, social distance, formality etc. As discussed in the previous section, lower levels of metapragmatic awareness tend to be characterised by reliance on pragmatic rules of thumb and the tendency to understand sociopragmatic notions, such as "formality", in an unanalysed way. Within the SCT perspective, the development of sociopragmatic awareness through scaffolded reflection on sociopragmatic notions allows learners to question pragmatic rules of thumb and start thinking more flexibly about how social meanings and impressions can be constructed (van Compernelle 2014). It is theorised that over time learners come to see such sociopragmatic notions (such as social distance) as features of interpersonal relationships that individuals orient to in their interactions in a dynamic way depending on the respective agendas and communicative moves of participants, amongst a range of variables. Van Compernelle and Williams (2012) suggest that, over time, concept-based awareness evolves into a broader understanding of "contingency" as a principle of interaction. They regard such understanding as central to developing agency in the L2 – the ability to exploit options for interaction to exercise one's identity.

An issue of particular importance in SCT work on pragmatic awareness is the role of collaborative talk in supporting metapragmatic reflection and eliciting awareness. This importance derives from the dialectical relationship between

speaking and thinking posited by SCT, whereby the act of articulating one's conceptions and interpretations not only represents thought but also helps to develop it (Vygotsky 1986). This is sometimes captured through the metaphor of "languaging" (e. g. Swain 2006). In classroom interactions, which may or may not involve the teacher, collaborative dialogue that is centred on metapragmatic analysis and reflection creates a space for learners to develop insights into L2 pragmatic norms while simultaneously reflecting on their own knowledge (van Compernelle 2014). Collaborative dialogue which promotes metapragmatic awareness is particularly conspicuous in learning tasks which require learners to articulate rationales for their judgments of the appropriateness/inappropriateness of pragmatic choices (van Compernelle and Kinginger 2013). That is, collaborative dialogue encourages learners to articulate with increasing specificity how they perceive L2 norms and how they might wish to position themselves in relation to them in their interactions.

4.2. Empirical work on pragmatic awareness in SCT

Work which has explicitly looked at the development of pragmatic awareness from the perspective of sociocultural theory has predominantly emerged within the last 10 years (Kinging 2008; Kinginger and Belz 2005; Morollon Marti and Fernandez 2016; Takamiya and Ishihara 2013; van Compernelle 2014; van Compernelle and Kinginger 2013; van Compernelle, Gomez-Laich and Weber 2016). Empirical work has aimed to capture metapragmatic awareness development as an active process of meaning construction by the learner (and interlocutors) rather than a process of internalising restricted notions of L2 norms. This has led to a distinct emphasis on how learners articulate their understandings of pragmatic features. The development of metapragmatic awareness in relation to the L2 French pronoun system has been a particularly popular focus. Kinginger's (2008) study of the L2 pragmatic development of 17 U.S. learners of L2 French in the study abroad context was pioneering in this area, as it combined pre-test and post-test comparisons of pragmatic performance with qualitative data obtained from interview, journals and diaries to understand productive development and awareness development. Whilst the data showed that in-country experience helped learners develop their awareness of the subtleties of the T/V system, this was also largely dependent on the quality of each learner's social experiences.

Studies by van Compernelle (2014) and Henery (2015) have also looked at L2 French learners' metapragmatic awareness development through pedagogical interventions. van Compernelle's (2014) study of the pragmatic acquisition of L2 French by second-year undergraduate students in the U.S. examined learning within the context of one-on-one instructional sessions as part of a 6-week pedagogical enrichment program. The pedagogical enrichment involved concept-based instruction, mainly of French T/V forms, which are highly salient in interaction in French for indexing degrees of closeness, formality, and other interpersonal dimensions.

van Compernelle (2014) examined the process of metapragmatic awareness development through individual and collaboratively constructed verbalized reflections on the basis of appropriateness judgment tasks and strategic interaction scenarios. What is particularly innovative in this study is that it shows how learners deal with ambiguities which arise when they attempt to apply their existing metapragmatic conceptions (often derived from pragmatic “rules of thumb”) to actual instances of pragmatic decision-making. For instance, van Compernelle’s data shows that when learners attempt to apply simplified understandings such as that *tu* is “friendly” and *vous* is “formal” to real situations, they encounter difficulty in explaining actual linguistic choices and their interactional effects. This study highlights the importance of learners confronting dissonance between existing understanding and linguistic evidence in order to move towards more nuanced understanding of pragmatic meanings. It particularly highlights the important role of teacher scaffolding in drawing out learners’ perceptions of pragmatic features and helping them systematically reflect on sociopragmatic concepts. van Compernelle (2014) suggests that the significance of concept-based instruction is not necessarily that learners change their judgments about what is or is not appropriate language use, but that they come to more informed understandings of how such judgments are made. In this sense, metapragmatic awareness development includes a strong reflexive element, as learners’ notice the limitations of current knowledge.

Inspired by van Compernelle’s (2014) study, Henery (2015) reports on part of a study that looked at the development of metapragmatic awareness in relation to the French address system by two speakers of English during study abroad in France. One unique aspect of this study is that it compared metapragmatic awareness development between students who took part in a pedagogical intervention and those who did not. All students attended meetings with the researcher before and after study abroad and were asked to submit regular journal entries. However, students in the pedagogical enrichment group experienced language awareness interviews, completed journal entries twice per week, and had one-on-one journal discussions with the researcher every two weeks. The analysis presented in Henery (2015) deals with metapragmatic awareness development of two focal participants; one who did not participate in the intervention and one who did. The intervention itself consisted of language awareness interviews built around the sociopragmatic notions of self-presentation, social distance, and power. The data supports the notion that sociopragmatic reflection aids the development of more advanced metapragmatic awareness. Although both focal participants in this study developed their abilities to consider issues of self-presentation and language use in more analytical and reflective ways, the participant who took part in the intervention showed particular development. Specifically, this participant had developed the ability to systematically base metapragmatic explanations of the French address system (particularly use of pronouns *tu* and *vous*) in the three concepts of self-presentation, social distance, and power. Moreover, this participant showed recognition

of the potential for address forms to not only represent actual distance between participants but to sometimes reflect expectations about particular roles, such as when *vous* may be used in a professional setting amongst individuals who are in fact 'close'. The data from this study lends support to the theoretical notion that sociopragmatic concepts function as effective tools for mediating metapragmatic thinking and supporting the development of metapragmatic awareness.

4.3. Reflective summary and discussion

As a whole, the SCT work on metapragmatic awareness has played an important role in shifting attention towards the sociopragmatic dimensions of awareness and the important role of analytical and reflective thinking scaffolded by teachers and peers. The SCT perspective on metapragmatic awareness has also helped liberate the notion from the highly normative conceptions evident within the interlanguage paradigm, particularly by placing more theoretical emphasis on the learner as agent. As discussed above, recent empirical work has effectively shown that going beyond pragmatic prescriptions, developing conceptual understanding of sociopragmatic notions, and gaining insight into the dynamic negotiation of meaning in the L2 are crucial dimensions of metapragmatic awareness development. One current limitation of SCT work on L2 metapragmatic awareness is that it remains primarily within a monolingual frame and, as such, has not yet looked at how learners' emerging understanding of sociopragmatic notions is influenced by L1 pragmatic norms and broader cultural ideologies (Liddicoat and McConachy 2019). For example, how is the way that learners come to understand notions such as social distance or politeness influenced by ideologically constructed assumptions about hierarchical social relations or role-relations embedded in a learner's L1? How do learners move between cultural assumptions associated with different languages when contemplating their own pragmatic production? Moreover, is it really possible to theorize the issue of agency without dealing with the relationship between L1 and L2 pragmatic awareness and broader issues of identity? Although Henery (2015) does mention the need to move towards more multilingual perspectives on metapragmatic awareness, this is still an area that needs much development.

5. Intercultural perspectives on pragmatic awareness

5.1. Theoretical orientation

In recent years, there has been increased recognition of the intercultural and multilingual dimensions of L2 pragmatic development (E. g. Cohen and Sykes 2013; Kecskes 2014, 2015; Koutlaki and Eslami 2018; Liddicoat 2016; Liddicoat and McConachy 2019; McConachy 2018; McConachy and Liddicoat 2016; Meier

2010, 2015; Taguchi 2015b). Within an intercultural orientation to L2 learning, the structural resources and patterns of use within different languages are seen as reflecting and constructing different conceptualisations of the physical and social world, as embedded in the lexicon, syntactic patterns, pragmatic realizations, discourse patterns, and genres (Liddicoat 2009). Based on this theoretical view of language, L2 pragmatic learning is seen fundamentally as a process of coming to interpret and engage in culturally shaped practices of meaning making, developing awareness of the ways that language use achieves social actions and constructs cultural meanings in a variety of contexts of use, both within and across languages. This means that developing awareness of the context-dependency of meaning and the ways that cultural assumptions influence judgments about appropriate/inappropriate language use is core to the learning process (Haugh and Chang 2015; McConachy 2018). Within such an orientation to learning, there is a strong comparative and reflexive dimension, as reflection on assumptions about language use leads to recognition of one's own positioning as a cultural being, and how one's own interpretive standpoint influences linguistic judgments (Liddicoat and Scarino 2013).

An intercultural orientation to L2 pragmatic development incorporates a multilingual perspective on learning and use in at least three main ways. Firstly, it moves away from viewing the typical language learner as a monolingual individual learning an additional language primarily to communicate with a monolithic native speaker of the language. It recognizes that learners are frequently multilingual (or becoming multilingual) and study additional languages to add to their repertoire for specific communicative purposes. Secondly, it assumes that learners will need to engage with interlocutors of diverse linguistic and cultural backgrounds, who are themselves likely to be multilingual. Therefore, the learning process needs to prepare them for communication that is likely to be dynamic, multilingual, and informed by diverse assumptions about appropriate language use (Leung and Scarino 2016). Thirdly, it sees the process of learning itself as inherently multilingual due to the emphasis on exploring the ways that the structural resources and pragmatic practices within different languages construct different meaning-making potential (McConachy 2018). The learning process involves strategic processes of relating languages and cultures to each other to develop broad multilingual pragmatic awareness and a dynamic system of knowledge to engage in diverse meaning-making practices (Jessner 2008; Liddicoat and Scarino 2013). In this section, we draw on work on the multilingual mind and intercultural communication to expand on this view of pragmatic awareness as a multilingual and intercultural phenomenon.

Within an intercultural orientation, pragmatic awareness development is shaped by dynamic interaction between learners' existing pragmatic knowledge and assumptions anchored in the L1 and awareness of L2 pragmatic norms developed throughout the learning process (McConachy 2018). Assumptions, conceptualizations, scripts, beliefs and values associated with previously acquired lan-

languages are active in the process of language learning and inevitably influence the interpretive processes by which individuals attempt to map out the affordances for constructing social meanings within the new language (Kecskes 2014). At the pragmalinguistic level, learners bring with them a stock of implicit and explicit knowledge as to how particular speech acts and other pragmatic functions can be achieved through the articulation of linguistic utterances in their L1. As languages necessarily differ at the pragmalinguistic level, the learning experience provides opportunities for noticing differences in these patterns (Schmidt 1993) and becoming aware of the potential for misunderstandings or potential face-threats due to differing degrees of directness or indirectness. Learners become aware of how different languages index social distinctions (such as indexing of gender, status, formality etc.), which provides an entry point for considering the relativity of these distinctions and the role of language in constructing cultural perspectives (Liddicoat 2006). At the sociopragmatic level, learners come to the learning process with a wide range of existing assumptions about interpersonal relationships, such as the degree of power and distance of given role-relationships, the scope of the rights and obligations of individuals in particular contexts of interaction, as well as an understanding of the costs and benefits, face considerations and so on associated with certain speech acts. These assumptions will tend to be less accessible to conscious articulation, but will surface within consciousness when learners are confronted with sociopragmatic norms (such as norms for politeness) that conflict with those of the L1, such as different assumptions about the importance of power distance in constructing speech acts such as request, offers, invitations etc. (McConachy 2018).

The experience of difference around issues of sociopragmatic appropriateness can trigger strong emotional and cognitive reactions, particularly when dissonance leads learners to construe instances of L2 language use or L2 speakers as socially or morally objectionable. It is not uncommon for L2 learners to construct negative evaluations of L2 users due to applying assumptions about interpersonal rights and responsibilities drawn from the L1. For instance, learners who come from a cultural background in which egalitarian language ideologies are prevalent may struggle to accept that indexing hierarchy through pragmatic choices is an essential part of constructing oneself as a mature speaker within some languages (e. g. Ishihara and Tarone 2009; Siegal 1996). Assumptions about the importance of hierarchy in interpersonal relations are particularly likely to lead to strong emotional reactions due to the fact that they are closely linked to deeply embedded cultural values inculcated through schooling, as well as language ideologies circulated within society (Menard-Warwick and Leung 2017). In view of such potential emotional challenges, McConachy (2018) has argued for the need to see pragmatic awareness as both an emotional and cognitive phenomenon. He suggests that one of the ways that metapragmatic awareness manifests is when learners are able to work through their discomfort with particular aspects of L2 pragmatics by consciously identi-

fyng the nature of their emotion, the particular pragmatic features that appear to be the target of the emotion, and the underlying assumptions that lead to such an emotion. When learners are able to reflect on the reasons for their cognitive and emotional reactions to pragmatic features, it can lead to awareness of the role of language ideologies in shaping perceptions of appropriate language use in both the L1 and L2, but this requires a willingness from the learner to challenge existing assumptions (McConachy 2018).

Within an intercultural orientation, much emphasis is placed on the development of metapragmatic awareness through a process of relating languages and associated cultural assumptions to each other. There is thus a vital role for reflecting on the L1. Whereas Bialystok's (1993) two-dimensional processing model sees gaining "control" of L1 pragmatic representation as fundamental to L2 pragmatic learning, this is premised on an interlanguage perspective in which L1-derived conceptions are a hindrance to language learning and use. Within an intercultural perspective, it is not so much a matter of 'controlling' existing representations, but of consciously positioning them against new representations and exposing the cultural assumptions, values, and ideologies they are associated with. Such a process is driven by metapragmatic interpretation and gradual decentering from taken for granted assumptions about pragmatic norms and meanings to see the pragmatic system of each language as a valid meaning-making system in its own right (Liddicoat and Scarino 2013; Liddicoat 2014; McConachy and Liddicoat 2016). This means that the interaction of languages in the mind brings about unique synergies and a fundamental conceptual reorganization as individuals draw on and attempt to reconcile different sociocultural understandings drawn from multiple languages (Kecskes 2014). This resonates with Cook's (2016) notion of multicompetence, which recognizes that interactions between languages in the mind serves to enhance individuals' interpretative and productive capacities.

This ability to be able to recognize different pragmatic norms and suspend judgment has particular importance when considering the goal of preparing learners for interaction with speakers from a wide range of linguistic and cultural backgrounds. In considering awareness for intercultural communication, Meier (2015) has argued that the main goal is to develop the skills to be able to negotiate meaning effectively in many different contexts. This is because people do not operate according to fixed rules but rather use language creatively and variably according to context and situation. She suggests that "being mindful of the possible parameters along which such perspectives could vary provides a basis for noticing as one is alert to the ways in which contextual variables might be differently perceived in terms of affecting linguistic behavior" (Meier 2015: 29). Meier (2015: 29) suggests that the concept of noticing or awareness could be applied to four dimensions of intercultural communicative competence:

- 1) Language-culture awareness of one's own and others' languages and cultures
- 2) Awareness of relevant contextual variables
- 3) Awareness of difference (i. e., of others' perspectives and of varied meanings assigned to relevant contextual features, which translates into an emic perspective)
- 4) Awareness of interactional strategies

Although Meier does not use the term pragmatic awareness here, it is clear that there is a strong pragmatic dimension to her theorization. Pragmatic awareness is implicated in the ways that individuals see context and the ways they interpret and evaluate linguistic behaviors on the basis of context. However, awareness extends to the cultural assumptions and values underlying perceptions of context. There is also a strong intercultural dimension to pragmatic awareness here, as becoming able to detect and understand the basis of judgments of appropriate language use from another cultural perspective and relate it to one's own is seen as the key to successful communication. Although specific cultural examples are required to facilitate analysis and reflection, awareness goes beyond discrete item learning and narrow mappings between form, function and context. Meier (2015: 29) explains that learners thus need to become "smart and selective noticers." This viewpoint is in line with those of well-known intercultural theorists, such as Gudykunst (2004), Thomas (2006) and Ting-Toomey (1999), who label it mindfulness rather than noticing. In their view, mindfulness is a critical facet of intercultural competence (or, in Thomas' [2006] terms, cultural intelligence), and while it has similarities to the concept of noticing, it is in fact much broader in scope. This is illustrated by Thomas' (2006: 85) explication of it:

... mindfulness (at a highly developed level) means simultaneously:

- Being aware of our own assumptions, ideas, and emotions; and of the selective perception, attribution, and categorization that we and others adopt;
- Noticing what is apparent about the other person and tuning in to their assumptions, words, and behaviour;
- Using all of the senses in perceiving situations, rather than just relying on, for example, hearing the words that the other person speaks;
- Viewing the situation from several perspectives, that is, with an open mind;
- Attending to the context to help to interpret what is happening;
- Creating new mental maps of other peoples' personality and cultural background to assist us to respond appropriately to them;
- Creating new categories, and recategorizing others into a more sophisticated category system;
- Seeking out fresh information to confirm or disconfirm the mental maps;
- Using empathy – the ability to mentally put ourselves in the other person's shoes as a means of understanding the situation and their feelings toward it,

from the perspective of their cultural background rather than ours (Gardner 1995; Langer 1989).

In terms of processes, mindfulness entails noticing, attending, being aware, seeking out, creating, and using empathy in relation to (a) the situational context and (b) the assumptions, ideas, mental categories and emotions of self and others. Neither Meier (2015) nor any of the other intercultural scholars use the term pragmatic awareness with regard to the above, so one might question why, or in what way, this broad notion of mindfulness is relevant to the development of pragmatic awareness in L2 learners. Might not the skills of mindfulness be developed during the process of acquiring one's first language and thereafter be applicable to all communication contexts (irrespective of language) because of their universal nature? In certain respects this may be the case, but as Meier (2015: 28) points out, how much time and effort (i. e. degree of mindfulness) one needs to invest in a given communicative interaction depends at least partially on how much mutual understanding the interlocutors have of all the various elements that need attending to. In unfamiliar contexts, mindfulness is even more critical than in familiar contexts because the possibility of cultural variation increases the need for the signals to be attended to and processed very carefully.

Spencer-Oatey (2008: 43) maintains that there can be cultural variation in at least the following areas which can affect language use: Contextual assessment norms, sociopragmatic principles, pragmatolinguistic conventions, fundamental cultural values, and inventories of rapport management strategies. With regard to contextual assessment norms, one important aspect is the nature of the relationship between the participants (how equal/unequal and close/distant they feel they are), which is often closely related to their role relationship. Brown and Levinson (1987: 74, 76) point out that people's assessments of P/D are not absolute but merely reflect their assumptions of the nature of the relationship. If this is the case, then it is quite possible that in intercultural contexts, there may be some degree of mismatch between people's perceived levels of P/D, since their assumptions about the nature of role relationships may be different. For example, Spencer-Oatey (1997) found that British and Chinese tutors and postgraduate students held significantly different perceptions of the tutor–student relationship. Chinese respondents judged it to be significantly closer and to have a significantly greater power differential than British respondents did. Moreover, for the British respondents, P and D were positively correlated; in other words, the greater the power differential they perceived, the greater the distance they felt there to be between tutors and students. Or put more simply, for the British, high P and low D seemed to be incompatible. For the Chinese respondents, on the other hand, there was no significant correlation, suggesting that the two are unconnected and that high P and low D, for instance, are as possible as high P and high D. Brown and Levinson (1987: 243) also point out that there may be differences between societies in people's overall assessments

of P and D, with some social groups generally valuing status differentiation and others being more egalitarian, and that this is likely to be reflected in the relative frequency of high or low P judgements. In status-oriented societies, high P judgements are likely to be widespread, while in egalitarian societies low P judgements are likely to be more common.

Another important aspect of the context that could be subject to cultural variation and that therefore requires pragmatic awareness and mindfulness is the nature of the communicative event and the interactional conventions that are associated with it. For example, in a formal business meeting involving delegates from different companies and/or countries, there may be numerous different conventions associated with a wide variety of elements, such as who should sit where, how refreshments are served, what topics can be talked about, who can control them, participants' turn-taking rights, and levels of acceptable humour and animation. If participants are unaware of (or unfamiliar with) differences in conventions associated with elements such as these, they can easily become offended if they experience something different from what they were expecting (e. g. see Spencer-Oatey and Xing, 2008; Wang and Spencer-Oatey, 2015a, 2015b). Perhaps the best way of illustrating this is to present an example.

The extract that we analyse comes from Miller (2008) and concerns a meeting that took place in a Japanese advertising agency in Japan between an American copy editor, Ember (E), and a Japanese co-worker, Nakada (N). They are reviewing some advertisements for which Ember has provided the English copy. Nakada is an account executive who is in a higher position of authority in the company than Ember. In the extract below, they are discussing one advertisement in particular:

Extract 1

- 1 E I mean yuh can see through it right
- 2 you don't have to use your imagination you can
- 3 see every little thing so-(it's?) right
- 4 (it?) plays off of the-the visual
- 5 (leaves?) nothing <<wh> to the imagination>
- 6 (0.5)
- 7 N (.hss) Is that so?
- 8 (0.2)
- 9 N idea is cl-very clear to me [now]
- 10 E [no:w]
- 11 N this video can do everything=
- 12 E =do everything
- 13 (0.8)
- 14 N But too much pitch for the vi(hihi)sual
- 15 E too (hihi) much? [no no no no]
- 16 N [too much visual] no?

- 17 E no (.) no I don't think so
 18 (0.2)
 19 N {smacks lips} (.hhh) maybe
 20 E (maybe?)
 21 N ye[ahh]
 22 E [I thin] I think it's okay

The interaction starts with Ember explaining his advertisement (lines 1–5) and with Nakada making some initial evaluative comments which, at face value, sound neutral or positive (lines 7–11). However, after this, Nakada makes a negative evaluation (line 14), and Ember disagrees with him explicitly, saying ‘no no no no’ (line 15). He disagrees again in line 17, this time in a little more mitigated manner, after which there is a 2 second pause. Nakada then comments ‘maybe’ (line 19) and shortly afterwards Ember (line 22) reiterates his personal viewpoint. Miller does not provide the transcript of the interaction beyond this point, but she reports that at the end of the conversation, Nakada tells Ember to “think about” the advertisement for a little longer.

A few days later it turns out that the advertisement has been excluded from their current campaign and this news surprises Ember because he had not picked up on Nakada’s indirect signals of disapproval. Miller talked with both Nakada and Ember about the interaction afterwards, and reports that they had noticeably different interpretations and evaluations from each other. Ember thought the purpose of the meeting with Nakada was simply for him to explain his ideas for the advertisements. Nakada, on the other hand, saw the meeting as an occasion for a senior (himself) to tell a subordinate (Ember) which advertisement copy had been selected for use and which had been retracted. Ember clearly misjudged how appropriate it was to express his own viewpoints and to try to negotiate them with Nakada, and it is likely that this stemmed (at least in part) from differing interpretations of their hierarchical relationship. In French and Raven’s (1959) terms, both Nakada and Ember were aware that Nakada had legitimate power over Ember. From an operational point of view, Nakada clearly had both reward and coercive power over Ember, since he could decide whether or not to include Ember’s advertisement in the campaign. But it seems that Ember was unaware of the extent of these various aspects of Nakada’s power. Ember, on the other hand, may have regarded himself as having a certain amount of expert power – that he was in a better position to judge the suitability of an advertisement for an English-speaking audience than Nakada was.

What intercultural pragmatic awareness, therefore, would have helped these individuals reduce this misunderstanding? As Table 1 indicates, it seems to entail a combination of the various elements of potential cultural variation that Spencer-Oatey (2008: 43–44) identifies.

Table 1: Differing pragmatic perspectives of the interlocutors in Miller's (2008) example of intercultural workplace interaction

	Ember's perspectives	Nakada's perspectives
Contextual assessment: role relationship/ power relations	<ul style="list-style-type: none"> – Nakada is senior to him – Ember knows the English speaking market better than Nakada and thus has more 'expert power' 	<ul style="list-style-type: none"> – Ember is junior to him – Ember will respect his decision
Contextual assessment: communicative event	<ul style="list-style-type: none"> – The purpose of the meeting is to discuss the ad, with Ember explaining his perspective 	<ul style="list-style-type: none"> – The purpose of the meeting is for Nakada to convey his decision
Pragmalinguistic conventions	<ul style="list-style-type: none"> – Ember does not notice indirect signals (such as pausing, smacking of lips; in-breath) 	<ul style="list-style-type: none"> – Nakada believes he is conveying his negative evaluation clearly
Sociopragmatic principles	<ul style="list-style-type: none"> – 'Good employees' argue their viewpoints 	<ul style="list-style-type: none"> – 'Good employees' display deference and humility
Fundamental cultural values	<ul style="list-style-type: none"> – Subordinates should be consulted and their viewpoints taken into account 	<ul style="list-style-type: none"> – Hierarchy should be respected and senior staff should be obeyed
Rapport management strategies	<ul style="list-style-type: none"> – Preference for explicit expression of opinions 	<ul style="list-style-type: none"> – Preference for implicit expression of opinions

In this example, both interlocutors needed to demonstrate much greater pragmatic awareness and mindfulness in interpreting the context and the meaning of each other's linguistic behaviour. According to Miller (2008), Ember felt that Nakada had deliberately misled him, while Nakada felt that Ember was "churlishly argumentative". So their limited intercultural pragmatic awareness resulted in negative evaluations of each other. Here we can see clearly that pragmatic awareness entails far more than the noticing of pragmatic features of language. It incorporates the broad scope of elements, listed above, that Thomas (2006: 85) attributes to mindfulness, and demonstrates that insufficient pragmatic awareness can result in misunderstandings and potentially damaging negative evaluations.

One of the criticisms of taking an intercultural perspective on pragmatic awareness is that there is so much individual variation that it is problematic to identify normative behaviour. In certain respects this is true, because even individuals from

the same cultural group often differ very significantly from each other in their behaviour and preferences. However, this does not mean that the two perspectives are fundamentally contradictory. Here the concept of “normalcy” is helpful (Minkov 2013; Spencer-Oatey and Žegarac 2018). Through our socialisation, we all develop a sense of the frequency and acceptability of different types of behaviour, and our evaluative judgements are based on this awareness. We typically regard large deviations from frequent or “normal” behaviour as idiosyncratic or even abnormal, while we may barely notice minor deviations. However, this sense of normalcy is derived from the socialisation that we have experienced within our own social groups, and so when we interact with people from unfamiliar social groups we may have more difficulty in making normalcy judgements. So one aspect of developing pragmatic awareness entails developing people’s sense of normalcy regarding different linguistic behaviours. In relation to this, Molinsky’s (2013) concept of “zone of appropriateness” is helpful. He explains this as follows:

When adapting our behavior across cultures, we often mistakenly believe that there is one very specific way of acting in that new setting – as if the required behavior were like the center of an archery target, and you received no “points” unless you hit that very specific bull’s-eye. But that’s simply not true. Instead, there is a zone – a range – of appropriate behaviour, and your job is to find a place within this zone that feels natural and comfortable for you: somewhere within your *personal comfort zone*. (Molinsky 2013: 17)

He then goes on to point out that the first step in the adaptation process is “diagnosis”, whereby people identify any gaps between their personal comfort zone and the zone of appropriateness in their unfamiliar context. Pragmatic awareness is an important component of this and the elements identified and illustrated in Table 1 provide a framework for conceptualising it. In terms of pragmatic awareness development, the ultimate goal is not necessarily to help individuals conform to pre-existing behavioural forms, but rather to become aware of the various dimensions of variability that occur across a range of contexts and the degree of normalcy associated with the different behaviours that they are likely to experience. Such a broadened conception of L2 pragmatic awareness thus recontextualises awareness within the context of L2-mediated intercultural communication.

5.2. Empirical work on pragmatic awareness in intercultural language learning

Empirical work on L2 pragmatic awareness development from an intercultural perspective has begun to emerge mainly in the last 10–15 years (e. g. Kecskes, 2014, 2015; Kondo 2008; Liddicoat 2006; McConachy 2013, 2018; McConachy and Liddicoat 2016; Warner 2012). In common with some of the work in SCT, such work aims to capture pragmatic awareness and its development as it emerges from

learners' interpretive engagement with pragmatics-based notions and resources within classroom learning. This includes empirically teasing out the ways in which learners construct understandings of pragmatic phenomena through their classroom interactions, while reflecting on how cultural frames of reference and assumptions influence the ways pragmatic acts are interpreted. As a seminal study in this area, Liddicoat (2006) examined the way a group of Australian learners of L2 French gradually moved away from pragmatic rules of thumb to develop insight into the sociocultural and interpersonal complexities associated with use of the pronouns *tu* and *vous*. Students engaged with a variety of authentic resources demonstrating use of these forms, which students explicitly compared against the metapragmatic explanations of these forms in language textbooks. Liddicoat elicited learners' metapragmatic commentary at intermittent points throughout the semester to examine the nature of insights into the indexical potential of these pronouns that students had developed through increased exposure to different examples and opportunities for reflection. The data showed that as learners began to see forms as contextually contingent interpersonal resources, they increasingly reflected on L1 pragmatics and began to explore the assumptions behind social relationships in the respective countries. As learners developed insight into the complexity of the L2 French pronoun system, they began to look more objectively at the English language and to consider the implications of having different linguistic options available for indexing closeness or formality in interpersonal relations. In this study, pragmatic awareness development was thus constituted by a shift from viewing pragmatolinguistic forms as linguistic habits within a language to viewing them as interpersonal resources that function within a broader sociocultural system. This then helped learners shift perspective towards the L1 and to appreciate that linguistic features (in this case, address forms) create different kinds of meaning potential and are supported by different kinds of cultural logic.

Whilst Liddicoat's (2006) study looked at pragmatic awareness in relation to the acquisition of pronouns in French, McConachy (2018) looked at how Japanese learners of English developed pragmatic awareness through an analytical and reflective engagement with speech acts such as requests, apologies and compliments, as well as conversational routines involving talk about the weekend. This study was conducted within a 10-week course on communicative English for adult learners, but looked at development within the context of particular tasks and classroom interactions rather than adopting a longitudinal developmental perspective. In this sense, the focus on developing awareness through collaborative talk has synergies with work on pragmatic awareness within SCT. However, McConachy (2018) draws on theories of intercultural communication, intercultural learning and metapragmatics to construct a theoretical notion of pragmatic awareness as a multilingual and intercultural phenomenon, as discussed earlier in this chapter. For this study, he looks at the development of metapragmatic awareness through talk within the framework of intercultural language learning practices proposed by

Liddicoat and Scarino (2013). This framework sees learning as constituted through interrelated learning practices of interacting, noticing, comparing, and reflecting. McConachy examines the ways that engagement in these learning practices leads to articulation of learners' perceptions of L1 and L2 pragmatic norms, underlying sociopragmatic perceptions, as well as broader cultural ideologies and stereotypes. It thus closely analyses the ways in which analytical and reflective talk leads to the articulation and development of metapragmatic awareness, with particular attention to reflexive dimensions of awareness and the process of problematising existing assumptions.

This study also focused on the role of collaborative dialogue in constructing metapragmatic interpretations of L1 and L2 use, and the ways in which different ideas about pragmatic appropriateness that surfaced amongst the Japanese students helped to challenge essentialist perspectives on culture. The data showed that the process of reflecting on various language samples and interactional incidents helped learners articulate their assumptions relating to appropriate pragmatic behaviour, many of which learners themselves perceived to be rooted in cultural norms and values within Japanese society. The data also illustrates that learners' perceptions of speakers of different nationalities (including Japanese) played a role in the ways they interpreted pragmatic input, particular in terms of politeness and friendliness. Cultural stereotypes were frequently articulated as a reason for pragmatic behaviours, but then became problematised within collaborative reflection. This study shows that explicit talk about observed and experienced interactions within collaborative dialogue is effective in drawing out a range of assumptions about appropriate language use and interrogating these while conducting intercultural comparison.

5.3. Reflective summary and discussion

Work on pragmatic awareness within intercultural language learning has helped develop theoretical insights into the sociopragmatic domain, particularly in terms of highlighting the impact of cultural assumptions on assessment of context (e. g. power and distance), as well as how individuals can become more aware of the potential for different assessments of context within communication. It has also helped bring a stronger multilingual perspective to the notion of pragmatic awareness by directing theoretical and empirical attention to the dynamic ways that pragmatic knowledge associated within different languages informs L2 pragmatic interpretation and use. From a theoretical perspective, there is still more room for development around the relationship between pragmatics and culture, as the current tendency is to rely on national-level conceptions of culture when discussing the impact of assumptions and values on language use. This tends to mirror dominant conceptions within cross-cultural and intercultural pragmatics, but further work will need to be done in order to clarify how exactly different levels of

culture (e. g. national, regional, institutional) shape L1 and L2 practices and the implications that this might have for how pragmatic awareness is conceptualised within L2 teaching.

Both of the empirical studies reviewed above contribute to understanding the phenomenon of pragmatic awareness within an intercultural perspective on language use, as well as the specific ways that analytical and reflective talk about pragmatic features facilitates the process of awareness development within particular interactional sequences. However, both studies are limited by the fact that they do not deal with pragmatic awareness development from a more long-term perspective. Moreover, although it is valuable that these studies help illuminate the processes of meaning-making which occur as learners engage in pragmatic learning, it is still unclear how this links to the learners' performance in the L2. Will intercultural awareness developed through pragmatics actually lead learners to be more sensitive and mindful interactants in intercultural communication? Is there the possibility that intercultural reflection will actually lead learners to stereotype more? More detailed longitudinal research will be necessary to answer these questions and clarify the value of this approach to pragmatic awareness development in L2 learning.

6. Conclusion

This chapter has provided a comprehensive review and synthesis of the main theoretical perspectives and representative empirical work on the development of pragmatic awareness within L2 learning. It is clear from the synthesis presented here that what constitutes 'development' of (meta)pragmatic awareness is highly dependent on theoretical views of the pragmatic domain and the nature of learning itself. Approaches to pragmatic awareness within the interlanguage paradigm have been based upon a view of the pragmatic domain as a system of mappings between forms, functions, and features of context which constitute the pragmatic norms of a particular language. Pragmatic awareness development is thus closely related to the degree to which learners' awareness of these mappings corresponds with reality. The notion of pragmatic norm is treated as an ontological reality which learners need to comprehend. Within the SCT perspective on pragmatic awareness, the pragmatic domain is seen as centred on sociopragmatic concepts such as distance or power which give rise to linguistic realisation patterns. As such, the development of (meta)pragmatic awareness is closely related to achieving conceptual understanding of sociopragmatic concepts as a way of recognising the dynamic social meanings that speakers in interaction aim to construct and how this influences interlocutors. An intercultural orientation to (meta)pragmatic awareness incorporates insights from the interlanguage paradigm and sociocultural theory, but sees the pragmatic domain as a site within which culturally shaped assump-

tions about the social world anchored in multiple languages dynamically influence how pragmatic features are used and interpreted. Thus, (meta)pragmatic awareness development is seen in terms of the learner's recognition of how cultural assumptions shape the ways individuals attempt to construct and interpret impressions such as politeness, formality etc.

Given the current trajectory of globalization and language usage in the world, future directions in researching and teaching L2 pragmatic awareness are likely to embrace multilingualism and interculturality as inherent phenomena. This does not exclude the need for learners to develop pragmatic awareness of the L2 norms of speech communities or communities of practice relevant to learners, but rather adds to this a mindfulness which is characterised by the ability to flexibly detect and monitor different sociocultural understandings of pragmatic acts to manage rapport in intercultural relationships. Future research on L2 pragmatic awareness development in the classroom will need to consider how experimental work which looks at the nature of learners' awareness at several points in time can be reconciled with and complemented by research which shows how awareness is constructed within concrete classroom interactions. This would suggest a potential synthesis of perspectives on pragmatic awareness drawn from the three main paradigms discussed in this chapter. It is our hope that this chapter might contribute to insights for such a way forward.

Transcription conventions

Symbol	Meaning
(word?)	Guess at unclear text
wo-word	False start
word [word] word [word] word	Overlapping utterances
=	Latching, i. e. two utterances run together with no pause
(.)	Micropause
(0.5)	Pause of specified length
<<wh>>	Words whispered
(hihi)	Laugh particles
(.hss)	Inbreathed fricative
{descriptive comment}	Relevant additional information

References

- Alcon Soler, Eva
2002 Relationship between teacher-led versus learners' interaction and the development of pragmatics in the EFL classroom. *International Journal of Educational Research* 37: 359–377.
- Alcon Soler, Eva
2005 Does instruction work for learning pragmatics in the EFL context? *System* 33: 417–435.
- Bachman, Lyle F.
1990 *Fundamental Considerations in Language Testing*. Oxford: Oxford University Press.
- Bardovi-Harlig, Kathleen
1996 Pragmatics and language teaching: Bringing pragmatics and pedagogy together. In: Lawrence Bouton (ed.), *Pragmatics and Language Learning*, 21–39. (Monograph Series 7.) Urbana, Champaign: Division of English as an International Language, University of Illinois.
- Bardovi-Harlig, Kathleen
1999 Exploring the interlanguage of interlanguage pragmatics: A research agenda for acquisitional pragmatics. *Language Learning* 49: 677–713.
- Bardovi-Harlig, Kathleen
2001 Evaluating the empirical evidence: Grounds for instruction in pragmatics? In: Kenneth R. Rose and Gabriele Kasper (eds.), *Pragmatics in Language Teaching*, 13–32. New York: Cambridge University Press.
- Bardovi-Harlig, Kathleen
2014 Awareness of meaning of conventional expressions in second-language pragmatics. *Language Awareness* 23(1–2): 41–56.
- Bardovi-Harlig, Kathleen, Beverly A.S. Hartford, Rebecca Mahan-Taylor, Mary J. Morgan and Dudley W. Reynolds
1991 Developing pragmatic awareness: Closing the conversation. *ELT Journal* 45(1): 4–15.
- Bardovi-Harlig, Kathleen and Zoltan Dornyei
1998 Do language learners recognize pragmatic violations? Pragmatic versus grammatical awareness in instructed L2 learning. *TESOL Quarterly* 32: 233–262.
- Bardovi-Harlig, Kathleen and Robert Griffin
2005 L2 pragmatic awareness: Evidence from the ESL classroom. *System* 33: 401–415.
- Barron, Anne
2003 *Acquisition in Interlanguage Pragmatics: Learning How to Do Things with Words in a Study Abroad Context*. Amsterdam: John Benjamins.
- Bialystok, Ellen
1993 Symbolic representation and attentional control in pragmatic competence. In: Gabriele Kasper and Shoshana Blum-Kulka (eds.), *Interlanguage Pragmatics*, 43–57. New York: Oxford University Press.
- Billmyer, Kristine
1990 “I really like your lifestyle”: ESL learners learning how to compliment. *Penn Working Papers in Educational Linguistics* 6(2): 31–48.

- Brown, Penelope and Stephen C. Levinson
1987 *Politeness: Some Universals in Language Usage*. Cambridge: Cambridge University Press. Originally published as: Universals in language usage: Politeness phenomena. In: Esther N. Goody (ed.) 1978, *Questions and Politeness: Strategies in Social Interaction*, 56–289. New York: Cambridge University Press.
- Canale, Michael and Merrill Swain
1980 Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics* 1: 1–47.
- Celce-Murcia, Marianne, Zoltan Dornyei and Sarah Thurrell
1995 Communicative competence: A pedagogically motivated model with content specifications. *Issues in Applied Linguistics* 6(2): 5–35.
- Cohen, Andrew D. and Julie M. Sykes
2013 Strategy-based learning of pragmatics for intercultural education. In: Fred Dervin and Anthony J. Liddicoat (eds.), *Linguistics for Intercultural Education*, 87–111. Amsterdam: John Benjamins.
- Cook, Vivian
2016 Premises of multi-competence. In: Vivian Cook and Li Wei (eds.), *The Cambridge Handbook of Linguistic Multicompetence*, 1–25. Cambridge: Cambridge University Press.
- Dewaele, Jean-Marc
2008 “Appropriateness” in foreign language acquisition and use: Some theoretical, methodological and ethical considerations. *International Review of Applied Linguistics* 46: 235–255.
- Dufon, Margaret A.
2008 Language socialization theory and the acquisition of pragmatics in the foreign language classroom. In: Eva Alcon Soler and Alicia Martínez-Flor (eds.), *Investigating Pragmatics in Foreign Language Learning, Teaching and Testing*, 25–44. Clevedon: Multilingual Matters.
- Ellis, Rod
2008 Explicit knowledge and second language learning and pedagogy. In: Jasone Cenoz and Nancy H. Hornberger (eds.), *Encyclopedia of Language and Education* (2nd edition), Volume 6: *Knowledge about Language*, 143–153. New York: Springer.
- Eslami-Rasekh, Zohreh
2005 Raising the pragmatic awareness of language learners. *ELT Journal* 59(3): 199–208.
- French, John R. P. Jr. and Bertram H. Raven
1959 The bases of social power. In Dorwin Cartwright (ed.), *Studies in Social Power*, 150–167. Ann Arbor: University of Michigan.
- Gardner, Howard E.
1995 *Leading Minds: Anatomy of Leadership*. New York: Basic Books.
- Gesuato, Sara
2018 Mixed methods in raising sociopragmatic awareness: A proposal for combining insights from the teacher’s feedback and the interlocutor’s point of view. *System* 75: 48–67.
- Gudykunst, William B.
2004 *Bridging Differences: Effective Intergroup Communication* (4th edition). London: Sage.

- Haugh, Michael and Wei-Lin Melody Chang
2015 Understanding im/politeness across cultures: An interactional approach to raising sociopragmatic awareness. *International Review of Applied Linguistics in Language Teaching* 53(4): 389–414.
- Henery, Ashlie
2015 On the development of metapragmatic awareness abroad: Two case studies exploring the role of expert-mediation. *Language Awareness* 24(4): 316–331.
- House, Juliane
1996 Developing pragmatic fluency in English as a foreign language. *Studies in Second Language Acquisition* 18(2): 225–252.
- Ishihara, Noriko and Elaine Tarone
2009 Subjectivity and pragmatic choice in L2 Japanese: Emulating and resisting pragmatic norms. In: Naoko Taguchi (ed.), *Pragmatic Competence*, 101–128. (Mouton Series in Pragmatics 5.) Berlin: Mouton de Gruyter.
- Ishihara, Noriko and Andrew D. Cohen
2010 *Teaching and Learning Pragmatics: Where Language and Culture Meet*. Harlow, UK: Pearson Education.
- Jeon, Eun Hee and Tadayoshi Kaya
2006 Effects of L2 instruction on interlanguage pragmatic development. In: John M. Norris and Lourdes Ortega (eds.), *Synthesizing Research on Language Teaching and Learning*, 165–211. Amsterdam: John Benjamins.
- Jessner, Ulrike
2008 Language awareness in multilinguals: Theoretical trends. In: Jasone Cenoz and Nancy H. Hornberger (eds.), *Knowledge about Language: Encyclopedia of Language and Education* (2nd edition), 357–369. New York: Springer.
- Judd, Elliot L.
1999 Some issues in the teaching of pragmatic competence. In: Eli Hinkel (ed.), *Culture in Second Language Teaching and Learning*, 152–166. New York: Cambridge University Press.
- Kasper, Gabriele
1992 Pragmatic transfer. *Second Language Research* 8: 203–231.
- Kasper, Gabriele and Merete Dahl
1991 Research methods in interlanguage pragmatics. *Studies in Second Language Acquisition* 13(2): 215–247.
- Kasper, Gabriele and Richard Schmidt
1996 Developmental issues in interlanguage pragmatics. *Studies in Second Language Acquisition* 18: 149–169.
- Kasper, Gabriele and Kenneth R. Rose
2001 Pragmatics in language teaching. In: Kenneth R. Rose and Gabriele Kasper (eds.), *Pragmatics in Language Teaching*, 1–9. Cambridge: Cambridge University Press.
- Kasper, Gabriele and Kenneth R. Rose
2002 *Pragmatic Development in a Second Language*. Michigan: Wiley-Blackwell.
- Kecskes, Istvan
2014 *Intercultural Pragmatics*. Oxford: Oxford University Press.
- Kecskes, Istvan
2015 How does pragmatic competence develop in bilinguals? *International Journal of Multilingualism* 12(4): 419–434.

- Kinginger, Celeste and Julie A. Belz
2005 Socio-cultural perspectives on pragmatic development in foreign language learning: Microgenetic case studies from telcollaboration and residence abroad. *Intercultural Pragmatics* 2(4): 369–421.
- Kinginger, Celeste and Kathleen Farrell
2004 Assessing development of meta-pragmatic awareness in study abroad. *Frontiers: The Interdisciplinary Journal of Study Abroad* 10(2): 19–42.
- Kondo, Sachiko
2008 Effects on pragmatic development through awareness-raising instruction: Refusals by Japanese EFL learners. In: Eva Alcon Soler and Alicia Martínez-Flor (eds.), *Investigating Pragmatics in Foreign Language Learning, Teaching and Testing*, 153–177. Bristol: Multilingual Matters.
- Krashen, Stephen
1981 *Second Language Acquisition and Second Language Learning*. Oxford: Pergamon.
- Koutlaki, Sofia A. and Zoreh R. Eslami
2018 Critical intercultural communication education: Cultural analysis and pedagogical applications. *Intercultural Communication Education* 1(3): 100–109.
- Langer, Ellen J.
1989 *Mindfulness*. Cambridge, MA: Perseus Books.
- Leung, Constant and Angela Scarino
2016 Reconceptualizing the nature of goals and outcomes in language/s education. *The Modern Language Journal* 100 (Supplement 2016): 81–95.
- Liddicoat, Anthony J.
2006 Learning the culture of interpersonal relationships: Students' understandings of personal address forms in French. *Intercultural Pragmatics* 3(1): 55–80.
- Liddicoat, Anthony J.
2014 Pragmatics and intercultural mediation in intercultural language learning. *Intercultural Pragmatics* 11(2): 259–277.
- Liddicoat, Anthony J.
2016 Interpretation and critical reflection in intercultural language learning: Consequences of a critical perspective for the teaching and learning of pragmatics. In: Maria Dasli and Adriana R. Diaz (eds.), *The Critical Turn in Language and Intercultural Communication Pedagogy: Theory, Research and Practice*, 22–39. London: Routledge.
- Liddicoat, Anthony J. and Angela Scarino
2013 *Intercultural Language Teaching and Learning*. New York: Wiley-Blackwell.
- Liddicoat, Anthony J. and Troy McConachy
2019 Meta-pragmatic awareness and agency in language learners' constructions of politeness. In: Thomas Szende and George Alao (eds.), *Pragmatic and Cross-Cultural Competences: Focus on Politeness*, 11–26. Brussels: Peter Lang.
- LoCastro, Virginia
1997 Pedagogical intervention and pragmatic competence development. *Applied Language Learning* 8(1): 75–109.
- LoCastro, Virginia
2003 *An Introduction to Pragmatics: Social Action for Language Teachers*. Michigan: The University of Michigan Press.

- May, Stephen (ed.)
2014 *The Multilingual Turn: Implications for SLA, TESOL, and Bilingual Education*. New York: Routledge.
- McConachy, Troy
2013 Exploring the meta-pragmatic realm in English language teaching. *Language Awareness* 22(2): 100–110.
- McConachy, Troy
2018 *Developing Intercultural Perspectives on Language Use: Exploring Pragmatics and Culture in Foreign Language Learning*. Bristol: Multilingual Matters.
- McConachy, Troy and Kaori Hata
2013 Addressing textbook representations of pragmatics and culture. *ELT Journal* 67(3): 294–301.
- McConachy, Troy and Anthony J. Liddicoat
2016 Metapragmatic awareness and intercultural competence: The role of reflection and interpretation in intercultural mediation. In Fred Dervin and Zehavit Gross (eds.), *Intercultural Competence in Education: Alternative Approaches for Different Times*, 13–25. London: Palgrave Macmillan.
- Meier, Ardith J.
2010 Culture and its effect on speech act performance. In: Alicia Martínez-Flor and Esther Usó-Juan (eds.), *Speech Act Performance: Theoretical, Empirical and Methodological Issues*, 75–90. Amsterdam: John Benjamins.
- Meier, Ardith J.
2015 The role of noticing in developing intercultural communicative competence. *Eurasian Journal of Applied Linguistics* 1: 25–38.
- Menard-Warwick, Julia and Genevieve Leung
2017 Translingual practice in L2 Japanese: Workplace narratives. *Language and Intercultural Communication* 17(3): 270–287.
- Miller, Laura
2008 Negative assessments in Japanese–American workplace interaction. In: Helen Spencer-Oatey (ed.), *Culturally Speaking: Culture, Communication and Politeness Theory* (2nd edition), 227–240. London: Continuum.
- Minkov, Michael
2013 *Cross-cultural Analysis: The Science and Art of Comparing the World's Modern Societies and Their Cultures*. Thousand Oaks, CA: Sage.
- Molinsky, Andy
2013 *Global Dexterity*. Boston: Harvard Business Review Press.
- Morollon Marti, Natalia and Susana S. Fernandez
2016 Telecollaboration and sociopragmatic awareness in the foreign language classroom. *Innovation in Language Learning and Teaching* 10(1): 34–48.
- Niezgoda, Kimberly and Carsten Roever
2001 Pragmatic and grammatical awareness: A function of the learning environment? In: Kenneth R. Rose and Gabriele Kasper (eds.), *Pragmatics in Language Teaching*, 63–79. Cambridge: Cambridge University Press.
- Ohta, Amy S.
2001 *Second Language Acquisition Processes in the Classroom: Learning Japanese*. Mahwah: Lawrence Erlbaum.

- Rose, Kenneth R. and Kwai-fun Ng
2001 Inductive and deductive teaching of compliments and compliment responses. In: Kenneth Rose and Gabriele Kasper (eds.), *Pragmatics in Language Teaching*, 145–170. Cambridge: Cambridge University Press.
- Schmidt, Richard
1990 The role of consciousness in second language learning. *Applied Linguistics* 11(2): 129–158.
- Schmidt, Richard
1993 Consciousness, learning and interlanguage pragmatics. In: Gabriele Kasper and Shoshana Blum-Kulka (eds.), *Interlanguage Pragmatics*, 21–42. New York: Oxford University Press.
- Schmidt, Richard
1995 Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning. In: Richard Schmidt (ed.), *Attention and Awareness in Foreign Language Learning*, 1–63. (Technical Report 9.) Honolulu: University of Hawaii, Second Language Teaching and Curriculum Center.
- Schauer, Gila
2009 *Interlanguage Pragmatic Development: The Study Abroad Context*. London: Continuum.
- Schauer, Gila
2006 Pragmatic awareness in ESL and EFL contexts: Contrast and development. *Language Learning* 56(2): 269–318.
- Selinker, Larry
1972 Interlanguage. *International Review of Applied Linguistics in Language Teaching* 10: 209–230.
- Sharwood-Smith, Michael
1993 Input enhancement in instructed SLA: Theoretical bases. *Studies in Second Language Acquisition* 15: 165–179.
- Shively, Rachel
2011 L2 pragmatic development in study abroad: A longitudinal study of Spanish service encounters. *Journal of Pragmatics* 43: 1818–1835.
- Siegal, Meryl
1996 The role of learner subjectivity in second language sociolinguistic competence: Western women learning Japanese. *Applied Linguistics* 17(3): 356–382.
- Spencer-Oatey, Helen
1997 Unequal relationships in high and low power distance societies: A comparative study of tutor-student role relations in Britain and China. *Journal of Cross-Cultural Psychology* 28(3): 284–302.
- Spencer-Oatey, Helen
2008 Face, (im)politeness and rapport. In: Helen Spencer-Oatey (ed.), *Culturally Speaking. Culture, Communication and Politeness Theory* (2nd edition), 11–47. London: Continuum.
- Spencer-Oatey, Helen and Daniel Z. Kadar
2016 The basis of (im)politeness evaluations: Culture, the moral order and the East-West divide. *Journal of East-Asian Pragmatics* 1(1): 73–106.
- Spencer-Oatey, Helen and Jianyu Xing
2008 Issues of face in a Chinese business visit to Britain. In: Helen Spencer-Oatey

- (ed.), *Culturally Speaking: Culture, Communication and Politeness Theory* (2nd edition), 258–273. London: Continuum.
- Spencer-Oatey, Helen and Vladimir Žegarac
 2018 Conceptualizing culture and its impact on behavior. In: Craig L. Frisby and William T. O'Donohue (eds.), *Cultural Competence in Applied Psychology: An Evaluation of Current Status and Future Directions*, 221–242. New York: Springer.
- Swain, Merrill
 2006 Linguaging, agency and collaboration in advanced language proficiency. In: Heidi Byrnes (ed.), *Advanced Language Learning: The Contribution of Halliday and Vygotsky*, 95–108. London: Continuum.
- Taguchi, Naoko
 2015a Instructed pragmatics at a glance: Where instructional studies were, are, and should be going. *Language Teaching* 48(1): 1–50.
- Taguchi, Naoko
 2015b Cross-cultural adaptability and development of speech act production in study abroad. *International Journal of Applied Linguistics* 25(3): 343–365
- Taguchi, Naoko
 2017 Interlanguage pragmatics: A historical sketch and future directions. In: Anne Barron, Yueguo Gu and Gerard Steen (eds.), *The Routledge Handbook of Pragmatics*, 153–167. Abingdon/New York: Routledge.
- Takahashi, Satomi
 2001 The role of input enhancement in developing pragmatic competence. In: Kenneth R. Rose and Gabriele Kasper (eds.), *Pragmatics in Language Teaching*, 171–199. Cambridge: Cambridge University Press.
- Takahashi, Satomi
 2010 The effect of pragmatic instruction on speech act performance. In: Alicia Martínez-Flor and Esther Usó-Juan (eds.), *Speech Act Performance: Theoretical, Empirical and Methodological Issues*, 127–142. Amsterdam: John Benjamins.
- Takahashi, Satomi
 2013 Pragmatic awareness in second language learning. In: Carol A. Chapelle (ed.), *The Encyclopedia of Applied Linguistics*, 4505–4509. Wiley-Blackwell.
- Takamiya, Yumi and Noriko Ishihara
 2013 Blogging: Cross-cultural interaction for pragmatic development. In: Naoko Taguchi and Julie M. Sykes (eds.), *Technology in Interlanguage Pragmatics Research and Teaching*, 185–214. Amsterdam: John Benjamins.
- Takimoto, Masahiro
 2006 The effects of explicit feedback on the development of pragmatic competence. *Language Teaching Research* 10(4): 393–417.
- Takimoto, Masahiro
 2007 The effects of input-based tasks on the development of learners' pragmatic proficiency. *Applied Linguistics* 30(1): 1–25.
- Tateyama, Yumiko
 2001 Explicit and implicit teaching of pragmatic routines: Japanese *sumimasen*. In: Kenneth R. Rose and Gabriele Kasper (eds.), *Pragmatics in Language Teaching*, 200–222. Cambridge: Cambridge University Press.
- Thomas, David C.
 2006 Domain and development of cultural intelligence: The importance of mindfulness. *Group and Organization Management* 31(1): 78–99.

- Thomas, Jenny
1983 Cross-cultural pragmatic failure. *Applied Linguistics* 4(2): 91–112.
- Ting-Toomey, Stella
1999 *Communicating Across Cultures*. New York: The Guilford Press.
- van Compernelle, Remi A.
2014 *Sociocultural Theory and L2 Instructional Pragmatics*. Bristol: Multilingual Matters.
- van Compernelle, Remi A. and Lawrence Williams
2012 Reconceptualizing sociolinguistic competence as mediated action: Identity, meaning-making, agency. *The Modern Language Journal* 96(2): 234–250.
- van Compernelle, Remi A. and Celeste Kinginger
2013 Promoting metapragmatic development through assessment in the zone of proximal development. *Language Teaching Research* 17(3): 282–302.
- van Compernelle, Remi A., Maria P. Gomez-Laich and Ashley Weber
2016 Teaching L2 Spanish sociopragmatics through concepts: A classroom-based study. *Modern Language Journal* 100(1): 341–361.
- Vellenga, Heidi
2004 Learning pragmatics from ESL and EFL textbooks: How likely? *Teaching English as a Second or Foreign Language* 8(2): 1–13.
- Verschueren, Jef
2004 Notes on the role of metapragmatic awareness in language use. In: Adam Jaworski, Nicholas Coupland and Dariusz Galasinski (eds.), *Metalinguage: Social and Ideological Perspectives*, 53–73. Berlin: Mouton de Gruyter.
- Vygotsky, Lev
1978 *Mind in Society: The Development of Higher Mental Processes*. Cambridge, MA: Harvard University Press.
- Wang, Jiayi and Helen Spencer-Oatey
2015a The gains and losses of face in ongoing intercultural interaction: A case study of Chinese participant perspectives. *Journal of Pragmatics* 89: 50–65.
- Wang, Jiayi and Helen Spencer-Oatey
2015b The challenge of building professional relations across cultures: Chinese officials in America. In: Elizabeth Christopher (ed.), *International Management and Intercultural Communication: A Collection of Case Studies*, Volume 1, 90–107. Basingstoke: Palgrave Macmillan.
- Warner, Chantelle
2012 Literary pragmatics in the advanced foreign language literature classroom: The case of Young Werther. In: Michael Burke, Szilvia Csabi, Lara Week and Judit Zerkowitz (eds.), *Pedagogical Stylistics: Current Trends in Language, Literature and ELT*, 143–157. London: Continuum.
- Yang, Li
2016 Learning to express gratitude in Mandarin Chinese through web-based instruction. *Language, Learning & Technology* 20(1): 191–208.
- Yashima, Tomoko
2009 International posture and the ideal L2 self in the Japanese EFL context. In: Zoltan Dörnyei and Ema Ushioda (eds.), *Motivation, Language Identity and the L2 Self*, 144–163. Clevedon, UK: Multilingual Matters.

15. Developing pragmatic competence in a study abroad context

Anne Barron

Abstract: Study abroad is a global phenomenon, with individuals all over the world increasingly spending part of their studies in another country. Since its beginnings in the later years of the last century, there has been an explosion of research on the development of second language pragmatic competence in a study abroad context. The present chapter seeks to synthesise the research conducted to date by presenting a systematic meta-analysis of empirical studies conducted on the development of second language pragmatic competence in a study abroad context. To this aim, a sample of 49 publications is reviewed. Trends in research design, levels of analysis and informant characteristics are sketched and gaps in these areas highlighted. The discussion of findings highlights different development paths and variability in outcomes and investigates the explanatory potential of studies on context, individual differences and learner agency in relation to these variable findings. The chapter closes by highlighting research desiderata and posing further research questions.

1. Introduction

Fuelled – at least partly – by global attempts to internationalise education, and with it university campuses, study abroad is an increasingly popular route today (cf. Isabelli-García et al. 2018:439–441). Student mobility within the Erasmus program, the principal scheme in Europe for providing financial support to enable higher education students to engage on a stay abroad, has reached record numbers, with year-on-year increases (European Commission 2014). Similar increases in student mobility have also been recorded globally (cf. Institute of International Education 2017:4; Nerlich 2015). Traditionally, an underlying assumption has reigned among foreign language learners, language teachers and policy makers alike that study abroad has a positive influence on the development of L2 linguistic competence, and indeed on the face of it, study abroad would appear to offer learners more advantageous input and output opportunities, particularly for L2 pragmatics. Not only would it seem to provide learners with an opportunity to observe language in its social context of use, with all its inherent variability according to social parameters and settings, the stay abroad context also appears to offer learners an opportunity to use language in context and to experiment with the real life consequences of their pragmatic choices. Actual research into the

<https://doi.org/10.1515/9783110431056-015>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 429–474. Berlin/Boston: De Gruyter Mouton.

effects of study abroad on the development of linguistic competence remained scant for many years and research into the development of pragmatic competence for even longer (cf. Freed 1990:459; Barron 2003:3, 58). In recent years, however, study abroad research has come into its own, as indeed evidenced by the recent appearance of the international peer-reviewed journal *Study Abroad Research in Second Language Acquisition and International Education* (Benjamins) in 2016, a journal with language development as one of its explicit foci.¹ In addition, in the more specialised area of second language pragmatics, the number of overview articles dedicated to the development of L2 pragmatic competence during study abroad has been steadily increasing, including recently published reviews by Schauer (2010), Hassall (2013b), Xiao (2015), Taguchi (2015c, 2018), Barron (2019a) and Pérez-Vidal and Shively (2019) – a fact which also demonstrates the strength of research in the area.

Research on study abroad now enables a more differentiated view on the benefits of study abroad for developing pragmatic competence. The present paper undertakes a systematic meta-analysis of empirical studies on the development of pragmatic competence in study abroad. In doing so (and unlike other reviews), it focuses on institutional student/school-goer mobility within educational programs, and provides a focused picture of the development of pragmatic competence during this formative time.² The review shows that study abroad generally leads to developments on several pragmatic levels over time in the target language community. However, there is a high level of variability in outcomes, many of these related to the study abroad context, individual differences and learner agency.

The chapter begins by delineating the study abroad context and also outlining our understanding of pragmatic competence. It then reports on the sampling procedures of the present meta-analysis before presenting an overview of dominant research designs and levels of analysis adopted by the studies in the sample and then sketching the study abroad informants investigated. The major findings are then discussed from a variety of perspectives, including study abroad context and learner profile. The paper closes by highlighting research desiderata and future potential research questions.

¹ *Frontiers*, an interdisciplinary, peer-reviewed academic journal dedicated to research on education abroad has existed since 1995.

² Cf. Bardovi-Harlig (2013), Xiao (2015), Taguchi (2015c, 2018) and Pérez Vidal and Shively (2019) for overviews of L2 pragmatic development in study abroad research in which this differentiation between study abroad and long-term resident students is not made.

2. Key concepts

2.1. The study abroad context

The definition of study abroad adopted in the present analysis encompasses limited sojourns abroad by students or school-goers during their studies. It, thus, includes students spending time abroad as part of their studies and school-goers embarking on a stay abroad during high school. It, however, excludes students choosing to study exclusively abroad. Individuals may engage in study abroad in communities in which their target language is spoken as a first language (L1) by the majority of the speech community, as for instance, when students of English as a Foreign Language (EFL) study in Australia. However, according to the definition put forward here, and in contrast to other definitions of study abroad (cf., e. g. Hassall 2013b:4516; Taguchi 2018:127), study abroad students may also complete their study abroad in a language which is not the L1 of the majority. In such situations, individuals communicate using a lingua franca, as when French students embark on study abroad in Finland equipped with English but without any knowledge of or motivation to learn Finnish. The English as a Lingua Franca (ELF) context is becoming progressively more important given the status of English as the lingua franca of many disciplines and the increase in courses of study at university level offered in English (cf., e. g., Mitchell 2016; Isabelli-Garcia 2018:440–441).

From a language learning point of view, study abroad has been termed a “special case of second language acquisition” (Freed 1995:4) given that the traditional distinction between natural and educational contexts for the acquisition of a second language becomes blurred in study abroad. On the one hand, study abroad differs from learning in the foreign language classroom since study abroad students/school-goers are exposed to the target language in its full social context during their sojourn abroad, and the context of learning during this time is natural. On the other hand, study abroad differs from second language acquisition in a natural context because of the institutional framework and the limited time-frame (cf. Edmondson 2000:365; Barron 2003:57; Devlin 2014:5). With reference to the institutional framework, students/school-goers will frequently have acquired some prior knowledge of the target language (L2) via formal instruction in a language classroom in their home country, and they will typically aim to increase their competence over time spent abroad and also potentially following their return to the formal language learning classroom. Given the initial institutional framework, students/school-goers tend to initially view the L2 for the most part as subject matter, i. e., as consisting of rules and principles to be attended to in contrast to ESL learners who view the L2 as a social entity although, as mentioned above, the stay abroad allows study abroad learners to experience language in its full social context. A further feature of importance in the stay abroad context is that the limited time-frame of a stay abroad has potential repercussions for individuals’ motivations when

embarking on study abroad and also for their identity construction (cf. 6.2.1). Both of these factors in turn have repercussions for their L2 pragmatic competence and differentiate study abroad from language acquisition in a natural context.

As such, study abroad can neither be characterised as educational or natural. As Coleman (1997:4) notes: “Their [the study abroad students’] learning remains instructed, despite incorporating elements of naturalistic L2 acquisition.” It is indeed, as Freed points out, a “special case of second language acquisition”. Consequently, second language acquisition research on students in long-term programs of study in the second language context or indeed on immigrant groups acquiring language cannot be applied without reservation to study abroad despite the fact that both settings are natural. The same is true of studies relating to research on the development of L2 competence in the foreign language classroom.

2.2. Pragmatic competence

In line with conceptualisations of pragmatic competence in early models of communicative competence, pragmatic competence within second language pragmatics has traditionally been treated as speech act competence.³ Research focused on learners’ knowledge of appropriate realisations of speech acts in context. In other words, second language pragmatics was centered around analyses of pragmalinguistic and sociopragmatic speech act competence (cf. Leech 1983, Thomas 1983; cf. Marmaridou 2011 for an overview). Pragmalinguistics is the linguistic side of pragmatics and in speech act analysis concerns the analysis of speech act strategies, modification devices and realisations of both. Sociopragmatics, on the other hand, refers to the ‘... sociological interface of pragmatics’ (Leech 1983:10) and is concerned with the interface of linguistic action and social norms. Given, however, that pragmalinguistics and sociopragmatics represent points on a continuum, the line between both perspectives is frequently blurred, particularly in empirical research (cf. Marmaridou 2011:77). Traditionally, then, pragmatic competence, or speech act competence, was viewed as a learner-internal L2 competence or in van Compernelle’s (2013:327) words as an “acquired toolkit to be applied later in appropriate contexts”. There was no concern for how learners actually negotiate speech acts in interaction.

³ Speech act competence is referred to in models of communicative competence in the concepts of “illocutionary competence” (Bachman 1990), “functional knowledge” (Bachman and Palmer 1996), “actional knowledge” (Celce-Murcia, Dörnyei and Thurrell 1995) and “illocutionary knowledge” (Timpe Laughlin, Wain and Schmidgall 2015). Such competencies refer rather to pragmalinguistic knowledge. Sociopragmatic knowledge is present in these models in concepts, such as “sociolinguistic competence” (Bachman 1990) and “sociocultural competence” (Celce-Murcia, Dörnyei and Thurrell 1995) and “sociolinguistic knowledge” (Timpe Laughlin, Wain and Schmidgall 2015).

Recent developments, however, have seen a growing recognition that actions are not individual isolated actions but rather realised in interaction. Hence, in recent years, models of communicative competence, such as that by Celce-Murcia (2007), have broadened to highlight the importance of competence in conversation to empower learners to use speech act knowledge in interaction. In addition, there has been a re-conceptualisation of communicative competence under the umbrella of interactional competence (IC) (cf. He and Young 1998; Young 2013). This approach sees actions not as the locus of individuals alone, but rather jointly constructed in particular contexts. It recognises that competence in interactional practices, such as, for instance, repair, topic management and turn-taking, is an integral part of pragmatic competence.

In line with these developments, a broad view is taken on pragmatic competence in the present analysis. Specifically, the levels of pragmatic analysis introduced in Schneider (1988) and further developed within the field of variational pragmatics (cf. Félix-Brasdefer 2012; Schneider 2019) are adopted (cf. 3.1). These six levels of pragmatic competence include a(n):

- stylistic level
- formal level
- actional level
- interactional level
- topic level
- organisational level

Analyses on the stylistic level examine variation in the tone of interaction, polite/plain styles and choice of address forms (cf. also Félix-Brasdefer 2012). Research on the formal level involve form-function/function-form analyses, recognising that a single form may realise different functions and vice versa that a single function may be realised using different forms. The actional level deals with speech act analyses. Here, analyses centre on pragmalinguistic and sociopragmatic questions relating to the appropriate use in context of speech act strategies and their linguistic realisations. Interest at the interactional level extends beyond the individual speech act to deal with sequential patterns. Questions posed relate to how speech acts combine into larger units of discourse, such as adjacency pairs, interchanges, interactional exchanges or phases. The topic level is concerned with discourse content, i. e. with the propositions of individual utterances as well as with macro-propositions. It addresses, in particular, issues of topic selection and topic management. Finally, the organisational level combines ethnomethodological analysis and conversation analysis.⁴ The focus

⁴ Ethnomethodological analysis may be briefly described as a bottom-up study of social order where social order is viewed as an emergent achievement, with the analysis focus-

is on turn-taking and involves such issues as interrupting behaviour, repair, overlap, minimal responses, back-channels or inter-turn silence.

3. Corpus underlying the meta-analysis

The present paper aims to paint a picture of current research on the development of L2 pragmatic competence in study abroad. The sample design was guided by the following criteria. It was to include studies which were:

- empirical
- focused on study abroad in higher education or in high school/secondary school
- focused on developments in pragmatic competence over time

The exclusive focus on study abroad research as defined in 2.1 meant that the present paper focused not on length of residence or second language acquisition by immigrants, but rather on institutional student mobility within educational programs.

3.1. Sampling procedures

The criteria for inclusion defined, the next step taken was to conduct a database search. The following five databases frequently employed in linguistics or in the Humanities as a whole were chosen and the search was carried out in mid-April 2016.

- The Modern Language Association (MLA) International Bibliography
- Web of Science (Core Collection)
- Scopus (Elsevier)
- Bibliography of Pragmatics Online (John Benjamins)
- Online Contents Linguistik

The database search kept any subjective bias at a minimum. Also, the use of five databases rather than one increased the representativeness of the searches. In addition to the database searches, the new international journals *Chinese as a Second Language Research* (De Gruyter, Mouton, available since 2012) and *Study Abroad Research in Second Language Acquisition and International Education*

ing on members' local realities (Garfinkel 1967). Conversational analysis, a field of research which developed out of ethnomethodological analysis, involves a bottom-up analysis of the dynamics of talk-in-interaction (Sacks 1995, Schegloff 2007).

(John Benjamins, available since 2016) were also searched as it was too early for these to be included in the databases used. In addition, although not listed in any of the databases, Taguchi's (2015a) monograph entitled *Developing Interactional Competence in a Japanese Study Abroad Context* was added to the sample given its relevance for the analysis.

The search terms employed were *study*, *abroad* and *pragmatics*. A pilot study conducted on alternative keywords, such as *stay abroad*, *year abroad*, *sojourn abroad*, all yielded a more limited selection of publications. In addition, all publications yielded using such search terms were also generated using the chosen search terms, *study*, *abroad* and *pragmatics*. Search terms, such as *length of residence* or *length of exposure* were rejected to avoid yielding studies focusing on speakers' pragmatic development following longer periods of immersion.

All databases and the *Chinese as a Second Language Research* journal were searched via an automatic search function. The journal *Study Abroad Research in Second Language Acquisition and International Education* was searched by hand as there was only one volume available and no in-journal search at the time. All three search terms were to occur as keywords within an article (where the search functions allowed this possibility).

3.2. The sample

In total, the searches initially yielded a total of 121 hits. After a qualitative viewing of the publications according to the criteria set out in 3, this number was reduced to 49 (all listed and marked with an asterisk (*) in the bibliography). Dissertations listed in the MLA were not included in the final database due to the difficulty of accessing many of these. In addition, in a number of cases, authors had already published the findings of these dissertations in articles also listed in the databases.

Table 1: Overview of publications in sample

Journal articles	37
Articles in edited volumes	8
Monographs	4
Total	49

The total 49 publications in the sample were written by a total of 39 different authors, including authors involved in multiple authorship. The vast majority of publications, 37 articles in total, were published in journals (cf. Table 1). These stem from a wide range of journals, 17 in all. With a total of seven articles (14.28% of the total sample), *Intercultural Pragmatics* stands out as the journal with most articles in the database. This is not only due to its focus on pragmatics in an inter-

cultural context, but also due to the *Special Issue in Acquisitional Pragmatics* published in the journal (Barron and Warga 2007). Similarly, *System* is well represented with four articles due also to a *Special Issue on Pragmatics* edited by Alcón-Soler and Yates (2015). In addition to the journal articles, eight publications are from edited volumes. Three of these are from Freed (1995) and two from DuFon and Churchill (2006). The remaining four publications in the sample, Barron (2003), Schauer (2009), Ren (2015) and Taguchi (2015a) are monographs (cf. above).⁵

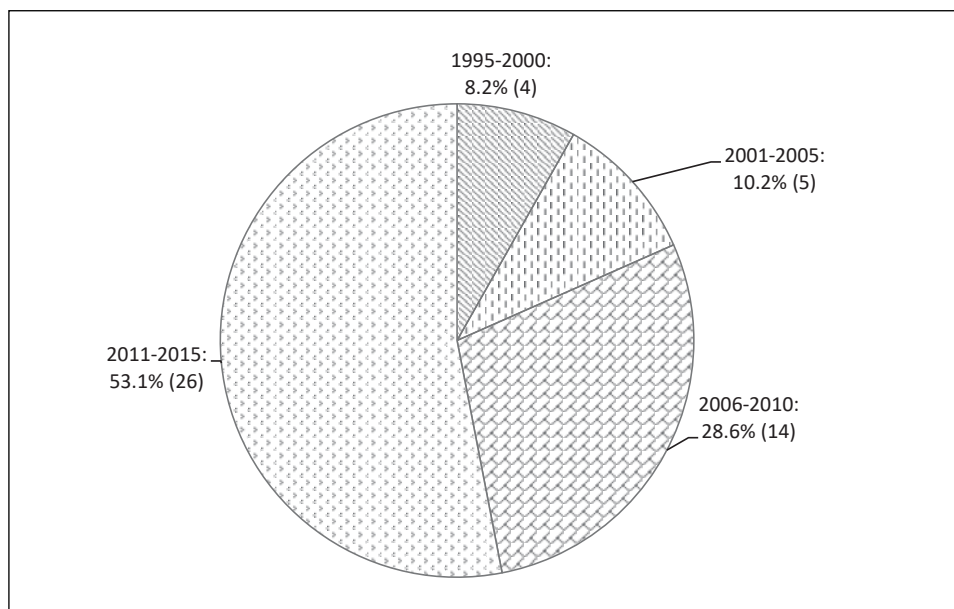


Figure 1: Publication years (n=49)

The details of the year of publication reveal a recent explosion of research on pragmatic development in study abroad. As seen in Figure 1, more than half (53.1 %) of all studies in the sample were published since 2011, with studies up to 2005 only accounting for 18.4 % of all studies.

⁵ Two of these monographs, namely Barron (2003) and Ren (2015), were listed in the five databases. Also, reviews of Schauer's (2009) monograph were found in the databases. As mentioned above, Taguchi's (2015a) monograph was added given its relevance.

4. Research design and focus of analysis

In the following, we report on the design of the studies in the database. Following this, focus turns to the features analysed and to the levels of analysis covered.

4.1. Research design

As far as the datasets are concerned, Selinker (1972:214) originally recommended that any investigation into the process of second language acquisition necessitates a contrastive study of three distinct sets of productive data, namely:

- Utterances in the learner's native language produced by the learner (L1)
- Interlanguage utterances produced by the learner (IL)
- Target language utterances produced by native speakers (NS) of that target language (L2)

This three-fold design was adopted in many of the early second language pragmatic studies, although unlike Selinker's conception, the L1 data was produced by L1 speakers other than the exact learners in question. Such data threw light on potential pragmatic transfer, whether positive or negative, from informants' L1. The use of target language NS data served as a kind of baseline against which learner language use was measured. It was seen as a source of information regarding what is different about learner data and where development might be possible. However, in time there arose some debate concerning the suitability of a NS as a yardstick for learners. Researchers put forward several reasons for arguing that NS competence may not be a goal of learners, including the fact that whether adult learners wish to or not, they may not be capable of attaining NS competence, that a deviation from NS norms may be necessary as NS and learners construct meaning jointly, that negative pragmatic transfer may not trigger pragmatic failure particularly given NS lenience towards learners and finally that learners may purposefully exploit their non-native status for a particular end or indeed choose to *do* being different relative to the target language community (cf. House and Kasper 2000; cf. Barron 2003 for an overview).

Several research designs are used in the present sample. Concerning the use of target language data, 30.6% of studies in the present sample elicit such baseline data and compare learner elicitation to these NS elicitation (cf. Figure 2, narrow understanding). A further 12.3% of studies in the sample employ target language baseline data indirectly by, for instance, employing NS as judges of appropriateness (e. g. Taguchi 2015b), by referring to baseline data previously reported on (e. g. Vilar-Beltrán and Melchor-Couto 2013), by referring to NS conventions in the learner – NS conversations analysed (e. g. Shively 2014) or indeed by calling on field observations (e. g. Shively 2011). If we take such data sources into

account, baseline data is employed in 42.9% of studies. Including/excluding target language data does not correlate with year of publication.

L1 data is only referenced by very few studies. Indeed, only 15.6% (7) of all those studies with single L1 culture informants used comparative L1 data; the remaining 84.4% (38) focused on development regardless of transfer. Finally, the employment of a control group as evidence of pragmatic development is used in only a small number of studies (22.4% (11)). Numbers of informants in such control groups range from 12 to 132 with a mean size of 32.2.

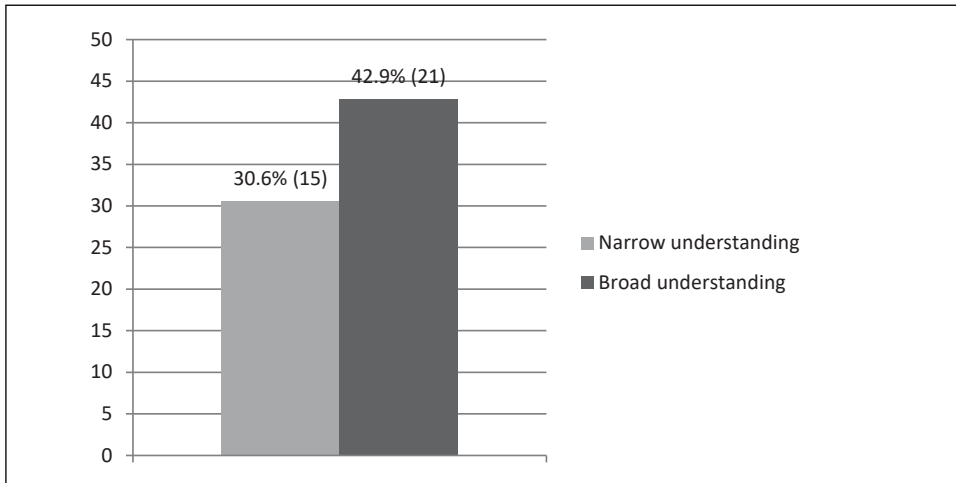


Figure 2: Target norm data employed in research design

As set out in the original criteria (cf. 3), all articles in the present sample focus on development over a study abroad period. Noteworthy is that as many as 95.9% (47) of the studies are longitudinal in nature, with only 4.1% (2) cross-sectional in design. In other words, the majority of studies tracked the development of a particular group of learners over time spent in the target language community. This trend contrasts with many studies involving longer-term international students which rather tend to be cross-sectional in design, focused on comparing different groups of students.

The longitudinal nature of the majority of the studies in the sample meant that the research design was predominantly a pre-post design. However, studies differed in the number of times pragmatic competence was measured. 24.5% (12) of all studies employed a two measure design, with data collected prior to/at the beginning and towards the end/after a study abroad period. Others included several data collection points (67.4% (33)). Those that used delayed post-stay tests were the exception, with only 4.1% (2) of all studies including these in their research design (cf. Matsumura 2007; Félix-Brasdefer and Hasler-Barker 2015).

4.2. Pragmatic competence: Focus of analysis

The pragmatic features focused on in the studies at hand varied from forms of address, through to speech act realisations, through to the study of repair. The six levels of analysis, the formal, the actional, the interactional, the topic, the organisational and the stylistic levels introduced in 2.2, are adopted as a means of categorisation. Empirical analyses may also combine a number of levels, as when, for instance, a study such as Barron (2003) analyses internal modification employed in offers and refusals of offers (actional level) while also analysing the exchange structure of offers and refusals of offers in interaction (interactional level). In addition, there is some overlap between levels of analysis. For example, studies on the actional level may also look at routine realisations of speech acts, thus approaching the formal level. However, in the latter case, categorisation will depend on the primary focus of analysis – i. e. whether the focus is on routine realisations of a particular speech act (actional level) or, for instance, on different functions of a particular routine (formal level). Table 2 provides an overview of the features on each level of analysis and Figure 3 shows the analytical focus on each level in quantitative terms.⁶

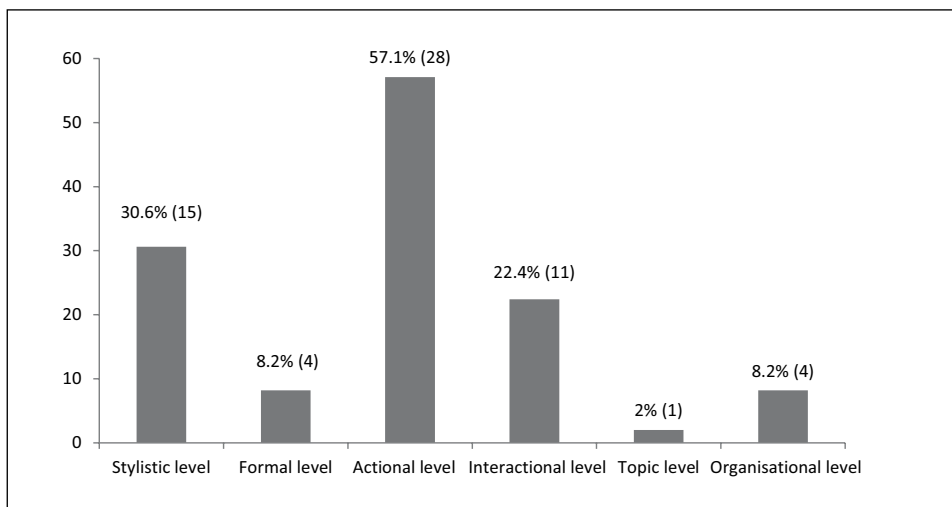


Figure 3: Analytical level of studies in sample as a percentage of 49 studies in the sample⁷

⁶ It should be noted that this categorisation includes pragmatic features focused on in studies of learner production, comprehension and meta-pragmatic awareness (cf. Table 4 below for more details).

⁷ Figures do not sum to the total numbers given in this table given that multiple levels of analysis are also possible in empirical analyses.

Table 2: Overview of studies in sample on different analytical levels

Stylistic level	adolescent language markers (Grieve 2015)	colloquialisms (Henery 2015)	terms of address (Barron 2006; Kinginger and Farrell 2004; Kinginger and Belz 2005; Kinginger and Blattner 2008; Reynolds-Case 2013; Hassall 2013a, 2015a, 2015b; Henery 2015)	polite and plain styles (Marriott 1995; Siegal 1995; Iwasaki 2010; Taguchi 2015a, 2015b)					
Formal level	pragmatic routines (Taguchi, Li and Xiao 2013; Hassall 2015b)	particles (Japanese <i>ne</i> : Ishida 2009; Masuda 2011; Henery 2015)	third person reference forms (Marriott 1995)						

Actional level	apologies (Warga and Schölimberger 2007; Schauer 2009; Winke and Teng 2010; Khorshidi 2013a; Ren 2015; Taguchi 2015b)	complaints (Hassall 2015b)	compliments (Winke and Teng 2010; Félix-Brasdefer and Hasler-Barker 2015; Taguchi 2015b)	compliment responses (Jim 2012; Taguchi 2015b)	offers (Barron 2003; Matsumura 2001, 2007; Winke and Teng 2010)	refusals (Barron 2003, 2007; Taguchi 2008a, 2008b; Schauer 2009; Winke and Teng 2010; Ren 2013a, 2013b, 2015; Vilar-Beltrán and Melchor-Couto 2013)	requests (Marriott 1995; Barron 2000, 2003; Schauer 2007, 2009; Battaller 2010; Winke and Teng 2010; Shively 2011; Khorshidi 2013a, 2013b; Li 2014; Alcón-Soler 2015a, 2015b; Ren 2015; Taguchi 2015b)	thanking (Taguchi 2015b)	suggestions (Schauer 2009; Ren 2015)	opinions (Taguchi 2008a, 2008b)
Interactional level	listener responses (Shively 2014)	exchange structure (Barron 2003, 2007; Pryde 2014)	humour (Shively 2013)	openings (Marriott 1995; Lafford 1995, 2004; Shively 2011)	leave-takings (Marriott 1995; Lafford 1995, 2004; Hassall 2006)	bargaining (Winke and Teng 2010)	gift offering/ acceptance (Winke and Teng 2010)			
Topic level	allowable topics for personal remarks (Hassall 2015b)									
Organisational level	repair (Dings 2012)	turn construction (Taguchi 2015a)	back-channels (Lafford 1995, 2004)	self-repairs (Lafford 1995, 2004)	fillers (Lafford 1995, 2004)	connectors (Lafford 1995, 2004)	repeats (Lafford 1995, 2004)			

As seen in Figure 3, all six levels of analysis are represented in the present sample (cf. Kinginger 2009:83–90 and Schauer 2010 for an overview of study abroad research on the actional level only). The actional is the level best represented at 57.1% of all studies in the sample followed by the stylistic level (30.6%) (cf. also Pérez Vidal and Shively 2019:359).

Production studies concern the use of pragmatic features, such as the production of compliments in Félix-Brasdefer and Hasler-Barker (2015). The majority of studies (85.7%) focus on learners' developing productions from a pragmatic perspective (cf. Table 3). The meta-pragmatic awareness category includes studies on sensitivity to pragmatic errors (Ren 2015; Schauer 2009), perceptions of social status (Matsumura 2007) and levels of noticing and awareness of appropriate conventions of and variation in language use (e. g. Barron 2003; Kinginger and Farrell 2004; Kinginger and Belz 2005; Kinginger and Blattner 2008; Hassall 2013a; Alcón-Soler 2015a, 2015b; Henery 2015). It is also a frequent focus in the sample at 40.8%. In stark contrast, only 4.1% of studies examine learners' developing pragmatic comprehension. Comprehension studies in the sample deal predominantly with understanding implied meaning (cf. Taguchi 2008a, 2008b).

If we now combine analytical level with production, comprehension or meta-pragmatic awareness (cf. Table 4), we see that the preference for analyses on the actional level followed by the stylistic level remains for production (actional: 54.8%, stylistic: 31%) and meta-pragmatic awareness (actional: 50%, stylistic: 30.6%). The comprehension data, limited to two studies, focuses only on the actional level.

5. Study abroad informants

Longitudinal study abroad informant numbers range from one to 97 in the sample, with a mean of 21.4 and a median of 18.⁸ The amount of variance is high, as evidenced by a high standard deviation (20.854). Studies include case studies of a handful of informants as well as large scale quantitative studies. Grouping the number of informants in categories of ten, we can see that the largest proportion of studies, as many as 40.4%, investigate the development of pragmatic competence of ten informants or less. Indeed, 61.7% of all studies have 20 informants or less (cf. Figure 4).

⁸ The two cross-sectional studies in the sample were excluded from this analysis given the fact that these studies compare the performance of more than one group of informants. In Vilar-Beltrán and Melchor-Couto (2013), for instance, the performance of three students preparing to go abroad was compared with the competence of six students who had returned from study abroad.

Table 3: Focus of studies in sample across production, comprehension and meta-pragmatic knowledge⁹

	% (n=49)
Production	85.7% (42)
Comprehension	4.1% (2)
Meta-pragmatic awareness	40.8% (20)

Table 4: Analytical level of linguistic data in sample¹⁰

	Comprehension (n=2)	Production (n= 42)	Meta-pragmatic awareness (n=20)
Formal level	-	7.1% (3)	5% (1)
Actional level	100% (2)	54.8% (23)	50% (10)
Interactional level	-	23.8% (10)	25% (5)
Topic level	-	-	5% (1)
Organisational level	-	9.5% (4)	-
Stylistic level	-	31% (13)	40% (8)

Age-wise, the informants in longitudinal studies are very homogeneous. Thirty-three of the total 47 longitudinal studies gave information on mean informant age or gave sufficient information to calculate the mean age. Based on this data, we have a mean age of 22 years old across studies, and a median of 20.6 years old. The range was 18.2 years to 42 years but variance was low as seen in Figure 5 which groups average informant age into three categories. Only two informants were older than 25, both participants in case studies. This picture is also reflected in the remaining longitudinal studies which give details of age range only and thus insufficient information to calculate a mean value. Here the youngest informant age mentioned is 16 years. The oldest informants in these studies are 27 years/late 20 s. Overall, the figures here are characteristic of the study abroad context given that the mean age for student mobility within the Erasmus scheme between 2012–2013 was 22.5 overall, 22.4 years for studies and 22.9 years for work placements (European Commission 2014). High school/secondary school informants

⁹ Figures do not sum to 49 in this table given that multiple foci were also possible.

¹⁰ Figures do not sum to the total numbers provided in this table since multiple levels of analysis are also possible in empirical analyses.

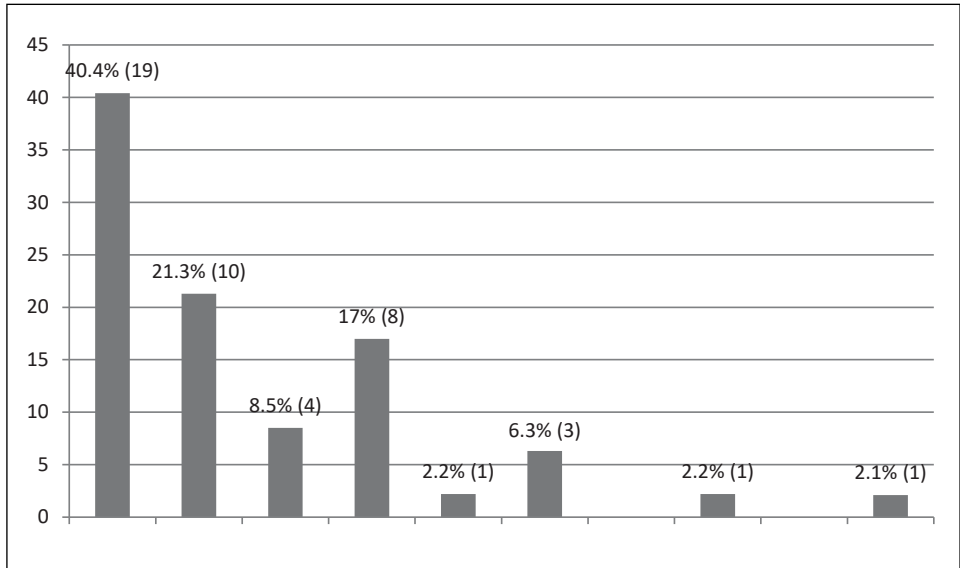


Figure 4: Number of informants in longitudinal studies (n=47)

are also included in the data, but represent a minority group overall in the studies at hand.

There were proportionally slightly more female than male informants in the longitudinal studies in the sample. The mean percentage of females was 60.06%, the median 66.6% and percentage values ranged from 0% where only male informants were included to 100% where only female informants were included. As such, variation was large, with a standard deviation of 26.71. The slightly higher female values reflect the fact that in general more females embark on study abroad. In Europe, for instance, 60.6% of students embarking on student mobility between 2012 and 2013 were female (cf. European Commission 2014:7).

The first language of the informants in the studies analysed is predominantly English, with more than 59.2% (29) of studies focusing on the experiences of English NS (cf. Figure 6). These English-language NS are distributed across the English-speaking world. Most came from the USA (20, 40.8%), but other countries, such as Australia (5, 10.2%) and Ireland (4, 8.2%), were also represented.

Overall, 91.8% of studies focus on the pragmatic development of groups of individuals from one particular culture, with only 8.2% focusing on development across a variety of L1s (cf. Figure 6). Development studies with informants from a variety of L1s focus exclusively on commonalities of learners across development stages. Those focused on a particular L1 culture have also the potential to investigate the role of pragmatic transfer, whether positive or negative, although, as reported in 4.1, very few make use of this option.

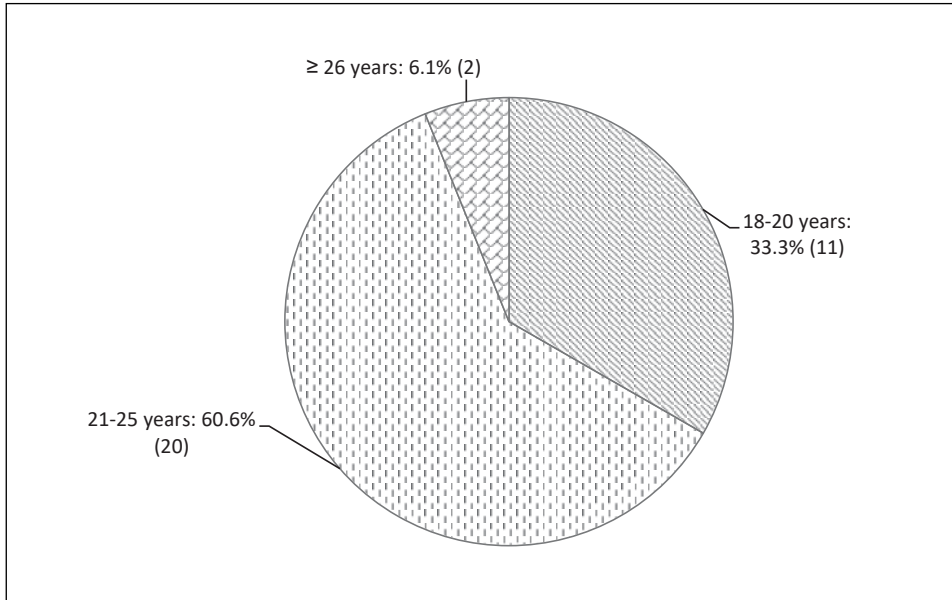


Figure 5: Average age of informants (n=33)

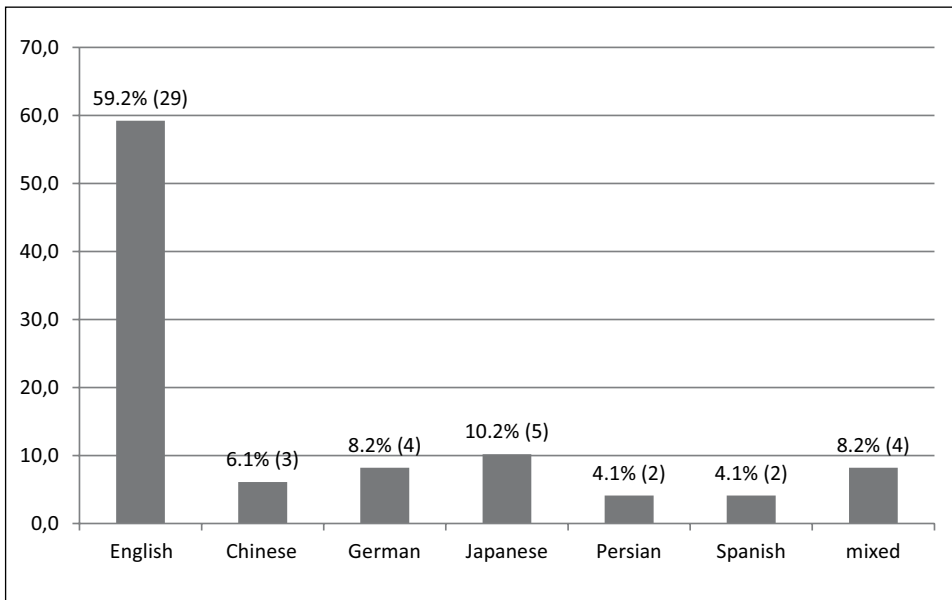


Figure 6: L1 of informants in sample (n=49)

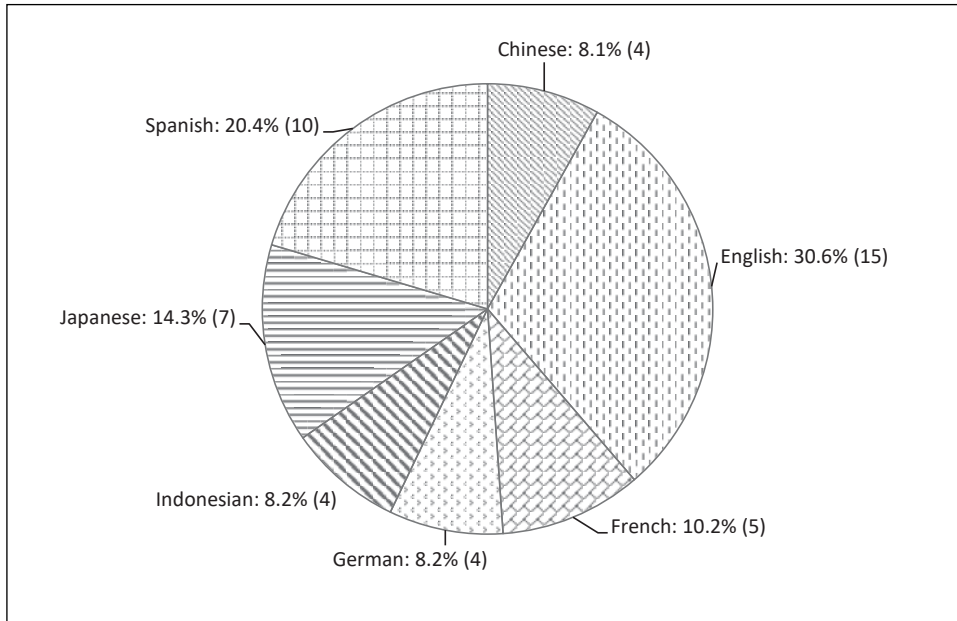


Figure 7: Target language of informants (n=49)

The target language of learners in the present sample included only seven languages in total, with English the language predominantly focused on (30.6% (15)) (cf. Figure 7). If we combine the data on L1 and target language, we see that English is by far the most common target language investigated among those with an L1 other than English (75% (15)) (cf. Figure 8). The English-language target communities visited include Australia (1), English-speaking Canada (2), Great Britain (7), India (2), New Zealand (1) and the USA (2). In contrast, the range of target language communities chosen by those speakers with L1 English is broad (cf. Figure 9), with these including China (4), France (4), Germany (4), Indonesia (4), Japan (4), Spain (7), and the cross-sectional study by Lafford (1995) including informants in Mexico and Spain (1).

Learner proficiency is difficult to compare across studies given that different researchers use different types of evidence of proficiency. While some use standardised tests, such as OPI scores (e. g. Iwasaki 2010), the *test de francais* (e. g. Kinginger and Belz 2005), the Common European Framework of Reference for Languages (CEFR) (e. g. Vilar-Beltrán and Melchor-Couto 2013), the TOEFL test (e. g. Matsumura 2007) or the International English Language Testing System (IELTS) (e. g. Ren 2015), others use number of years learning the L2 as a measure of proficiency, while yet others do not attempt a description but simply give details of previous instruction in English and exposure to English. Despite such obstacles to comparability, there is a general concentration on learners with intermediate to

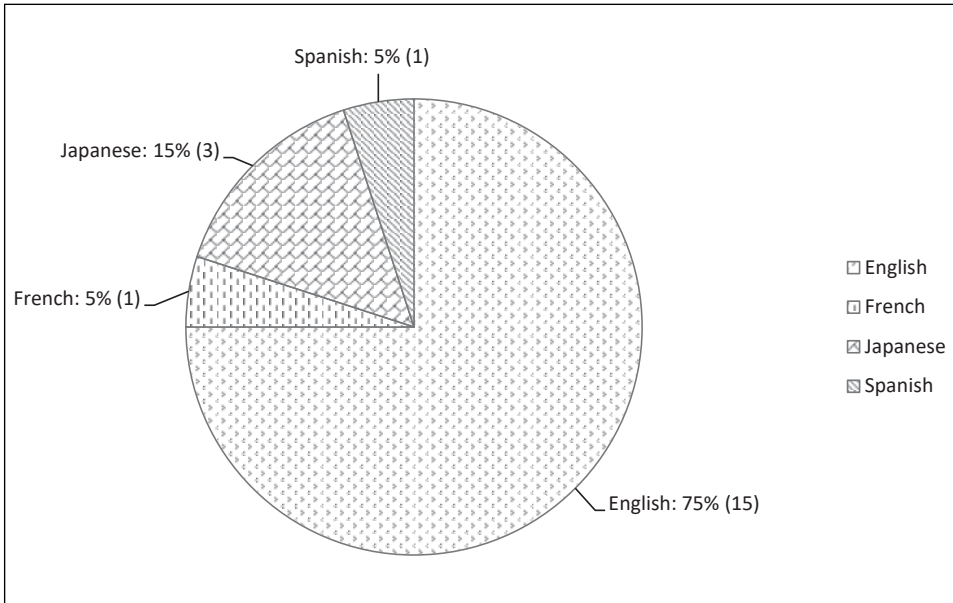


Figure 8: Target language of informants with an L1 other than English (n=20)

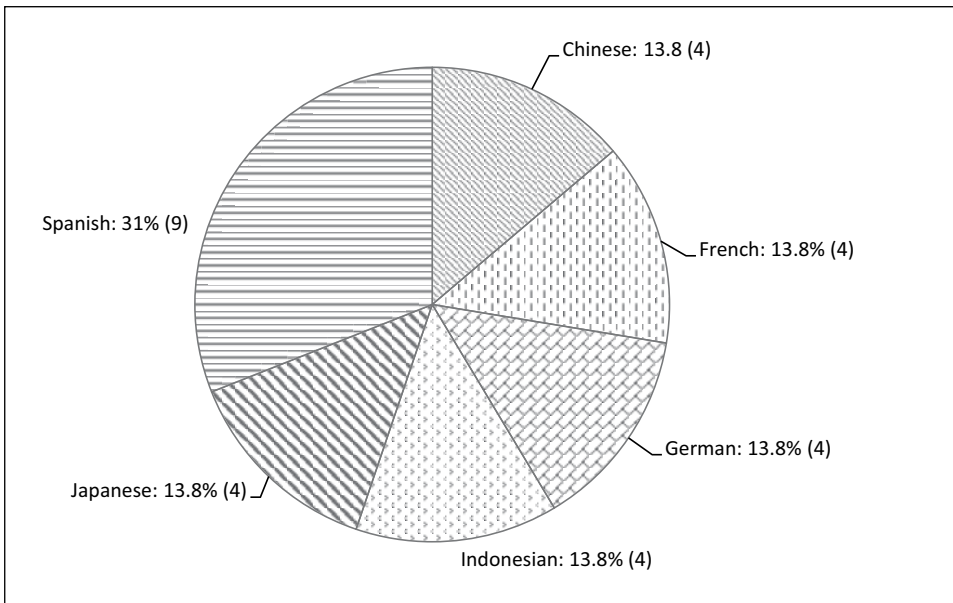


Figure 9: Target language of informants with L1 English (n=29)

higher proficiency evident. Beginning or elementary proficiency is relatively seldom among informants, with only 7.7% (3) of all studies with information given on levels within this group. An additional 10.4% (4) of studies incorporating learners of mixed levels also include beginning/elementary levels.

6. Major findings

Compared to cross-sectional studies, longitudinal studies have the advantage that researchers can investigate the study abroad context itself and identify factors which facilitate or impede L2 pragmatic development. Taguchi (2018) introduces a useful differentiation with regard to the insights offered to the study abroad context. She distinguishes between what she terms black box studies, exposure to input studies and situated pragmatic practice studies (cf. also Taguchi 2015c). Black box studies focus on the question as to whether study abroad is effective for developing L2 pragmatic competence without taking the study abroad context itself into account. Rather, they treat the context as an opaque black box and focus on description rather than on explanation. Table 5 shows that this type of study is most likely to use a control group ($p=0.039$). Exposure to input studies investigate the linguistic input available to learners on study abroad and examine whether there is a relationship between exposure, interaction and developments in L2 pragmatic competence. Exposure to input studies measure exposure to input indirectly via self-reports of, for instance, hours of target language use by skill, frequency of interactive/non-interactive social contact or perceived frequency of exposure to particular linguistic features. The final category of studies treats study abroad as a site of situated pragmatic practice. They adopt, as Taguchi (2018:133) puts it, a “‘context-as-a-glass-box approach’ ... in which inner components and logic for learning are directly available for inspection.” In other words, they look for direct evidence in the study abroad context itself of which aspects of input lead to pragmatic gains and reveal instances of explicit and implicit socialisation. Many such studies are qualitative in nature and focus on interaction in a range of situations, such as in home stay interactions, university settings or service encounters. In the present analysis, studies using meta-pragmatic data, such as journals or blogs, to reflect on encounters were also included in this context given that such studies focus on language use in a particular situation and also allow the relationship between input and L2 pragmatic development to be analysed in a rather direct manner.

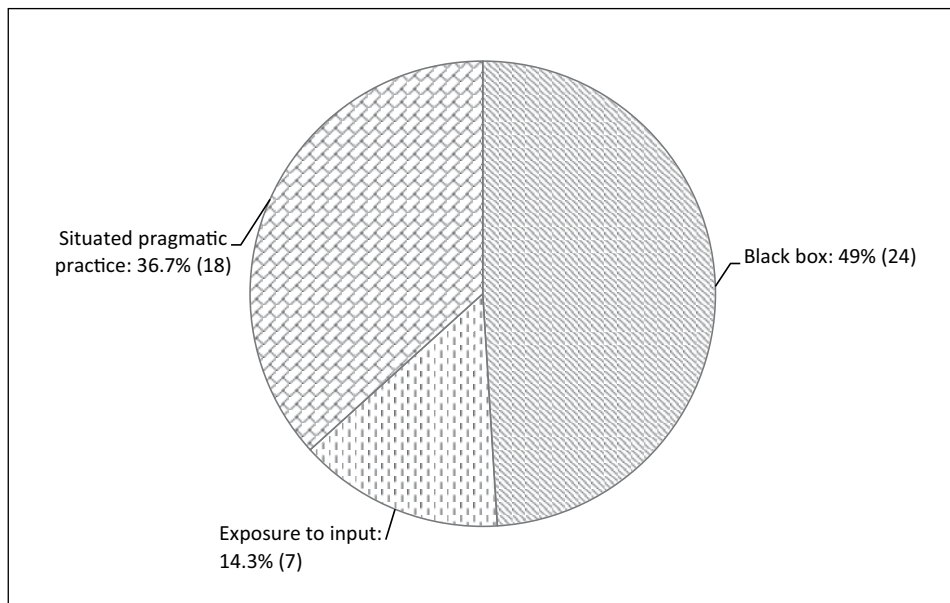


Figure 10: Distribution of study type in sample

Table 5: Relationship between study type and use of a control group

	Control group (n=11)
Black box studies	81.81 % (9)
Exposure to input studies	-
Situated pragmatic practice studies	18.18 % (2)

In the present sample, black box studies were most prominent at 49% followed by studies of situated pragmatic practice (36.7%) (cf. Figure 10). Those studies examining the influence of exposure in an indirect manner were least represented (14.3%). These different types of study deliver distinct findings. It is to these findings which we now turn. Focus is first on the broad question as to the effectiveness of study abroad for developments in L2 pragmatic competence (6.1). Research in this area reveals many developments but also highlights the presence of some lack of development as well as individual variance. It is these which we then attempt to explain in 6.2 focused on the context of stay, in 6.3 focused on differences in learner profiles and finally in 6.4 focused on learner agency.

6.1. Developments in L2 pragmatic competence

Many studies in the sample reveal a positive trend with regard to the effect of study abroad on the development of pragmatic competence and in general, development is not restricted to one particular area of competence, but is rather found on several pragmatic levels (cf. 2.2, 4.2). In a study on the organisational level, for instance, Dings (2012) reports a decline in form-focused repairs over time in the target language speech community. Occasional meaning-based repairs remained over time. This development reflects some recognition among learners that form-related difficulties rarely impact on meaning. Rather both learners and NS are found to concentrate their efforts not on repair but on co-constructing meaning, making the learner status of the learner and the expert status of the NS less important in interaction. Kinginger and Farrell (2004), a study on the stylistic level, reports changes in learners' awareness of the T/V system particularly in peer relationships. Also, Shively (2011) in a study of requests (actional level) [and openings (interactional level)] finds a shift towards an L2-genre-appropriate use of service requests. Specifically, she found learners to use less speaker-oriented verbs and more hearer-oriented verbs over time, to decrease their use of indirect and syntactically complex verb forms and to increase the use of direct and syntactically less complex structures (i. e. imperatives, simple interrogatives, ellipsis).

Frequently, however, a coexistence of target-like and non-target-like developments is recorded in studies, with research pointing to areas of pragmatic competence which do not develop over time, but also to areas of partial development or non-linear developmental paths. A lack of development is recorded by Ren (2013a), for instance, in a study of internal modification of refusals. He finds no significant advantage for study abroad students relative to a control group apart from an advantage in the employment of individual internal modifiers, one an address term, the other the downtoner. On an interactional level, Pryde (2014) looks at Initiate-Respond-Evaluate (I-R-E) patterns over time in the target language community. These patterns, also known as Initiate-Respond-Feedback (I-R-F) patterns, were first introduced by Sinclair and Coulthard (1975) to analyse classroom discourse but have been since employed in a range of contexts. Pryde (2014:501) finds that hosts continue to play the dominant role over time, taking charge of "what was talked about, when it was talked about and who should speak." Despite a decrease in host initiations over time, student initiations remained constant.

Partial developments and non-linear developmental paths were also recorded in a number of studies. Barron (2003), for instance, found that despite learners' reoffering developing towards the L2 norm in a lower use of reoffers over time, they still produced more reoffers than target language speakers at the end of the study abroad. In addition, increases in creative use and false overgeneralisations in learner language use has been reported – a finding which would suggest a non-linear developmental path. Barron (2003:226–227), for instance, shows learners'

positioning of *bitte* ('please') in learner requests in German to regress somewhat relative to an L2 norm during study abroad before moving nearer the norm again at the end of the stay. Also, Waga and Schölmberger (2007) in a study of French learner apologies, reports of shifts away from the L2 norm in an increase recorded over time in the use of two upgraders within one IFID and in the increased use of the upgrader *très* ('very') and parallel decrease in the use of the upgrader *vraiment* ('really').

The final question to be addressed here concerns the relative sustainability of developments in L2 pragmatic competence. Studies employing post-delayed tests of development throw light on this matter. However, these are limited. The small number of studies which exist suggests that study abroad developments are by no means static. While some development persists, other areas reverse or develop further in a non-L2-like fashion. Félix-Brasdefer and Hasler-Barker (2015), for example, find learners' compliment strategies to revert to pre-test levels to some degree, but report at the same time that developments, such as learners producing more compliments and more varied compliments in the post-delayed test relative to pre-study abroad, remain. Similarly, Matsumura (2007) reports some gradual divergence from NS use in learners' frequent use of an opting-out strategy in offers of advice particularly with higher-status interlocutors. These changes are, however, interpreted not as complete divergence from L2 norms but rather as reflecting a higher level of context-sensitivity. Further research is required in this area.

6.2. Influence of context of stay

Study abroad experiences differ according to length of stay, context of stay and also as to whether or not they are accompanied by pedagogical interventions focused on L2 pragmatics. Each factor has a potential influence on opportunities for input, interaction and noticing opportunities, and thus also on L2 pragmatic development. We turn to each in the following, beginning with length of stay.

6.2.1. Length of stay

In previous years, study abroad often took the form of a so-called *year abroad*. For some time now, this trend has been changing in countries, such as the USA and Australia, with stays becoming progressively shorter and increasingly taking the form of stays of less than one semester (cf. Hulstrand 2006; Institute of International Education 2019; Nerlich 2015). In Europe, Erasmus-funded student mobility allows stays for study or training for between three and 12 months. The average length of stay within the Erasmus program between 2012 and 2013 was six months, a figure which has remained constant for a decade (European Commission 2014).

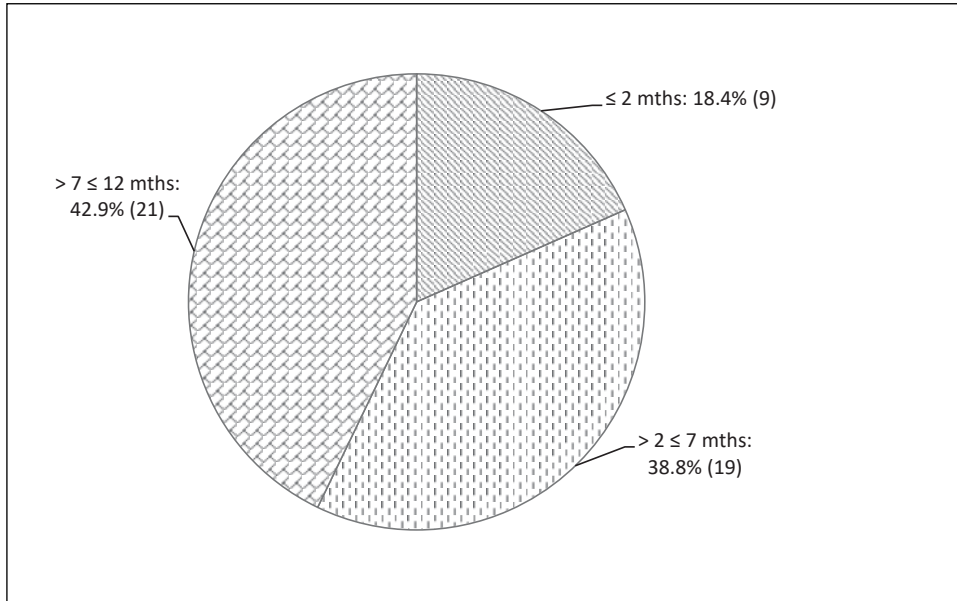


Figure 11: Length of stay (n=49)

Average length of stay in the studies at hand was calculated by number of months.¹¹ The minimum length of stay was one month, the maximum 12 months and the mean stay 6.1 months. Figure 11 shows how length of stay varies across studies. Most studies, however, are between two and twelve months. However, short term stays of two or less months are also represented (18.4%). Interestingly, length of stay correlates with L1 culture. Studies with informants from the USA were significantly more likely to focus on developments over a short-term stay of seven months or less than studies with informants from other cultures (Pearson chi square = 0.004). In other words, long term year abroad students are less frequent in the USA in the present studies, with only 15% of all USA informants in the present corpus engaging in stays more than seven months in length. This finding reflects the trend in the USA mentioned above towards progressively shorter stays.

¹¹ Where length of stay was mentioned in a study only in terms of a year abroad/an academic year, a period of 10 months was assumed; where length of stay was mentioned in terms of a semester, a period of four months was assumed in line with other studies in which both such terms and number of months were given. In cases where the number of weeks was given, these were calculated in terms of months/fractions of months and a month averaged at four weeks.

Insights into the relative effectiveness of short-term stays comes from a number of sources. On the one hand, there are studies in the present sample which focus on developments in L2 pragmatic competence over a short term stay (e. g. Hassall 2006, 2013a, 2015a, 2015b; Schauer 2007; Taguchi 2008a; Winke and Teng 2010; Shively 2011, 2013, 2014; Jin 2012; Li 2014; Félix-Brasdefer and Hasler-Barker 2015). In addition, studies focusing on longer-term study abroad periods frequently collect data over several points in time (cf. above). Some of these have noted features that develop quicker or slower than others over time (cf. Matsamura 2001; Barron 2003, 2007; Hassall 2013a; Khorshidi 2013b). Overall, both types of studies show that a certain degree of pragmatic knowledge can be acquired in a short time-frame but they also point out that many features remain undeveloped. Grieve (2015) is the only study in the database which systematically compares the development of pragmatic competence over a longer term and shorter term stay abroad. Her study throws interesting light on the effect of length of stay. Using semi-structured conversational interviews, Grieve contrasts informants on a five month exchange with those on a ten month exchange. She finds fewer approximation and intensification markers typical of Australian adolescent language in students on a five month exchange than students on a ten month programme despite the fact that data from both groups of students was collected at the same point in time – at the beginning of the study and after five months in the target language community. Aided by a language contact profile (LCP), she explains her findings with reference to lower levels of motivation and lower investment in integrating into and establishing relationships in the Australian adolescent community among those on a five month stay (cf. also Jin 2012).

6.2.2. *Context of stay, input exposure and opportunities for interaction*

There is no one study abroad context – rather different students/school-goers have different experiences depending also on their context of stay. We look first at the living accommodation and institutional contexts represented in the studies at hand before then looking at what research concludes regarding the importance of contact opportunities and the relative availability of input for the development of L2 pragmatic competence. Notably, no study in the sample explicitly focuses on the effect of different contexts of stay on pragmatic development.

In the present sample, accommodation was predominantly homestay (51.9%) at least based on the information available in the studies at hand. Other options include student accommodation, flat-sharing, guest house or indeed living in an apartment alone (cf. Table 6).

Table 6: Living accommodation of study abroad informants in sample (n=27)

Homestay	51.9% (14)
Student accommodation	22.2% (6)
Guest house/boarding house	3.7% (1)
Mixture	22.2% (6)

In most cases, the institutional context of study abroad, whether university/higher education institution, language school/summer school, high school/secondary school or private study, was mentioned by authors. Most studies focus on students in a higher education institution (59.1%) (cf. Table 7). Work placements were not represented at all (cf. 7).

Table 7: Institutional context of stay of study abroad informants in sample (n=44)

University/higher education institution	59.1% (26)
International language school/summer course	31.8% (14)
School	6.8% (3)
Private study	2.3% (1)

Those studies in the sample that go beyond the black box design and search for insights into the developmental processes and circumstances which lead to/hinder L2 pragmatic development show that study abroad students/school-goers enjoy input and interactional opportunities to differing degrees, with resultant consequences for L2 pragmatic development. Taguchi (2008b), for example, finds considerable variation in the reported amount of speaking and reading time, students experiencing unequal opportunities in this regard. She finds gains in comprehension speed to correlate with the reported amount of speaking and reading time spent by students outside of class time. Similarly, a case-study-based analysis by Kinginger and Blattner (2008) on awareness of colloquial phrases and pronouns of address in learner French also finds an advantage for those learners who engage in more interaction with speakers of various ages and backgrounds (cf. also Kinginger and Farrell 2004).

However, it is not only amount of input and interactional opportunities which have repercussions for the development of L2 pragmatic competence, but rather the intensity of contact. In other words, the extent of L2 pragmatic development will depend on whom stay abroad individuals spend time with, how frequent and extensive and close such contact is and in what situations they use the L2. Taguchi (2015a), for example, in four case studies in a Japanese study abroad context, finds social contact to foster integration and cultural adaptation. Specifically, regular,

close and stable social contacts were shown to be vital to pragmatic development. Communication strategies and learner qualities, such as patience, perseverance, flexibility and ambiguity tolerance, support learners in building such relationships. We come back to this latter issue in 6.3.

The importance of enduring relationships with members of the target language speech community is also highlighted by Jin (2012:231) in a case study of four American learners in China. In addition, Jin brings the role of limited input for reasons, such as foreigner talk, to our attention. She notes stay abroad students to have very limited exposure to contexts in which compliment response strategies are used due, she suggests, to the foreign identity of the American informants (as well as to the format and indeed short length of the study abroad program (cf. above)). Specifically, such factors hindered informants developing a close relationship with Chinese NS and accessing input and interaction opportunities in which compliment responses were produced in a target-like manner. Rather, their primary exposure to situations with compliment responses was in interaction with strangers. Compliment responses are generally rare in such interactions in the L2 context. Thus, development of pragmatic competence was impeded by a lack of close contacts.

Similarly, Marriott (1995) reports of limited input of addressee honorifics in the Japanese study abroad context due to the fact that the plain style is predominantly employed in families and among good friends. Also, in situations where stylistic variation is expected, the polite style is non-reciprocal. In addition, Marriott (1995) addresses the fact that negative feedback was limited (cf. also Hassall 2013a and Shively 2011 on lack of corrective feedback).

Finally, Hassall (2015b) is an innovative study focusing on the influence of fellow L2 learners on L2 pragmatic development. Hassall shows – possibly contrary to popular opinion – that fellow learners may facilitate L2 pragmatic development. Not only are their productions a source of input, but learners also discuss L2 pragmatics with each other explicitly and correct each other or plan pragmatic action together.

Thus, overall, research shows that the success of study abroad from a pragmatic developmental point of view appears to depend to a large degree on the amount and type of input available in the study abroad context and on the interactional opportunities open to learners. A lack of integration, foreigner talk and a lack of corrective feedback may hinder progress. However, as Kinginger and Blattner (2008:241) point out, learners themselves also have some personal control over input and interaction opportunities. They write:

... there is much more to the study abroad experience than meets the eye. The ways in which the sojourn will function as an environment for development of advanced competence will depend on the qualities of the sojourn itself – for example, on the role that the host family elects to take in welcoming, assist in, and instructing newcomers. However, and crucially, it will also depend on the histories of the participants, and how

they position themselves with respect to the people they meet and the activities that become available to them (Kinginger and Blattner 2008:241)

Whether learners exploit the opportunities available to them or not will also depend on the individuals themselves – our topic in 6.3.

6.2.3. *Pedagogical intervention on L2 pragmatics during study abroad*

The number of studies tracking learner development during study abroad with pedagogical intervention during a stay abroad is limited (cf. also Pérez Vidal and Shively 2019:361–362). The informants in Shively (2011), for instance, received explicit pragmatic input on requesting in Spanish, also in service encounters. She noted that this intervention, as well as explicit socialisation by the host family and implicit socialisation in the form of reactions from service providers, has an impact on changes in request behaviour. However, the study lacks a control group, as also does Henery (2015), a study of the development of two students' L2 meta-pragmatic awareness over time abroad following pedagogical intervention. The latter study shows that informants notice many pragmatic practices during their sojourn abroad and also acquire a greater insight into the social meaning behind linguistic conventions. Similarly, Winke and Teng (2010) investigate developments in pragmatic competence during study abroad supported by instruction. A control group was employed but this group was not on study abroad and did not take instruction; hence based on the quantitative data alone it is unclear whether the differences should be attributed to either instruction or to the study abroad context. Qualitative data, however, suggest that gains may be rather ascribed to the intervention.

A more suitable control group, i. e. one which was in the study abroad context but did not receive instruction, is provided by Alcón-Soler (2015a) in a study on the influence of instruction on request mitigation in e-mail communication. Mitigation is found to increase immediately after instruction but these increases are not sustained later on in study abroad. Similarly, Alcón-Soler (2015b) looks at learner developments in explicit knowledge of mitigation in email requests. She finds an increase in knowledge of request mitigators from pre-test to post-test for the group who received treatment early on during study abroad. However, these differences had disappeared in the post-delayed test at the end of the year abroad. Data from both studies suggests that knowledge gained via instruction is compared with conventions noticed in the study abroad context and reconstructed accordingly.

6.3. Influence of learner profiles

The pragmatic fruits of a stay in the target language community are not the same for all. Rather, different learners develop their L2 pragmatic competence to differing extents. While context of stay plays a role in determining outcomes (cf. 6.2), the characteristics of the learners themselves also influence outcomes.

In a chapter on individual differences in second language pragmatics (then termed interlanguage pragmatics), Kasper and Rose (2002:275) comment that in research in the area "... individual variation is submerged in the aggregate," a situation which they contrast with the role such variation plays in second language acquisition research (cf., e. g., Dörnyei 2009). There is no doubt that the study of individual differences remains a research gap also in L2 study abroad pragmatic research despite the years that have passed. At the same time, of all areas of second language pragmatics, study abroad research is one of the areas which has looked most at the role of individual differences in acquiring L2 pragmatic competence (cf. also Barron 2012; Taguchi 2013:1). To date, such research has focused on the effect of differences in proficiency, gender, motivation, personality and cognitive factors. We turn now to each factor.

6.3.1. *Proficiency*

Most study abroad research in second language pragmatics has focused on learners of intermediate to advanced pragmatic competence (cf. 5). However, comparison between these levels are limited. Indeed, in the present data base only Li (2014) compared the respective gains of students of each proficiency level over time spent on study abroad. Findings showed the relative gains in request production to be the same for both intermediate and advanced groups pointing to the preliminary conclusion that there is little difference regarding at which of these levels students engage on study abroad.

The small number of individual studies which have included lower level proficiency learners show contradictory findings as to the effect of proficiency on L2 pragmatic development in study abroad. On the one hand, studies find study abroad to hold particular advantages for lower proficiency learners particularly in the area of routines. A study by Taguchi, Li and Xiao (2013), for instance, found a significant correlation between formulaic competence level and frequency of encounters with target formulae in the study abroad context. This correlation only applied to learners with low initial levels of formulaic competence, pointing to study abroad as particularly beneficial for lower level L2 learners. Similarly, Marriott (1995), in a study of Australian foreign language learners of Japanese, for example, found learners with lower initial proficiency to make the greatest initial gains in their use of formulaic routines and third person reference forms for family members over time. On the other hand, in Marriott's study request production, particularly

the use of supportive moves by these learners, lagged behind. Similarly, Masuda (2011), in a study involving six learners in Japan found competence in the use of the particle *ne* to develop slower at lower proficiency levels, a fact explained with reference to the fact that such learners are only capable of lower levels of interactional involvement. In summary then, and based on this small number of studies, it would appear that L2 pragmatic competence develops at a quicker pace for lower proficiency individuals in the area of formulaic competence and at a slower pace for more complex areas of L2 interaction.

6.3.2. *Gender*

There is very little research on the influence of gender on developments in L2 pragmatic competence during study abroad. In the database, Khorshidi (2013a), a study of request and apology speech acts among Iranian learners in India, finds no relationship between gender and development. On the other hand, Masuda (2011), a study of six learners in Japan, reports how one male learner's belief that *ne* was a feminine linguistic feature prevented him from acquiring competence in using the particle. Masuda's study reveals the potential effect of psychological distance, i. e., the level of difference which a learner perceives to exist between him/herself and the target culture, on the development of L2 pragmatic competence.

6.3.3. *Motivation*

Motivations for embarking on study abroad may differ across individuals. While some may be motivated to learn the target language and integrate into the target language community, others may be more interested in having fun and travelling. In the database, studies, such as Kinginger and Belz (2005), a series of case studies of learners in the French L2 context focusing on T/V use, show how a lack of motivation to learn the L2 may negatively affect efforts to engage in interaction and establish personal relationships with target language speakers. As discussed in 6.2.2, this fact itself can lead to a lack of pragmatic development (cf. also Hassall 2006; Schauer 2007; Kinginger and Blattner 2008; Jin 2012; Taguchi 2015a on motivation as a potential factor in L2 pragmatic development). In general, however, the analysis shows a lack of systematic research on the influence of motivation on the development of L2 pragmatic competence during study abroad.

6.3.4. *Personality*

There is little research on the influence of personality on L2 development in study abroad. However, studies, such as Taguchi (2015a:154–155), suggest that – similar to the case of motivation – openness, positive attitudes and interest in the culture facilitate learners in gaining initial access to the local community. Taguchi (2015a)

adds, however, that gaining access to such community life is insufficient; rather characteristics, such as patience, perseverance, flexibility and ambiguity tolerance, are needed for learners to convert initial acquaintances into more long-term acquaintances (cf. also 6.2.2 on the importance of close contacts for L2 pragmatic development).

The only systematic study in the database is Taguchi (2015b), who investigates the relationship between cross-cultural adaptability and development of speech act production among 22 learners of Japanese in using the Cross-Cultural Adaptability Inventory (CCAI) (Kelley and Meyers 1995). This measure operationalises cross-cultural adaptability via emotional resilience (ability to regulate emotions and maintain emotional equilibrium), flexibility/openness (adaptability to different ways of thinking and acting), perceptual acuity (attentiveness to interpersonal relations, verbal and non-verbal communication, sensitivity to context) and personal autonomy (strong sense of identity, ability to maintain personal values and beliefs). Taguchi finds a significant relationship between cross-cultural adaptability and gains in appropriateness of speech act. She explains her findings with reference to the role that these qualities play in adapting to and integrating into a new culture and in thus providing opportunities to interact with the target language speech community and to use the language. Thus, a high cross-cultural adaptability at the beginning of study abroad facilitates access to opportunities to use the L2 and leads to increased pragmatic development. On the other hand, however, a higher level of cross-cultural adaptability does not lead to increased developments in using speech act style, a finding Taguchi (2015b) explains with reference to the fact that appropriateness of speech act production is more complex and thus judged more holistically, whereas appropriateness of speech style is more grammar-oriented, focused only on learners' sentence-ending forms.

6.3.5. *Cognitive factors*

The question whether gains in the speed and accuracy of comprehension of implied meaning (indirect opinions, indirect refusals) is related to cognitive processing ability, and in particular, to lexical access speed, is investigated by Taguchi (2008b) in the database. She finds initial lexical access speed to relate to gains in speed measured via response times but not to accuracy. She concludes that speed reflects processing capacity not knowledge and she points out that learners with higher processing ability are likely to improve their speed of comprehension to a larger extent during study abroad than learners with lower abilities. Study abroad does not affect the relationship between processing ability and speed – rather lexical access skill affects pragmatic comprehension regardless of context (cf. Taguchi 2007 on the EFL context).

6.4. Learner agency

Context of study and learner profiles both appear to influence learner outcomes in developing pragmatic competence in study abroad. A further factor is the role of learner agency, several studies having reported of learners' rejection of the target language NS pragmatic norm. Hence, although L2 pragmatic competence in a particular area may be present, this competence may not be reflected in productive data due to a) divergent values and b) the influence of an educational standard.

Concerning a), research shows that learners feeling uncomfortable with target language norms may reject them. Siegal (1995), for instance, reports of a female student's rejection of Japanese norms in style-shifting between polite and plain styles due to the fact that she viewed herself as a competent researcher and did not wish to humble herself when speaking to a Japanese professor (cf. also Iwasaki 2010 on identity concerns with respect to the polite and plain styles in the Japanese context). Reports on learner resistance to target language norms do not only come from studies of more distant languages, such as Japanese. Barron (2003:164–165), for instance, reports of some rejection of the German target language norm in favour of an L1 norm by Irish informants. These students preferred L1 offer-refusal of offer exchange structure patterns, specifically in relation to the presence of ritual reoffers (cf. also Kinginger and Farrell 2004). In addition, Barron (2003:247–249) reports of some learners on study abroad noticing different levels of directness between Irish and German language use and equating these with personality differences which they rejected.

Finally, b) the influence of an educational standard means that pragmatic norms in the stay abroad context may, in the view of study abroad students/school-goers, not reflect the norms of the educational standard. In EFL, the standard learned in an educational context is usually British or American English; in a German as a Foreign Language context German German. This educational standard, which the study abroad learners return to after their stay abroad, may affect learners' acceptance or rejection of pragmatic features of other varieties of English met during study abroad. Davis (2007), for instance, found some resistance to Australian English routines by Korean learners due to a preference for North American English.

7. Conclusion and possible future directions for research

The present meta-analysis reveals an explosion of pragmatic research in the study abroad context in the recent past. The range of studies, predominantly longitudinal in nature, is broad. However, research on comprehension represents a further area of desired research. The overview also revealed a clear concentration on the actional level, with a broad range of speech acts investigated (cf. also Pérez Vidal and Shively 2019:365). On the actional level, the traditional focus is on the level

of the strategy without taking into account how these are formally realised. On the other hand, studies on the formal level which focus on routines frequently do not take the speech act realised into account (Barron 2019c; Sell et al. 2019). Hence, although connected, the interface between the formal and functional level is not attended to to any large extent in practice. Further analyses might go beyond this boundary and investigate formal realisations of speech acts, via routine variants and learner-specific realisations. Two recent studies by Barron (2019c) and Sell et al. (2019) address this research gap, the former advocating the use of corpus linguistic methods, the latter combining functional and lexical analyses.

Analyses on the formal, interactional, topic and organisational levels represent a research gap. To these levels could also be added a genre level, with research focusing on how genre knowledge in a range of domains develops over time in the stay abroad context. Kim and Belcher (2018) is one of the few studies in this area. The study tracked the use and development of genre knowledge of four Korean study abroad students in the USA using semi-structured interviews. Findings showed students' use of prior L1 and L2 genre knowledge along with an increase in L2 genre knowledge triggered by exposure to new genres. Genres of relevance in the study abroad context are likely to include text messages, narratives, essays or project reports. Further research might examine the global structural conventions coupled with an analysis of lexico-grammatical features in learner texts of a selection of genres, but also investigate the range of genre uses during stay abroad.

The L2 investigated in the sample at hand is typically English and the target language analysed is always spoken by the larger speech community in a country. However, the global realities of study abroad in an ELF context (cf. Jenkins 2013) need to be recognised and definitions of study abroad altered accordingly and this context also focused on (cf. 2.1). As Taguchi (2018:135) states "Future research in pragmatics learning in lingua franca will help us move to the new conceptualization of the study abroad context – study abroad programs as a site for multi-cultural communication" (cf. also Isabelli-Garcia et al. 2018:441). Glaser (2017), for instance, is a recent study focusing on students' meta-pragmatic perceptions of pragmatic input in a study abroad lingua franca context compared to a study abroad target language context. Glaser finds the students, who had been exposed to pragmatic input prior to their stay abroad, to find the lingua franca context to be superior for enhancing sociopragmatic awareness and the target language context to be more suitable for applying pragmalinguistic strategies learned in the EFL context.

Also on the topic of stay abroad context, one issue which has not been widely discussed to date in second language pragmatic is L2 users' awareness and production of localised pragmatic features. Students in a foreign language context are generally exposed to a neutral variety or to a standard language variety, such as British English (BrE) or American English (AmE) in the case of English (cf. Forsberg, Mohr and Jansen 2019). Input on further regional varieties (national, sub-national, regional, sub-regional) in an educational context appears to be min-

imal and on the pragmatic level largely non-existent (cf. Bieswanger 2008). On stay abroad, learners are however likely to become exposed to intralingual regional pragmatic variation in the target language. L2 French users on stay abroad in Canada, for instance, may witness speakers of Canadian French producing speech acts of greeting and leave-taking in a different way compared to the speech acts which they are exposed to in the foreign language French classroom; the same L2 French users may also recognise regional pragmatic features in different areas of France, which are not addressed in the classroom due to the focus on a homogeneous norm. Thus, in the stay abroad context L2 speakers may experience a conflict between the particular standard language variety propagated in instructional contexts and the variety of the region in which they find themselves. Much of the research on second language pragmatic L2 users' awareness and production of localised pragmatic features has to date been focused on immigrants. However, Davis' (2007) study shows its relevance for the stay abroad context, where Korean stay abroad students in Australia consciously resisted using Australian English routines (cf. also Magliacane and Howard 2019). Research on the range of factors influencing acceptance or rejection of localised features is in its infancy but they appear to include degree of exposure, complexity of the pragmatic features and learner agency. With regard to learner agency, research shows that L2 speakers may reject localised pragmatic features against the background of a preference for the standardised variety taught in the classroom (cf. Barron 2019b, a review article which examines L2 users' awareness and use of regional pragmatic features).

The prototypical informants in the sample at hand are small groups of study abroad informants of a single L1, typically English, reflecting the Anglo-Saxon bias of researchers' bases. Informants have a mean age of 22 years and typically intermediate to advanced competence. Further research might mirror the heterogeneity of study abroad informants rather than concentrate on this prototypical case. Additional groups which might be investigated include high school/secondary school students (cf. a recent study by Sell et al. 2019), low initial L2 proficiency speakers, students on different degree programs (e. g. social science, modern languages, business, law or engineering) or indeed heritage learners, i. e. those individuals who study abroad because of a connection, be it ethnic, religious, linguistic or national, to a particular ancestral region (cf. Shively 2016). Such a diversification of informants is important since different groups may reveal different development paths. To take one example, future language teachers, for instance, may, with the future language classroom in mind, be potentially more inclined to reject localised pragmatic uses over standard uses than heritage students who may be more open to aligning with target language conventions. These, however, remain mere suppositions. Research is, thus, needed to investigate the L2 pragmatic development of a range of learner profiles.

The prototypical length of stay in the studies in the database is typically between one and two terms and informants characteristically visit a higher education insti-

tution during their stay. In contrast, short-term stays are increasing in many settings (cf. Hulstrand 2006; Nerlich 2015; Institute of International Education 2019) and increased research on short-term sojourns is needed. Hernandez (2018) on L2 Spanish apologies during a short-term four week study abroad sojourn is a recent study. It reports some gains, but also non-linear developments and stable performance (cf. also Hassall 2018). With regard to the type of stay, the importance of work, internships, and volunteering abroad (WIVA) has not been recognised in second language pragmatics research despite the fact that many programs fund international mobility in this area and despite the fact that these are growing in popularity (cf., e. g., European Commission 2014, 2018). The studies in the present sample reflect the traditional concentration on educational contexts abroad and thus underline the desideratum for studies focusing on contexts in which students/school-goers interact in a work placement or volunteering context. Magliacane and Howard (2019) is a recent longitudinal study which addresses this research gap. The study examines pragmatic developments in the use of the pragmatic marker *like*. It contrasts development of this marker by a group of Italian learners undertaking university studies with that of a group of Italian learners in au-pair employment, both over a six-month period in Ireland. Findings point to an increase in the use of the pragmatic marker *like* by both groups and also to similar increases in particular functions of the marker. However, the typology of functions employed by the au pair group was overall more similar to NS use despite the fact that the university group presented more longitudinal changes. The researchers explain these findings with reference to the fact that university stay abroad frequently represents a lingua franca context even when learners are staying in the target language community, and indeed study abroad students in a university context visit similar language classes and frequently share accommodation. Thus, they conclude that students and au pairs have different input and output opportunities. More research is needed in this area. In addition, it is possible that learner profiles differ by programs, an aspect which may also influence L2 pragmatic development.

The present meta-analysis has shown that the most common format of study abroad analyses is the black box format, with its concentration on descriptions of L2 pragmatic development. Black box research views language learners and contexts as largely identical and instead focuses on aggregate developments. Recently, however, there has been a move to seek explanations for inconsistent and variable findings in study abroad research (cf. also Taguchi and Li 2019). Situated pragmatic practice studies and exposure to input studies help to throw light on contextual differences and individual differences which are frequently highlighted but not explained in black box research. Situated pragmatic practice studies and exposure to input studies investigate what goes on in study abroad directly and indirectly respectively. They highlight aspects of the context which can facilitate and impede L2 pragmatic development. In addition, such studies frequently show different learner types to benefit to differing degrees from the study abroad expe-

rience, while at the same time highlighting the importance of learner involvement in assisting integration. Given, however, that the majority of these explanatory studies have been based on case studies, further quantitative research is needed in both areas (cf. Taguchi and Li 2019). In addition, some options for further research on both contextual and individual influences are sketched in the following.

In the case of contextual influences, recent efforts to find out more about the nature of the study abroad context and input and interaction opportunities have highlighted the importance of intensity of interaction, the role of foreigner talk, the lack of feedback and the role which fellow L2 learners play in L2 pragmatic development. In the following, three recently suggested approaches to researching context are presented. Devlin's (2019) research focusing on the concept of micro-learning contexts. Devlin identifies three loci, namely the conversational, institutional and media loci and examines the correlation between the length of stay abroad and informants' relative access to a range of micro-learning contexts (conversational, institutional, media loci). She finds a correlation between length of stay and input type, with informants with more than one year stay abroad experience having access to institutional, conversational and media loci. Stay abroad informants with shorter aggregate stays in contrast show a bias towards the institutional locus. This conceptualisation of context can be used, for instance, to ascertain whether there is a correlation between student profile type and learning context type.

A second potential approach uses the concept of *domain of practice*, defined as domains characterised by particular participant memberships, goals and conventions of interaction (Taguchi and Collentine 2018:555–556). Taguchi and Collentine suggest that future study abroad research might focus on the conventions of interactions in those domains of practice which learners experience when on a sojourn abroad. Common domains of practice in the study abroad context include service encounters (cf., e. g., Shively 2011) and dinner table conversation (cf., e. g., Lee 2017; Greer 2019), but research is needed to identify further domains of practice experienced by learners (e. g. club activities, dorm room interactions, content classroom interactions). Working within the concept of domains of practice, Taguchi and Collentine (2018) suggest that researchers conduct an initial description of the relevant linguistic forms and interactional patterns of a particular domain of practice for L1 speakers and follow this up by pre-/post-tests for learners based on these descriptions combined with interviews. Alternatively, expert NS data might serve as a base-line.

Social network analysis is a third possibility that might be used to shed further light on context in study abroad. Such research, looking at learners' social networks, aims to assess learners' frequency and quality of contact with the target language and also to add to researcher knowledge of the input/output opportunities in various prototypical study abroad contexts. Survey data, also via mobile-phone surveys, combined with big-data analysis of learner writing (e. g. emails, social media posts), represent potential data sources (cf. Taguchi and Collentine

2018:561–563). Finally, it is noticeable that the bulk of research on context concentrates on the students/school-goers on study abroad. Insights from other actors in the study abroad social network, such as by teachers, lecturers, supervisors or host families, might also be researched to provide a more complete picture of the study abroad context (cf. also Isabelli-Garcia et al. 2018).

Research on individual learners is a recent development in second language pragmatics. Black box research views language learners as “homogenous processors of linguistic information” (Isabelli-Garcia et al. 2018: 458). In other words, language learners are seen as broadly similar and aggregate developments measured over time. In recent years, learners have begun to be seen from a more differentiated viewpoint, with the influence of individual differences on the development of L2 pragmatic competence investigated. In second language pragmatics, there is extensive potential for scholarship on the factors mentioned above (proficiency, motivation, personality, gender and cognitive processing (e. g. aptitude, working memory, lexical access skill)). In doing so, these factors need to be viewed as time-varying variables.

The question as to whether individual variables influence levels and intensity of social contact in the study abroad context is one which has been investigated recently. Taguchi, Li and Xiao (2016), for instance, examine the effects of intercultural competence and social contact on the speech act production of a group of American students learning Chinese on a semester-long study abroad program in China. They find that cross-cultural adaptability itself does not directly affect speech gains; rather they find that it directly affects levels of social contact and in this way indirectly influences speech act gains. On the other hand, however, a study by Sánchez-Hernández and Alcón-Soler (2019) into the effect of sociocultural adaptation, a sub-component of intercultural competence, and intensity of contact on recognition of pragmatic routines among Brazilian students in their first semester of study at a US university, does not support such findings. Sánchez-Hernández and Alcón-Soler (2019) find amount and variety of interaction with L2 users to be the primary predictor of pragmatic gains, and for socio-cultural adaptation, i. e. willingness to acculturate, to influence gains on a secondary level. In contrast to Taguchi, Li and Xiao’s (2016) study, however, the constructs of adaptation and intensity of interaction were unrelated. Hence, further research is needed to investigate such relationships for a wide variety of linguistic features, users and contexts.

Research on the development of L2 competence in the study abroad context has come into its own in recent years. The present overview has shown that descriptions of L2 pragmatic development on a wide variety of linguistic features are now available and explanations for different development paths and for lack of development are increasing so that a lot more is known about the unique context which is study abroad. At the same time, many questions continue to remain open, questions which when answered can in time guide policy decisions regarding the optimal organisation of study abroad.

References

* An asterisk is employed to isolate those studies in the list of references which were included in the sample analysed in the present paper.

- *Alcón-Soler, Eva
2015a Pragmatic learning and study abroad: Effects of instruction and length of stay. *System* 48: 62–74.
- *Alcón-Soler, Eva
2015b Instruction and pragmatic change during study abroad email communication. *Innovation in Language Learning and Teaching* 9(1): 34–45.
- Alcón-Soler, Eva and Lynda Yates (eds.)
2015 *Special issue on pragmatics*. [Special issue]. *System* 48.
- Bachman, Lyle F.
1990 *Fundamental Considerations in Language Testing*. Oxford: Oxford University Press.
- Bachman, Lyle F. and Adrian S. Palmer
1996 *Language Testing in Practice*. Oxford: Oxford University Press.
- Bardovi-Harlig, Kathleen
2013 Developing L2 pragmatics. *Language Learning* 63(1): 68–86.
- *Barron, Anne
2000 Acquiring “different strokes”: A longitudinal study of the development of L2 pragmatic competence. *German as a Foreign Language (GFL)* 2: 1–29. (online journal) (accessed 4 December 2019).
- *Barron, Anne
2003 *Acquisition in Interlanguage Pragmatics*. Amsterdam/Philadelphia: John Benjamins.
- *Barron, Anne
2006 Learning to say “you” in German: The acquisition of sociolinguistic competence in a study abroad context. In: Margaret A. DuFon and Eton Churchill (eds.), *Language Learners in Study Abroad Contexts*, 59–88. Clevedon: Multilingual Matters.
- *Barron, Anne
2007 “Ah no honestly we’re okay”: Learning to upgrade in a study abroad context. *Intercultural Pragmatics* 4(2): 129–166.
- Barron, Anne
2012 Research timeline: Interlanguage pragmatics: From use to acquisition to second language pedagogy. *Language Teaching* 1(45): 44–63.
- Barron, Anne
2019a Pragmatic development and stay abroad. *Journal of Pragmatics* 146: 43–53.
- Barron, Anne
2019b Norms and variation in L2 pragmatics. In: Naoko Taguchi (ed.), *The Routledge Handbook of Second Language Acquisition and Pragmatics*, 447–461. Abingdon/New York: Routledge.
- Barron, Anne
2019c Using corpus-linguistic methods to track longitudinal development: Routine apologies in the study abroad context. *Journal of Pragmatics* 146: 87–105.

- Barron, Anne and Muriel Warga (eds.)
 2007 *Special issue in acquisitional pragmatics in foreign language learning*. [Special issue]. *Intercultural Pragmatics* 2(4).
- *Bataller, Rebecca
 2010 Making a request for a service in Spanish: Pragmatic development in the study abroad setting. *Foreign Language Annals* 43(1): 160–175.
- Bibliography of Pragmatics Online. <https://benjamins.com/online/bop/> (accessed 5 December 2019).
- Bieswanger, Markus
 2008 Varieties of English in current English language teaching. *Stellenbosch Papers in Linguistics* 38: 27–47.
- Celce-Murcia, Marianne
 2007 Rethinking the role of communicative competence in language teaching. In: Eva Alcón Soler and Maria Pilar Safont Jordá (eds.), *Intercultural Language Use and Language Learning*, 41–57. Berlin: Springer.
- Celce-Murcia, Marianne, Zoltán Dörnyei and Sarah Thurrell
 1995 Communicative competence: A pedagogically motivated model with content specifications. *Issues in Applied Linguistics* 6(2): 5–35.
- Coleman, James A.
 1997 Residence abroad within language study. State of the art article. *Language Teaching* 30(1): 1–20.
- Davis, John McE.
 2007 Resistance to L2 pragmatics in the Australian ESL context. *Language Learning* 57: 611–649.
- Devlin, Anne Marie
 2014 *The Impact of Study Abroad on the Acquisition of Sociopragmatic Variation Patterns: The Case of Non-native Speaker English Teachers*. Bern: Lang.
- *Dings, Abby
 2012 Native speaker/nonnative speaker interaction and orientation to novice/expert identity. *Journal of Pragmatics* 44: 1503–1518.
- Dörnyei, Zoltán
 2009 *The Psychology of Second Language Acquisition*. Oxford: Oxford University Press.
- DuFon, Margaret A. and Eton Churchill (eds.)
 2006 *Language Learners in Study Abroad Contexts*. Clevedon: Multilingual Matters.
- Edmondson, Willis
 2000 Grammatik und Kommunikation bei Auslandsaufenthalten. In: Beate Helbig, Karin Kleppin and Frank G. Königs (eds.), *Sprachlehrforschung im Wandel: Beiträge zur Erforschung des Lehrens und Lernens von Fremdsprachen. Festschrift für Karl-Richard Bausch zum 60. Geburtstag*, 363–382. Tübingen: Stauffenburg.
- European Commission
 2014 Erasmus – facts, figures and trends. The European Union support for student and staff exchanges and university cooperation in 2012–13. Luxembourg: Publications Office of the European Union. http://www.agence-erasmus.fr/docs/2234_facts-figures_en.pdf (accessed 27 November 2019).

European Commission

- 2018 Report from the commission to the European Parliament, the Council, the European economic and social committee and the committee of the regions. Mid-term evaluation of the Erasmus+ programme (2014–2020). Brussels: European Commission. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0050&from=FR> (accessed 4. 12. 2019).

Félix-Brasdefer, J. César

- 2012 Pragmatic variation by gender in market service encounters in Mexico. In: J. César Félix-Brasdefer and Dale April Koike (eds.), *Pragmatic Variation in First and Second Language Contexts: Methodological Issues*, 17–49. Amsterdam/Philadelphia: John Benjamins.

*Félix-Brasdefer, J. César and Maria Hasler-Barker

- 2015 Complimenting in Spanish in a short-term study abroad context. *System* 48: 75–85.

Forsberg, Julia, Susanne Mohr and Sandra Jansen

- 2019 The goal is to enable students to communicate: Communicative competence and target varieties in TEFL practices in Sweden and Germany. *European Journal of Applied Linguistics* 7(1): 31–60.

Freed, Barbara F.

- 1990 Language learning in a study abroad context: The effects of interactive and non-interactive out-of-class contact on grammatical achievement and oral proficiency. In: James E. Alatis (ed.), *Linguistics, Language Teaching and Language Acquisition: The Interdependence of Theory, Practice and Research: Georgetown University Round Table on Languages and Linguistics (GURT) 1990*, 459–477. Washington, DC: Georgetown University Press.

Freed, Barbara F.

- 1995 Language learning and study abroad. In: Barbara F. Freed (ed.), *Second Language Acquisition in a Study Abroad Context*, 3–33. Amsterdam: John Benjamins.

Frontiers: The Interdisciplinary Journal of Study Abroad. <https://frontiersjournal.org/past-volumes/> (accessed 5 December 2019).

Garfinkel, Harold

- 1967 *Studies in Ethnomethodology*. Englewood Cliffs, NJ: Prentice Hall.

Glaser, Karen

- 2017 Metapragmatic perceptions in native language vs. lingua franca settings: Does target language status during study abroad make a difference? *Study Abroad Research in Second Language Acquisition and International Education* 2(1): 107–131.

Greer, Tim

- 2019 Initiating and delivering news of the day: Interactional competence as joint-development. *Journal of Pragmatics* 146: 150–164.

*Grieve, Averil Marie

- 2015 The impact of host family relations and length of stay on adolescent identity expression during study abroad. *Multilingua* 34(5): 623–657.

*Hassall, Timothy

- 2006 Learning to take leave in social conversations: A diary study. In: Margaret A. DuFon and Eton Churchill (eds.), *Language Learners in Study Abroad Contexts*, 31–58. Clevedon: Multilingual Matters.

- *Hassall, Timothy
2013a Pragmatic development during short-term study abroad: The case of address terms in Indonesian. *Journal of Pragmatics* 55: 1–17.
- Hassall, Timothy
2013b Pragmatic development in study-abroad contexts. In: Carol Chapelle (ed.), *The Encyclopedia of Applied Linguistics*, 4516–4522. Malden, MA: Wiley-Blackwell.
- *Hassall, Timothy
2015a Individual variation in L2 study-abroad outcomes: A case study from Indonesian pragmatics. *Multilingua* 34(1): 33–59.
- *Hassall, Timothy
2015b Influence of fellow L2 learners on pragmatic development during study abroad. *Intercultural Pragmatics* 12(4): 415–442.
- Hassall, Timothy
2018 Leave-taking in Indonesian during short-term study abroad. *Study Abroad Research in Second Language Acquisition and International Education* 3(1): 84–116.
- He, Agnes and Richard Young
1998 Language proficiency interviews: A discourse approach. In: Richard Young and Agnes He (eds.), *Talking and Testing: Discourse Approaches to the Assessment of Oral Proficiency*, 1–25. Amsterdam/Philadelphia: John Benjamins.
- *Henery, Ashlie
2015 On the development of metapragmatic awareness abroad: Two case studies exploring the role of expert-mediation. *Language Awareness* 24(4): 316–331.
- Hernandez, Todd A.
2018 L2 Spanish apologies development during short-term study abroad. *Studies in Second Language Learning and Teaching* 8(3): 599–620.
- House, Juliane and Gabriele Kasper
2000 How to remain a non-native speaker. In: Claudia Riemer (ed.), *Kognitive Aspekte des Lehrens und Lernens von Fremdsprachen/Cognitive Aspects of Foreign Language Learning and Teaching: Festschrift für Willis J. Edmondson zum 60. Geburtstag*, 101–118. Tübingen: Narr.
- Hulstrand, Janet
2006 Education abroad on the fast track. *International Educator* May/June: 46–55. https://www.nafsa.org/sites/default/files/ektron/files/underscore/education_abroad_fast.pdf (accessed 4 December 2019).
- Institute of International Education (IIE) Center for Academic Mobility Research and Impact
2017 *A World on the Move 1: Trends in Global Student Mobility*. New York: Institute of International Education. <https://www.iie.org/Research-and-Insights/Project-Atlas/Research-Special-Reports-and-Analyses> (accessed 27 November 2019).
- Institute of International Education (IIE)
2019 *Open doors 2019 Fast Facts*. <https://www.iie.org/Research-and-Insights/Open-Doors/Fact-Sheets-and-Infographics/Fast-Facts> (accessed 27 November 2019).

- Isabelli-García, Christina, Jennifer Bown, John L. Plews and Dan P. Dewey.
2018 Language learning and study abroad. *Language Teaching* 51(4): 439–484.
- *Ishida, Midori
2009 Development of interactional competence: Changes in the use of ne in L2 Japanese during study abroad. In: Hanh Thi Nguyen and Gabriele Kasper (eds.), *Talk-in-Interaction: Multilingual Perspectives*, 351–385. Honolulu, HI: National Foreign Language Resource Center, University of Hawai'i at Manoa.
- *Iwasaki, Noriko
2010 Style shifts among Japanese learners before and after study abroad in Japan: Becoming active social agents in Japanese. *Applied Linguistics* 31(1): 45–71.
- Jenkins, Jennifer
2013 *English as a Lingua Franca in the International University: The Politics of Academic English Language Policy*. London/New York: Routledge.
- *Jin, Li
2012 When in China, do as the Chinese do? Learning compliment responding in a study abroad program. *Chinese as a Second Language Research (CASLAR)* 1(2): 211–240.
- Kasper, Gabriele and Kenneth R. Rose
2002 *Pragmatic Development in a Second Language*. Oxford: Wiley-Blackwell.
- Kelley, Colleen and Judith Meyers
1995 *Cross-Cultural Adaptability Inventory Manual*. Arlington, VA: Vangent.
- *Khorshidi, Hassan Rasouli
2013a Study abroad and interlanguage pragmatic development in request and apology speech acts among Iranian learners. *English Language Teaching* 6(5): 62–70.
- *Khorshidi, Hassan Rasouli
2013b Request strategy development in Iranian study abroaders. *International Journal of Applied Linguistics* 2(6): 129–142.
- Kim, Minkyung and Diane D. Belcher
2018 Building genre knowledge in second language writers during study abroad in higher education. *Journal of English for Academic Purposes* 35: 56–69.
- Kinginger, Celeste
2009 *Language Learning and Study Abroad: A Critical Reading of Research*. New York: Palgrave Macmillan.
- *Kinginger, Celeste and Julia A. Belz
2005 Socio-cultural perspectives on pragmatic development in foreign language learning: Microgenetic and ontogenetic case studies from telecollaboration and residence abroad. *Intercultural Pragmatics* 2(4): 369–421.
- *Kinginger, Celeste and Géraldine Blattner
2008 Histories of engagement and sociolinguistic awareness in study abroad. In: Lourdes Ortega and Heidi Byrnes (eds.), *The Longitudinal Study of Advanced L2 Capacities*, 223–246. New York: Routledge.
- *Kinginger, Celeste and Kathleen Farrell
2004 Assessing development of meta-pragmatic awareness in study abroad. *Frontiers: The Interdisciplinary Journal of Study Abroad* 10: 19–42.
- *Lafford, Barbara A.
1995 Getting into, through and out of a survival situation: A comparison of commu-

- nicative strategies used by students studying Spanish-abroad and “at home”. In: Barbara Freed (ed.), *Second Language Acquisition in a Study Abroad Context*, 97–121. Amsterdam: John Benjamins.
- *Lafford, Barbara A.
 2004 The effect of the context of learning on the use of communication strategies by learners of Spanish as a second language. *Studies in Second Language Acquisition* 26: 201–225.
- Lee, Sheng-Hsun
 2017 Developing awareness and use of compliments in the Chinese homestay: A longitudinal case study. *Applied Linguistics Review* 8(4): 441–467.
- Leech, Geoffrey
 1983 *Principles of Pragmatics*. London: Longman.
- *Li, Shuai
 2014 The effects of different levels of linguistic proficiency on the development of L2 Chinese request production during study abroad. *System* 45: 103–116.
- Magliacane, Annarita and Martin Howard
 2019 The role of learner status in the acquisition of pragmatic markers during study abroad: The use of ‘like’ in L2 English. *Journal of Pragmatics* 146: 72–86.
- Marmaridou, Sofia
 2011 Pragmalinguistics and sociopragmatics. In: Wolfram Bublitz and Neal R. Norrick (eds.), *Foundations of Pragmatics*, 77–106. Berlin: De Gruyter Mouton.
- *Marriott, Helen
 1995 The acquisition of politeness patterns by exchange students in Japan. In: Barbara Freed (ed.), *Second Language Acquisition in a Study Abroad Context*, 197–224. Amsterdam: John Benjamins.
- *Masuda, Kyoko
 2011 Acquiring interactional competence in a study abroad context: Japanese language learners’ use of the interactional particle *ne*. *The Modern Language Journal* 95(4): 519–540.
- *Matsumura, Shoichi
 2001 Learning the rules for offering advice: A quantitative approach to second language socialization. *Language Learning* 51(4): 635–679.
- *Matsumura, Shoichi
 2007 Exploring the aftereffects of study abroad on interlanguage pragmatic development. *Intercultural Pragmatics* 4(2): 167–192.
- Mitchell, Nic
 2016 Universities compete by teaching in English. BBC News. <http://www.bbc.co.uk/news/business-35429233> (accessed 4 December 2019).
- Modern Language Association (MLA) International Bibliography. <https://www.mla.org/Publications/MLA-International-Bibliography> (accessed 6 December 2019).
- Nerlich, Steve
 2015 Students from Australian universities studying abroad: A demographic profile. *Australian Universities’ Review* 57(1): 52–59. *Online Contents Linguistik*. https://www.ub.uni-frankfurt.de/ssg/ling_contents_en.html (accessed 5 December 2019).
- Pérez-Vidal, Carmen and Rachel L. Shively
 2019 L2 pragmatic development in study abroad settings. In: Naoko Taguchi (ed.),

- The Routledge Handbook of Second Language Acquisition and Pragmatics*, 355–371. Abingdon/New York: Routledge.
- *Pryde, Michael
2014 Conversational patterns of homestay hosts and study abroad students. *Foreign Language Annals* 47(3): 487–506.
- *Ren, Wei
2013a The effect of study abroad on the pragmatic development of the internal modification of refusals. *Pragmatics* 23(4): 715–741.
- *Ren, Wei
2013b A longitudinal investigation into L2 learners' cognitive process during study abroad. *Applied Linguistics* 35(5): 575–594.
- *Ren, Wei
2015 *L2 Pragmatic Development in Study Abroad Contexts*. Bern: Peter Lang.
- *Reynolds-Case, Anne
2013 The value of short-term study abroad: An increase in students' cultural and pragmatic competency. *Foreign Language Annals* 43(2): 311–322.
- Sacks, Harvey
1995 *Lectures on Conversation*. Cambridge, MA/Oxford, UK: Blackwell.
- Sánchez-Hernández, Ariadna and Eva Alcón-Soler
2019 Pragmatic gains in the study abroad context: Learners' experiences and recognition of pragmatic routines. *Journal of Pragmatics* 146: 54–71.
- *Schauer, Gila A.
2007 Finding the right words in the study abroad context: The development of German learners' use of external modifiers in English. *Intercultural Pragmatics* 4(2): 193–220.
- *Schauer, Gila A.
2009 *Interlanguage Pragmatic Development: The Study Abroad Context*. London/New York: Continuum.
- Schauer, Gila A.
2010 Study abroad and its effect on speech act performance. In: Alicia Martínez Flor and Esther Usó Juan (eds.), *Speech Act Performance: Theoretical, Empirical and Methodological Issues*, 91–108. Amsterdam: Benjamins.
- Schegloff, Emanuel A.
2007 *Sequence Organization in Interaction: A Primer in Conversation Analysis*, Volume 1. Cambridge: Cambridge University Press.
- Schneider, Klaus P.
1988 *Small Talk: Analysing Phatic Discourse*. Marburg: Hitzeroth.
- Schneider, Klaus P.
2019 Rethinking pragmatic variation: The case of service encounters from a modified variational pragmatics perspective. In: J. César Félix-Brasdefer and María Elena Placencia (eds.), *Pragmatic Variation in Service Encounter Interactions across the Spanish-Speaking World*, 251–262. London/New York: Routledge.
- Scopus. <https://www.scopus.com> (accessed 6 December 2019).
- Sell, Friederike, Katrin Renkowitz, Pawel Sickinger and Klaus P. Schneider
2019 Measuring pragmatic competence on the functional and lexical level: The development of German high-school students' requests during a stay abroad in Canada. *Journal of Pragmatics* 146: 106–120.

- Selinker, Larry
1972 Interlanguage. *International Review of Applied Linguistics in Language Teaching (IRAL)* 10: 209–231.
- *Shively, Rachel L.
2011 L2 pragmatic development in study abroad: A longitudinal study of Spanish service encounters. *Journal of Pragmatics* 43: 1818–1835.
- *Shively, Rachel L.
2013 Learning to be funny in Spanish during study abroad: L2 humor development. *The Modern Language Journal* 97(4): 930–946.
- *Shively, Rachel L.
2014 Developing interactional competence during study abroad: Listener responses in L2 Spanish. *System* 48: 86–98.
- Shively, Rachel L.
2016 Heritage language learning in study abroad: Motivations, identity work, and language development. In: Diego Pascual y Cabo (ed.), *Advances in Spanish as a Heritage Language*, 259–280. Amsterdam: John Benjamins.
- *Siegal, Meryl
1995 Individual differences and study abroad: Women learning Japanese in Japan. In: Barbara Freed (ed.), *Second Language Acquisition in a Study Abroad Context*, 225–244. Amsterdam: John Benjamins.
- Sinclair, John Mc Hardy and R. Malcolm Coulthard
1975 *Toward an Analysis of Discourse*. Oxford: Oxford University Press.
- Taguchi, Naoko
2007 Development of speed and accuracy in pragmatic comprehension in English as a foreign language. *TESOL Quarterly* 41: 313–338.
- *Taguchi, Naoko
2008a The role of learning environment in the development of pragmatic comprehension: A comparison of gains between EFL and ESL learners. *Studies in Second Language Acquisition* 30: 423–452.
- *Taguchi, Naoko
2008b Cognition, language contact, and the development of pragmatic comprehension in a study-abroad context. *Language Learning* 58(1): 33–71.
- Taguchi, Naoko
2013 Individual differences and development of speech act production. Invited submission. *Applied Research on English Language* 2(2): 1–16.
- *Taguchi, Naoko
2015a *Developing Interactional Competence in a Japanese Study Abroad Context*. Bristol/New York/Ontario: Multilingual Matters.
- *Taguchi, Naoko
2015b Cross-cultural adaptability and development of speech act production in study abroad. *International Journal of Applied Linguistics* 25(3): 343–365.
- Taguchi, Naoko
2015c “Contextually” speaking: A survey of pragmatic learning abroad, in class, and online. *System* 48: 3–20.
- Taguchi, Naoko
2018 Contexts and pragmatics learning: Problems and opportunities of the study abroad research. *Language Teaching* 51(1): 124–137.

- Taguchi, Naoko and Joseph Collentine
2018 Language learning in a study-abroad context: Research agenda. *Language Teaching* 51(4): 553–566.
- Taguchi, Naoko and Shuai Li
2019 Replication research in contextual and individual influences in pragmatic competence: Taguchi, Xiao and Li (2016) and Bardovi-Harlig and Bastos (2011). *Language Teaching* 52(1): 128–140.
- *Taguchi, Naoko, Shuai Li and Feng Xiao
2013 Production of formulaic expressions in L2 Chinese: A developmental investigation in a study abroad context. *Chinese as a Second Language Research (CASLAR)* 2(1): 23–58.
- Taguchi, Naoko, Shuai Li and Feng Xiao
2016 Effects of intercultural competence and social contact on speech act production in a Chinese study abroad context. *The Modern Language Journal* 100(4): 1–22.
- Thomas, Jenny
1983 Cross-cultural pragmatic failure. *Applied Linguistics* 4(2): 91–112.
- Timpe Laughlin, Veronika, Jennifer Wain and Jonathan Schmidgall
2015 Defining and operationalizing the construct of pragmatic competence: Review and recommendations. *Research Report ETS RR-15-06*. <https://files.eric.ed.gov/fulltext/EJ1109686.pdf> (accessed 5 December 2019).
- van Compernelle, Rémi Adam
2013 Interactional competence and the dynamic assessment of L2 pragmatic abilities. In: Steven Ross and Gabriele Kasper (eds.), *Assessing Second Language Pragmatics*, 327–354. Basingstoke: Palgrave Macmillan.
- *Vilar-Beltrán, Elina and Sabela Melchor-Couto
2013 Refusing in Second Life. In: Otilia Martí-Arnándiz and Patricia Salazar-Campillo (eds.), *Refusals in Instructional Contexts and Beyond*, 23–40. Amsterdam: Rodopi.
- *Warga, Muriel and Ursula Schölmberger
2007 The acquisition of French apologetic behavior in a study abroad context. *Intercultural Pragmatics* 4(2): 221–251.
Web of Science. <https://www.webofknowledge.com> (accessed 5 December 2019).
- *Winke, Paula M. and Chunhong Teng
2010 Using task-based pragmatics tutorials while studying abroad in China. *Intercultural Pragmatics* 7 (2). 363–399.
- Xiao, Feng
2015 Adult second language learners' pragmatic development in the study-abroad context: A review. *Frontiers: The Interdisciplinary Journal of Study Abroad* 25: 132–149.
- Young, Richard F.
2013 Learning to talk the talk and walk the walk: Interactional competence in academic spoken English. *Ibérica* 25: 15–38. www.redalyc.org/pdf/2870/287026237002.pdf (accessed 4 December 2019).

16. Testing pragmatic competence in a second language

Carsten Roever and Naoki Ikeda

Abstract: Testing of second language pragmatics is an area of growing research interest, and a number of tests have been developed, though none are as yet in operational use. Three broad generations of tests exist, which are primarily differentiated by their target construct. The earliest types of pragmatics tests focused on speech acts, and assessed learners' ability to produce and recognize felicitous speech acts. From that tradition grew a multi-construct approach, which not only considered speech acts but also other aspects of pragmatic competence, such as comprehension of implicature and recognition of routine formulae. While both traditions relied primarily on written, multi-item tests, the most recent approach foregrounds elicitation of spoken performance by means of role plays and elicited conversation, and assesses learners' interactional competence, i. e., their ability to successfully conduct extended interactions. All three traditions have been fruitful but testing of pragmatics continues to struggle with practicality, which is a major reason for its lack of integration in large, commercial tests. Further directions for future research include assessment of languages other than English and strengthening the Extrapolation inference in an argument-based validity framework.

1. Introduction

Testing L2 pragmatic competence is a relatively new area of L2 assessment with the earliest studies dating back to the early 1990s. In the past decades, discussions in the field have contributed to conceptualizing what it means to be pragmatically competent, operationalized the construct of pragmatics for assessment purposes, and designed task formats to elicit test taker performances.

Despite the accumulated empirical studies, almost no pragmatics tests have been reported as being in operation (Roever, Fraser and Elder 2014) regardless of whether they are large-scale tests, classroom-based assessments or parts of general proficiency tests; in other words, testing L2 pragmatic competence has been limited to research studies for 30 years (Roever, Fraser and Elder 2014). However, the growing awareness of the need for measuring pragmatic competence as part of an overall assessment of communicative competence as well as increased discussions of practicality have the potential to move the field towards the actual use of pragmatics assessments by stakeholders.

<https://doi.org/10.1515/9783110431056-016>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 475–495. Berlin/Boston: De Gruyter Mouton.

In this chapter, we will trace the evolution of L2 pragmatics assessment, which has undergone several paradigm shifts, with early tests focusing on clearly defined speech acts, followed by instruments incorporating other aspects of pragmatics (such as implicature, style level, routine formulae), and recent tests taking a more holistic approach and assessing the ability to engage in extended interactions. At the same time, pragmatics tests need to come to grips with practicality, which is probably the main reason for their rare use in real-world settings.

2. Speech act-based research

The initial work on assessment of pragmatics was undertaken by Hudson, Detmer and Brown (1992, 1995), who designed a test battery to assess L2 speakers' recognition and production of speech acts (request, apology and refusal). Notably, they carefully documented their instrument design, thereby providing a blueprint for future studies in the speech act tradition.

Hudson, Detmer and Brown (1992, 1995) developed multiple types of data elicitation methods including oral and written Discourse Completion Tests (hereafter, DCT; see Figure 1 for an example), multiple-choice DCTs, oral dialogue role-plays, self-assessments of test takers' ability to produce the speech acts on the DCT tasks, and self-assessments of their task performances on the role-plays.

.....
 You want to apply for a job in a small office. You want to get an application form.
 You go to the office and see the office manager sitting behind a desk.

You:

Figure 1: DCT item (Hudson, Detmer and Brown 1995: 133)

Following Brown and Levinson (1987), the contextual variables relative power of the addressee over the speaker, social distance between the speaker and the addressee, and degree of imposition were operationalized in the instruments. Test takers' speech act productions were scored by native speakers of English based on their judgments of the degree of appropriateness of the speech act production (5-point Likert scale). The test was designed for Japanese learners of English, allowing test makers to exploit cross-linguistic pragmatic differences in the design but at the same time limiting the range of possible test uses.

Hudson (2001 a, b) reports on the piloting of the test battery with 25 Japanese ESL learners. The test was somewhat easy for this group, foreshadowing a general problem in pragmatics assessment with making tests difficult enough. However,

inter-rater reliabilities were in an acceptable range indicating that it is possible to rate pragmatic performances for assessment purposes.

Hudson, Detmer and Brown's (1992, 1995) initial work was replicated in three subsequent studies (Ahn 2005; Yamashita 1996; Yoshitake 1997). These studies also made distinct contributions to pragmatics assessment while largely adopting Hudson, Detmer and Brown's (1992, 1995) instruments. Yoshitake (1997) used the original test instruments of Hudson, Detmer and Brown's (1992, 1995) to assess EFL learners. Similar to Hudson, Detmer and Brown's study (1992, 1995), Yoshitake's test takers were all Japanese speakers learning English as the target L2. Yoshitake found that test takers' experience of living in the L2 community affected their pragmatic performance.

Yamashita (1996) and Ahn (2005) adapted Hudson, Detmer and Brown's (1992, 1995) instrument for Japanese and Korean as a foreign language, respectively. Yamashita's (1996) participants comprised English-speaking learners (N=47) of Japanese. Her findings suggest that test takers' performances on the tasks were accounted for by test takers' proficiency levels (as ascertained by a cloze test) and exposure to the target L2 environment. With regard to the characteristics of the test, Yamashita reported high reliability for the task formats, except the multiple-choice DCTs. Internal consistency reliability (as indicated by intraclass correlation) of three raters in rating open-response tasks ranged from 0.74 to 0.88. Yamashita's study also highlights the challenges of creating a version of the original instrument of Hudson, Detmer and Brown when translating into a culturally and linguistically distant language.

Ahn (2005) used the Hudson, Detmer and Brown's framework to assess 53 learners of Korean as a foreign language, all of whom were native speakers of English. Similar to Yamashita (1996), Ahn (2005) used a translated Korean version. Taking into account the implication from Yamashita's low reliability on multiple-choice DCTs, Ahn excluded this part from his measurement instrument. Ahn reported high and relatively stable reliabilities across the test sections.

Also working in a speech act perspective, Liu (2006) developed written DCTs, multiple-choice DCTs and self-assessment tasks to measure the pragmatic knowledge of Chinese learners of English. Unlike Ahn (2005), Liu (2006) integrated a multiple choice DCT, which was developed and refined through multiple phases of task development work. The self-assessment tests required test takers to judge the degree of appropriateness of what they would say in each of the given situations. His instrument was designed to elicit two types of speech acts (requests and apologies) and was administered to 200 test taker participants in his main study. The test takers' responses to the written DCT items were scored by two native speaker raters. The rating was conducted holistically using Hudson, Detmer and Brown's (1995) rating manual. Test reliabilities were reasonably high for the three test sections and across two sub-sections (requests and apologies), ranging from 0.83 for Apologies on the multiple-choice DCT to 0.92 for Requests on self-assessment items.

Inter-rater reliabilities calculated using the Spearman-Brown Prophecy formula for the written DCT were high (0.896). Interestingly, the reliabilities for the multiple-choice DCT in Liu's study were much higher than those reported by Yamashita (1996) and Yoshitake (1997).

While Liu's study is firmly embedded in the speech act tradition, it contains two important methodological advances. Firstly, in the process of task development, he included actual language users' perspectives by eliciting likely situations where requests and apologies occur and asking respondents how they perceive speakers' relative power, degree of familiarity between the speakers and degree of imposition in each of the selected situations. Rather than fully relying on test developers' intuition, Liu took a bottom-up approach, using participants' perspectives to configure the tasks. Secondly, Liu's study employed a more systematic approach to test validation, which he conducted following Messick (1989), and it thereby stands apart from previous studies which examined and evaluated different types of validity evidence separately. What would limit conclusions from his study about L2 pragmatic abilities in reality is that the test did not entail actual performance in discourse context. His methods are more limited than Hudson, Detmer and Brown (1992, 1995) and its spin-off studies, which included oral role play tasks. Also, similar to previous studies, Liu's study was limited to test takers from a specific L1 background.

Tada (2005) also developed his measures (oral DCTs and multiple-choice DTCs) in the framework of speech act theory. He targeted three types of speech acts: requests, apologies, and refusals, and administered the test to 48 English language learners in Japan. A strength of Tada's battery lies in the computer-mediated delivery of the test contents, which reduces the need for human resources for test administration and facilitated test takers' understanding of the items. Like Liu (2006), Tada (2005) attained relatively high reliability (indicated by Cronbach's alpha) for the multiple-choice DTCs (0.75), which was more encouraging than previous studies (e. g., Yamashita 1996; Yoshitake 1997). He reported an inter-rater reliability of 0.74, which he considered acceptable for his study, and which in fact was not markedly different from previous studies.

Tada (2005) treated the relationship between speakers' proficiency level and pragmatic performance as an independent research question. He found that test takers' pragmatic production was moderately correlated with their proficiency ($r=0.59$), whereas their perception and proficiency level were more weakly correlated ($r=0.31$). The weak correlation between pragmatic perception and proficiency is in line with Liu (2006), who reported even weaker correlations between test takers' performance on his multiple-choice DCTs and their proficiency levels. The relationship between pragmatics and proficiency is often reported in these studies, be it as an explicit research question or as a piece of the validity investigation. While proficiency is generally conceptualized as separate from pragmatics and based on measures that do not include pragmatic ability, the relationship found between pragmatics and general proficiency is not always consistent as methodol-

ogies differ between studies (e. g., pragmatics measures, definition of proficiency, analysis techniques, manners of reporting the results, target languages). A study like Liu (2006) revealed a very small and non-significant effect of proficiency on his test takers' written DCT performance, in contrast to the case of oral DCT performances in Tada (2005). It is worth noting that no studies have reported a negative effect of proficiency on pragmatic performance including production and perception, though the relationship is somewhat complex, not least due to the difficulty of defining proficiency (see Taguchi and Roever 2017, for an overview).

Speech act based studies demonstrated the use of multiple types of test instruments for several target languages (L2). The primary focus was on L2 speakers' perception and production of individual speech acts, to which the information these assessments generate is inevitably limited. Especially the use of DCTs was problematic, given their tenuous connection to real-world language use (Golato 2003), which weakens the extrapolation of the observed test taker performance to reality.

3. Research on multi-construct pragmatics

While the previous generation of tests focused on speech acts, pragmatics is a multi-faceted construct whose scope is not limited to speech acts (Mey 2001). The test construct of pragmatics was expanded in more recent studies (Roever 2005, 2006; Roever, Fraser and Elder 2014; Timpe 2013; Timpe-Laughlin and Choi 2017), which demonstrated how an expanded construct is measurable. For example, Roever (2005, 2006), using a web-based instrument, described L2 speakers' knowledge of pragmalinguistics (Leech 1983), by assessing three sub-components: speech acts (Searle 1969), implicature (Bouton 1999) and routine formulae (Coulmas 1979). The test takers comprised L2 learners of English with a range of L1 backgrounds.

To measure test takers' reception and production of speech acts (request, apology and refusal), Roever developed written DCT items and multiple-choice items to test knowledge of implicature and routine formulae. Roever further developed his written DCT items by integrating a rejoinder in each item, as illustrated in Figure 2.

.....
Linda wants to interview her roommate Mark for a class project that has to be finished by tomorrow.

Linda:

Mark: "Well, I'm pretty busy but if it's that urgent, okay. It's not going to take very long, is it?"
.....

Figure 2: DCT item with a rejoinder (Roever 2005: 131)

The rejoinder in this case is Mark's line, which serves to restrict test takers' responses to a certain range as well as to situate the talk in a discourse context. Roever's instrument for implicature was developed as multiple-choice tasks, where test takers were required to choose the speaker's implied meaning underlying an utterance. The same format was employed for the routine formulae section, where test takers were asked to choose an expression considered appropriate for an everyday or institutional setting. Test takers' responses on the multiple-choice tasks were scored automatically. Written performances on DCT items were scored by human raters.

Following Messick's (1989) approach to validation, Roever used a range of quantitative and qualitative methods to analyze test takers' pragmatic competence and how the instrument functioned. He found that the test takers' knowledge of implicature was aided by their English proficiency levels while test taker performance on routine formulae items was substantially advantaged by their length of exposure to target L2 settings. Roever concluded that his testing instrument measures L2 speakers' pragmalinguistic knowledge.

Itomitsu (2009) also developed a web-based test to measure L2 pragmatic knowledge of JFL (Japanese as a foreign language) learners (N=119). The test takers comprised university students with different L1 backgrounds although the majority of the test takers were English native speakers. The definition of pragmatics in his study was informed by Roever (2005), and the construct was operationalized in 48 multiple-choice tasks to test recognition of routines, speech style, and grammatical forms as well as speech acts. As attempted by Roever (2005), Itomitsu investigated the relationship between the test takers' scores and two variables (their proficiency levels and exposure to the target language) in addition to estimating reliabilities of the test. The test reliabilities (Cronbach's alpha) ranged from 0.640 to 0.727, with the reliability for the multiple-choice speech acts at 0.709, which is higher than Yamashita (1996) obtained. However, it should be noted that Itomitsu's multiple-choice speech acts tasks were designed differently from previous studies' DCTs in format and in what test takers were required to judge. Firstly, the length of each choice for the multiple-choice items in Itomitsu (2009) was seemingly much shorter than those of previous studies including Liu (2006), Roever (2005), and Yamashita (1996). Itomitsu's tasks required test takers to choose an option that fills in a part of a given sentence, rather than providing whole sentences as response options as done in previous studies. This task type tested test takers' recognition of conversationally appropriate expressions rather than sociopragmatically appropriate utterances. Itomitsu also identified proficiency and length of exposure to the target language as factors accounting for pragmatic abilities. Similar to Roever (2005), Itomitsu (2009) showed awareness of practicality, which was realized in his test format (multiple-choice tasks) and the test delivery while going beyond the traditional speech act framework.

Both Roever (2005) and Itomitsu (2009) attempted to expand the test construct of L2 pragmatics. Their studies, however, did not investigate test takers' ability to engage in extended discourse. Roever, Fraser and Elder (2014) set out to fill this gap. They explored recognition and production of how speakers perform sociopragmatically in extended discourse contexts, targeting language use in Australian contexts. They developed a web-based instrument, as Roever (2005) and Itomitsu (2009) had done, and administered it to L2 speakers of English from diverse L1 backgrounds. Their instrument was more discourse-oriented with tasks including:

- Appropriateness Judgment: multiple choice tasks requiring test takers to judge the degree of politeness on 5-point Likert scale (“Far too polite/soft” to “Very impolite/very harsh”).
- Appropriateness Choice and Correction: Tasks requiring test takers to judge appropriateness of sociopragmatic language use in a given short conversation dichotomously (“Yes” or “No”), and to write a suitable alternative for the given discourse context.
- Extended DCTs: tasks in which test takers fill in gaps in a given discourse context.
- Dialogue Choice: Tasks in which test takers choose which of two contrastive interactions runs more smoothly.

Their interactional orientation is particularly evident in their Extended DCTs and Dialogue Choice tasks. Extended DCTs presented conversational situations and required test takers to write utterances in multiple turns, unlike DCTs used traditionally. In Dialogue choice, test takers needed to evaluate two whole conversations and indicate which one they considered successful in terms of communication. They were also instructed to provide reasons for their judgments, which were not scored but used for the purpose of validation of the instrument. Roever, Fraser and Elder's (2014) main contribution was the integration of interaction in the test construct on a web-based instrument while preserving practicality.

Roever, Fraser and Elder (2014) provided results of test characteristics (e. g., reliability, correlational structure), relationship between test scores and test taker background (e. g., proficiency level, length of residence) and also administered Roever's (2005, 2006) test items to measure pragmalinguistic knowledge, which allowed them to argue that sociopragmatic performance is not necessarily isolated from pragmalinguistic performance, rather they can be seen as inter-related (McNamara and Roever 2006; Thomas 1995). Roever, Fraser and Elder (2014) reframed findings as pieces of validity evidence in the argument-based approach to validation (Chapelle 2008; Kane 2006), to address the question of possible conclusions to be drawn from scores. Specifically, in their study, the evidence collected by a range of quantitative and qualitative methods was evaluated by examining the extent to which the evidence supported the following assumptions:

- The test is relevant to the target language use domain (Domain Description)
- Test scores generated by the test instrument serve to differentiate test takers according to their sociopragmatic knowledge (Evaluation)
- Test scores are generalizable across items (Generalization)
- Test scores are indicative of the test construct of sociopragmatic knowledge (Explanation)
- Test scores reflect target language use in real circumstances (Extrapolation)
- Test scores are useful for making decisions for pedagogical purposes (Utilization)

Roever, Fraser and Elder's (2014) validation led them to conclude that test scores yielded by their test are useful for test users to infer L2 learners' sociopragmatic knowledge in everyday language use. It was also suggested that the test scores should be used for low-stakes decisions such as ones for the purpose of facilitating learning rather than high-stakes decisions.

What would limit the reach of Roever, Fraser and Elder's (2014) conclusion is that even though test tasks were situated in everyday discourse contexts, test takers were required to produce their responses in writing while the discourse contexts were visually presented to them. To situate test takers in extended discourse contexts, it may be an option to employ a role play task involving physical human interaction as in Hudson, Detmer and Brown (1992, 1995) whereas Roever, Fraser and Elder's (2014) offline task design limits the extrapolation from the test takers' observed task performance to the authentic discourse context.

Timpe (2013) also addressed the multi-faceted construct of pragmatics in English-speaking contexts but did so methodologically differently from Roever, Fraser and Elder (2014). She employed a test of "socioculturally situated language use" (Timpe-Laughlin and Choi 2017: 23) including multiple-choice tasks for speech acts, routine formulae, and idioms, a self-assessment, and oral role-play tasks varying the power differential between interlocutors implemented by *Skype*, and administered them to L1 German learners of English (N=105). Scoring of test takers' oral production on the role play tasks were conducted based on human raters' judgments according to the degree of appropriateness. Her methodology was theoretically informed by Byram's (1997) intercultural communicative competence. Timpe's (2013) main focus was to investigate relationships between sociopragmatic competence, discourse competence (Byram 1997) and learners' English proficiency as well as the relationship between the competence and learners' residence in English-speaking settings.

The use of role play tasks via *Skype* was an innovative aspect of Timpe's study that had not previously been used in pragmatics assessment. Although not explicitly mentioned in Timpe (2013), this test delivery increases feasibility of test administration. It remained unclear to which extent test takers' role play performances were affected by the method, compared to face-to-face role plays though

Timpe (2013) confirmed participants' familiarity with Skype, which helped to justify its use.

Timpe's (2013) findings on the effect of proficiency and exposure to the target language on test performance were mixed. Both variables had a stronger effect on the multiple choice sections of the test than on the role plays, and the effect of proficiency in particular was weaker than in other studies, such as Ikeda (2017) and Youn (2013) (to be discussed in the next section) who reported high correlations between proficiency and pragmatic performances. Reasons for this might include the high proficiency levels of the test takers, which may have attenuated correlations, and the absence of a speaking component in the proficiency test used.

Timpe-Laughlin and Choi (2017) later reported a quantitative validation of the receptive part of Timpe's (2013) battery, consisting of multiple-choice items for speech acts, routine formulae, and idioms. Statistical analyses of the test scores from 97 university-level students showed high Cronbach's alpha reliability of 0.85 for the whole test, which was noticeably higher than those of multiple-choice items for sociopragmatic knowledge in the previous projects (e. g., Hudson, Detmer and Brown 1995). Timpe-Laughlin and Choi attribute this to the inclusion of "a wider range of experts and representatives from the target population" (p. 31) during item design, mirroring Liu's (2006) approach, and indicating that bottom-up item design that emphasizes the plausibility of test scenarios for the target population positively contributes to reliability.

The three sections investigated by Timpe-Laughlin and Choi (2017) were moderately correlated, suggesting that the sections tapped similar knowledge while also accounting for variance unique to each of them. English proficiency, experience of living in the target country (U.S.) and exposure to audiovisual input materials (e. g., U.S. movies) were shown to substantially explain the pragmatic knowledge as defined in their study. The results generally support the findings in the literature that proficiency and exposure to the target environments have a strong impact on test performance in L2 pragmatics.

4. Discourse-based research

The studies of testing of L2 pragmatic competence reviewed in the previous sections have demonstrated the use of a range of tasks and have provided insight into the functioning of these tasks. They have furthered our understanding of how L2 speakers' pragmatic competence develops and how the testing of L2 pragmatics is able to pick up this development and to discriminate between test takers according to pragmatic ability. However, one core aspect of pragmatic competence was not widely operationalized in these studies, namely learners' ability to engage in extended discourse. The studies to be reviewed in this section show a stronger orientation towards assessment of online (in-situ) discourse performance, which

is reflected in the test constructs and the task formats used. Furthermore, unlike the studies in the previous section examining test takers' task performances mostly quantitatively, the studies in this section showed a concerted effort to analyze the test takers' observed oral performance both quantitatively and qualitatively, combining statistical analyses and discourse analysis. Most of the studies taking a discourse-based approach in the literature on testing L2 pragmatic competence including those in this section targeted English as L2 and involved test takers from multiple L1 backgrounds.

In the first such assessment study, Walters (2004, 2007) relied on Conversation Analysis (CA) to inform his test, which included multiple-choice tasks and extended discourse tasks. The multiple-choice tasks were intended to measure test takers' understanding of pre-sequences in conversation. In the extended discourse tasks, test takers discussed a topic with a tester (a native speaker of English). During the conversation, the tester injected a compliment, an assessment and a pre-sequence to elicit test takers' response to them.

Walters' (2004, 2007) test deviated strongly from other instruments as it was theoretically based on CA, which investigates mechanisms of interaction rather than the effect of contextual variables (Brown and Levinson 1987). Sociolinguistic perspectives were not explicitly embedded in the task design and contextual variables were not systematically varied. While Walters attempted to assess test takers' ability to co-construct sequentially organized discourse and his work went beyond assessment of offline knowledge of pragmatics isolated from interaction, the wider usefulness of his test is questionable. One issue was the limited range of English proficiency levels of the test takers who were graduate students in the United States and likely had considerably higher proficiency than general EFL learners. Walter's project does not specify the target language use domain (e. g., academic domain) nor the target language users (e. g., university students) in that domain so it is unclear to whom findings can be generalized.

More importantly, reliabilities were low, ranging from 0.08 to 0.35 depending on task format. It is therefore questionable whether the target test construct defined in his study can be assessed reliably. While inter-rater reliability was moderate, it needs to be interpreted with caution because "the percentage of actual total-test agreement between the raters is only 40%." (Walters 2004: 171). Walters' study described the characteristics of his test and test takers' interactional performances quantitatively and qualitatively but it remains uncertain to what extent this test would be suitable across proficiency levels and allow conclusions as to test takers' ability to interact in a range of real-world settings.

Grabowski (2009, 2013), Youn (2013, 2015) and Ikeda (2017, in press) took a fully discourse-based approach, employing role play tasks simulating social contexts in real life, which is methodologically different from Walters (2004, 2007). Grabowski (2009) operationalized a test construct based on Purpura (2004) and specified the components as rating criteria: grammatical accuracy, grammatical

meaningfulness, sociolinguistic appropriateness, sociocultural appropriateness, and psychological appropriateness. Four role plays were designed to elicit the target features from test takers' performances and administered to 102 test takers at various proficiency levels. The tasks simulated situations where a speaker complains or makes a sensitive request to an addressee, although speech acts themselves were not specified in the criteria as an independent feature to assess. The test takers' role play performances were scored by two raters who were native speakers of English.

Quantitative analyses reported by Grabowski (2009, 2013) supported the high reliability of the test and the clear separability of score levels. Qualitative analyses, which described the selected conversations from opening to closing, supported the existence of the targeted features underlying the test construct. Grabowski's (2009, 2013) role play design did not overly constrain test takers' performances as it involved a human interlocutor for all of the tasks. While the designed tasks were deemed useful in eliciting the features focused on in her study, the unusual theoretical framework makes it somewhat difficult to compare her study with others in this tradition.

Youn (2013, 2015), like Grabowski (2009, 2013), utilized role-play tasks but worked in a Conversation Analysis framework. She developed a set of dialogic and monologic tasks to assess L2 English speakers' pragmatic competence in interaction in academic environments. Youn assessed how test takers produce preliminary moves before a main action, how they engage in interaction and how they take turns in conversation with a simulated professor and classmate, as well as how they deliver and construct social actions.

Youn's methods for designing the test instrument were different from Walters (2004, 2007, 2013) and Grabowski (2009, 2013) in two fundamental ways. First, Youn developed the instrument (both the role play tasks and the rating criteria) empirically based on L2 speakers' data. In a separate study (reported in Youn 2013), she conducted a need analysis of L2 speakers of English to identify what pragmatic actions and what situations in an academic domain they perceive as necessary. The results served to configure tasks including a request to a professor and a negotiation with a classmate. In an innovative approach to the design of rating criteria, she developed the criteria bottom-up. Prior to rating, Youn analyzed the test takers' role play performances by means of CA to reveal pragmatic features that discriminated more competent from less competent test takers. The results were translated into her five rating criteria: sensitivity to the situation, content delivery, language use, engaging with the interaction, and turn organization.

Youn designed her role play tasks to constrain test takers' actions for the purpose of standardizing test taker performance. For test administration, both the test taker and the interlocutor were given the task prompts outlining their actions from opening to closing and when they were supposed to take these actions. Standardization is a chronically difficult issue in role play tasks, where interaction is dynamically co-constructed between interlocutors. Youn's task design served to make the

role play conversations more parallel because what actions interactants took and when those actions were taken was predictable under the pre-structured scenarios. This in turn facilitated rating by enabling easier comparison between performance. However, the drawback of providing a structure to interaction is that it makes the interactions less authentic and it is unclear if test takers would structure their talk in similar ways in real interaction.

Similar to other studies (e. g., Grabowski 2009; Walters 2004), Youn employed a range of methods (including statistical operations and qualitative discourse analyses) to evaluate L2 speakers' oral pragmatic performance and the characteristics of the instrument. She found that test takers' pragmatic competence in dialogue contexts was highly correlated with their speaking proficiency ($r=0.90$) as well as their pragmatic competence in a monologue context ($r=0.81$). Youn used multi-faceted Rasch analyses to describe the characteristics of the test takers ($N=102$), raters ($N=12$), tasks ($N=8$), and rating criteria ($N=5$), which were integrated as evidence for validation (Kane 2006). Overall, her instrument was able to discriminate L2 test takers and assess the target features reliably.

In addition to her innovative instrument design and development of rating criteria, Youn's is one of the very few studies in testing of L2 pragmatics that scored test takers' performances under a partially-crossed rating design, where the researcher set up anchor data and systematically assigned a part of test takers' samples to each rater (for the details of the rating design, see Youn 2013). The study is also unique in that as many as 12 raters were involved. Most of the other studies (e. g., Grabowski 2009; Ikeda 2017) used a much smaller number of raters and employed a fully-crossed rating design where all raters scored all test taker samples. Even though they maintained consistency in rating, Youn found a noticeable severity difference between the most and least severe raters. She argued that differences between raters in their rating performance were not surprising, and indeed Rasch measurement expects severity differences and can compensate for them.

In addition to integrating discursive practice in the test construct of pragmatics and empirically founded instrument and rating scale development, Youn's other contribution to the field is her application of the argument-based framework of validity (Kane 2006) to pragmatics assessment. Youn's project as well as Roever, Fraser and Elder's (2014) were the first two projects in pragmatics assessment that used this validation approach.

Ikeda (2017, in press) is in line with Roever, Fraser and Elder (2014) and Youn (2013) in view of embracing interactional abilities (Kasper 2006; Roever 2011) and of conducting validation within the argument-based framework following Chappelle (2008) and Kane (2006, 2013). He developed role play and monologue tasks to measure L2 speakers' oral pragmatic abilities utilized in language activities at an English-medium university and administered it to 67 test takers in Australia including current university students and prospective students. Pragmatic ability was defined by the rating criteria assessing whether test takers are able to:

- take adequate actions explicitly tailored to the context from opening through to closing to achieve a communicative goal,
- deliver contents smoothly and clearly with sound variation (e. g., stress) and repair when necessary,
- control varied linguistic resources and employ linguistic resources naturally to deliver intended meaning, minimizing the addressee's effort to understand the intention and the meaning of the speaker's utterance,
- control varied linguistic resources to mitigate imposition naturally in the monologue and in the conversation,
- engage in interaction naturally by showing understanding of the interlocutor's turn and employing varied patterns of responses well-tailored for the ongoing context,
- take and release conversation turns in a manner that conveys to the interlocutor when to take turns.

Ikeda created 12 tasks in total including both dialogue and monologue tasks simulating university situations where a student needs to obtain support from a professor, an administrator and a classmate for the student's academic work. Similar to Youn's study, Ikeda's use of dialogues and monologues allowed for comparison in test takers pragmatic abilities under two different conditions. Unlike Youn's pre-structured approach, Ikeda (2017, in press) left it up to test takers and interlocutors to initiate, develop and conclude performances.

Ikeda attained very high Cronbach's alpha reliability of 0.97. The test takers' proficiency, exposure to an English-speaking environment, and target language experience accounted for much of their test scores although Ikeda (2017, in press) could not isolate exposure from proficiency in his methodological design. Handling more interactionally-oriented features was found less demanding for the test takers than dealing with more language-related features, which was in line with Youn (2013). This suggests that test takers whose proficiency is at the entry level for English-medium universities or above are able to engage in interaction but tend to struggle to employ linguistic resources to perform intended actions in communication.

Raters differed in severity although the difference was substantially smaller than the degree of test taker separation (the difference between the most and the least pragmatically-competent test takers). Similar to Youn's study, this is not a problematic or entirely unexpected finding and could be compensated for in an operational setting by Rasch analysis.

Another finding worthy of note was the proposal of a tentative cut-score to separate pragmatically more and less competent L2 students as a part of validation. This attempt is of particular importance for real-world assessment use because assessment is, fundamentally, used to inform stakeholders (e. g., teachers, learners) of the test taker's measured ability and to aid in their decisions. Weighing positive features in their performance against negative features, Ikeda concluded that

only 19 out of 67 test takers in the main study could be regarded as pragmatically competent. Pragmatic competence of the remaining test takers was questionable as negative features outweighed positive features in their task performance according to the rating criteria. In particular, performances of the pragmatically least competent test takers showed large room for improvement. Suggestions of a cut-off score have rarely been made in the literature of L2 pragmatic assessment, findings of which are mostly directed to possible test developers and subsequent research, rather than users of the test and the test scores. Although real-world standard setting would be needed to claim a more defensible cut-score, Ikeda's attempt at proposing a cut-score is a step towards real-world use of pragmatics assessments, which have so far been confined to research.

In another step towards promoting real-world deployment of pragmatics measures, Ikeda addressed the issue of instrument practicality (McNamara and Roever 2006), which is not usually part of validation studies. Ikeda measured the test takers' pragmatic abilities under both dialogue and monologue conditions thereby allowing comparison and detection of the unique variance of each task type. He found that the Rasch-estimated abilities under the two conditions were highly correlated ($r=0.9$ or above) regardless of whether performance features seen exclusively in dialogue conditions (test takers' engagement in interaction and their turn-taking) were included in the correlations. Ikeda suggested that monologic extended discourse tasks could in many circumstances be used instead of dialogic ones, as both dialogue and monologue assessments were shown to function in separating test takers in similar ways. However, his suggestion was limited to a case where the primary purpose of the assessment is to simply separate and rank test takers according to their pragmatic abilities, and interactional features are not a central focus.

5. Future directions

Testing L2 pragmatic competence has made significant progress in the past decades since Hudson, Detmer and Brown's (1995) pioneering project, demonstrating use of a variety of test tasks and expanding the range of measurable features of pragmatics. Insights from previous studies provided valuable guidance on methodological design for subsequent studies and identified challenges that this field as a whole needs to tackle. However, testing of L2 pragmatics is still in a research and development phase (Roever, Fraser and Elder 2014) as most studies reported in the literature were conducted under experimental conditions. Almost no practical uses of L2 pragmatics instruments for assessment involving test users' decision making has been reported. In 1995, Hudson and his colleagues concluded their volume as follows:

The instruments developed thus far in the present project are very preliminary suggestions for the forms that assessment might take. Thus the instruments should be used for research purposes only, and no examinee level decisions should be made. (Hudson, Detmer and Brown 1995: 66)

Their conclusion is understandable because prior to their project, very little previous research was available pertaining to testing of L2 pragmatics. However, a great deal more research has been conducted since, and tests of pragmatics are still not widely used, neither as independent instruments, nor as parts of larger test batteries. The question is: Will the field of testing of L2 pragmatics continue to be in the pilot phase without seeing any practical use of pragmatics assessment for real-world decision making? It is established beyond doubt that pragmatics is measurable, and that various aspects of the construct of pragmatic competence can be measured reliably, be it language users' sociopragmatic or pragmalinguistic offline knowledge (Hudson, Detmer and Brown 1995; Roever 2005; Timpe-Laughlin and Choi 2017) or their ability to make use of that knowledge in simulated interactions (Grabowski 2009; Ikeda 2017; Youn 2013, 2015). This gradual expansion of the construct of pragmatics in assessment has the potential to make assessments more informative for test users. While early studies focused heavily on speech acts, it is questionable whether scores based exclusively on speech act production and/or comprehension are sufficiently informative about how test takers might perform pragmatically in the real world. Production, knowledge and comprehension of speech acts should be a part of the construct of pragmatics but being pragmatically competent requires control of broader features.

These broader features can be observed in extended discourse tasks, which require test takers to deploy their pragmatic ability under the constraints of online communication. They also include aspects of interactional competence that can only be seen and assessed in actual co-constructed interaction. Recent work in this area (Ikeda 2017, *in press*; Youn 2013, 2015) has a great deal of potential to provide rich information to test users. However, these measurements and some earlier ones suffer a lack of practicality, which is likely to be the greatest impediment to the wider use of pragmatics assessments. Testing in the real world needs to be economically viable, and no matter how informative an assessment is, and/or even if a proposed test score use was justified in a validation framework (Kane 2013), impractical tests may not be utilized. Instrument practicality was already a consideration in studies in the speech act framework (e. g., Liu 2006; Yamashita 1996), and attempts at balancing construct expansion and practicality in assessment design were made by a small number of studies (e. g., Roever, 2005; Roever, Fraser and Elder 2014). These studies have laid a foundation for exploring the practical implementation of communicative tasks to measure oral pragmatic abilities in extended discourse contexts (Ikeda 2017). Future studies are expected to make suggestions for practitioners to seek an appropriate balance between con-

struct coverage and instrument practicality. For example, studies like Ikeda (2017) demonstrate that at least some aspects of interactional competence can be assessed monologically, which is less resource intensive, and other studies have demonstrated that offline pragmatics measurements can be done with a reasonable degree of practicality (Liu 2006; Roever 2005; Roever, Fraser and Elder 2014; Tada 2005). Of course, an ideal scenario would be testing of interaction with an avatar and an automated speech recognition engine, and interesting work is being done in this area (Suendermann-Oeft et al. 2015) though it is not yet ready for operational implementation.

In addition to being practical, pragmatics assessments must also be able to provide information about test takers at a wide range of language proficiency levels and degrees of pragmatic competence. However, due to the experimental nature of most studies and the fact that the vast majority were conducted as dissertation research, most participants have been university students with fairly advanced proficiency, and very little is known about pragmatics assessment with lower proficiency populations. While proficiency limits learners' ability to engage in extended discourse, it does not prevent them from doing so (see Al-Gahtani and Roever 2013), and pragmatic comprehension is testable with learners at any level of proficiency and pragmatic ability. Developing tasks for lower level learners would be a useful contribution to L2 pragmatics assessment work.

At the same time, there is distressingly little work on target languages other than English. With the exception of Yamashita's (1996) and Itomitsu's (2009) work with L2 Japanese and Ahn's (2005) study with L2 Korean, all pragmatics assessment research has had English as its target language. Any work in any language is sorely needed, and should preferably not be limited to specific L1-L2 pairs as speech-act based studies were.

Another component of recent work that is likely to increase the usefulness of pragmatics assessments is greater use of systematic validation. Validation efforts have shown that many of the measurement instruments so far developed can be confidently taken to provide measurements of their target construct and information about test takers' likely real-world ability for use of their pragmatic knowledge (Ikeda 2017, in press; Roever 2005; Roever, Fraser and Elder 2014; Youn 2013, 2015). Different types of validity evidence (e. g., reliability, criterion-related validity) investigated separately were evaluated in earlier studies (Liu 2006; Roever 2005) following Messick (1989). Later, the validity evidence sought from a range of methods was integrated to structure an argument (Ikeda 2017; Roever, Fraser and Elder 2014; Youn 2013) based on the argument-based approaches to validation (Chapelle 2008; Kane 2006, 2013; Knoch and Elder 2013), which provides an account for what the test score means, how informative the test scores are of the test takers' target abilities, and how useful test scores are for test users' decision-making.

One aspect that has been underemphasized in all studies is the Extrapolation inference in Kane's (2006, 2013) framework, relating test performance to

non-test/real-world performance, though Ikeda (2017) makes a valiant attempt at strengthening this inference. This will never be and does not have to be a perfect correlation and studying it is admittedly challenging and requires test makers to engage with the real world, but it is crucial for connecting tests to actual performances and putting score use decisions on a trustworthy empirical foundation.

In the long run, test makers ignore measurement of pragmatic abilities, especially interactional ones, at their peril. It is for good reason that pragmatics is a component of models of communicative competence (Bachman and Palmer 2010; Canale 1983; Canale and Swain 1980): test end users assume that test scores for general proficiency tests provide information about test takers' overall ability to use the target language, and the absence of pragmatics measurements dashes this expectation and leads to a loss of stakeholder confidence in scores. As shown above, measurement of pragmatics is mature enough to warrant integration into larger test batteries, and it would be beneficial to conduct research that establishes the "value-add" from integrating pragmatics measures, considering the extra resources needed. Research is also desirable on communicating the meaning of pragmatics scores reported separately or overall scores that include pragmatics to test end users. For language test scores to provide sufficient information to support real-world decisions, assessment of pragmatics needs to move from a pure research undertaking into the operational stage.

References

- Ahn, Russell C.
2005 Five measures of interlanguage pragmatics in KFL (Korean as a foreign language) learners. Ph.D. dissertation, University of Hawai'i at Manoa.
- Al-Gahtani, Saad and Carsten Roever
2013 'Hi doctor, give me handouts': Low proficiency learners and requests. *ELT Journal* 67(4): 413–424.
- Bachman, Lyle F. and Adrian S. Palmer
2010 *Language Assessment in Practice*. Oxford: Oxford University Press.
- Bouton, Lawrence F.
1999 Developing non-native speaker skills in interpreting conversational implicatures in English: Explicit teaching can ease the process. In: Eli Hinkel (ed.), *Culture in Second Language Teaching and Learning*, 47–70. Cambridge: Cambridge University Press.
- Brown, Penelope and Stephen C. Levinson
1987 *Politeness: Some Universals in Language Usage*. New York: Cambridge University Press.
- Byram, Michael
1997 *Teaching and Assessing Intercultural Communicative Competence*. Clevedon, UK: Multilingual Matters.

- Canale, Michael
1983 From communicative competence to communicative language pedagogy. In: Jack C. Richards and Richard W. Schmidt (eds.), *Language and Communication*, 2–27. London: Longman.
- Canale, Michael and Merrill Swain
1980 Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics* 1: 1–47.
- Chapelle, Carol A.
2008 The TOEFL validity argument. In: Carol A. Chapelle, Mary E. Enright and Joan M. Jamieson (eds.), *Building a Validity Argument for the Test of English as a Foreign Language*, 319–350. New York: Routledge.
- Coulmas, Florian
1979 One the sociolinguistics relevance of routine formulae. *Journal of Pragmatics* 3: 239–266.
- Golato, Andrea
2003 Studying compliment responses: A comparison of DCTs and recordings of naturally occurring talk. *Applied Linguistics* 24(1): 90–121.
- Grabowski, Kirby
2009 Investigating the construct validity of a test designed to measure grammatical and pragmatic knowledge in the context of speaking. Ph.D. dissertation, Columbia University.
- Grabowski, Kirby
2013 Investigating the construct validity of a role-play test designed to measure grammatical and pragmatic knowledge at multiple proficiency levels. In: Steven Ross and Gabriele Kasper (eds.), *Assessing Second Language Pragmatics*, 149–171. New York: Palgrave MacMillan.
- Hudson, Thom
2001a Indicators for pragmatic instruction. In: Kenneth R. Rose and Gabriele Kasper (eds.), *Pragmatics in Language Teaching*, 283–300. Cambridge: Cambridge University Press.
- Hudson, Thom
2001b Self-assessment methods in cross-cultural pragmatics. In: Thom Hudson and James Dean Brown (eds.), *A Focus on Language Test Development: Expanding the Language Proficiency Construct Across a Variety of Tests*, 57–74. Honolulu: University of Hawai'i at Manoa, Second Language Teaching and Curriculum Center.
- Hudson, Thom, Emily Detmer and James Dean Brown
1992 *A Framework for Testing Cross-cultural Pragmatics*. (Technical report #2). Honolulu: University of Hawai'i at Manoa, Second Language Teaching and Curriculum Center.
- Hudson, Thom, Emily Detmer and James Dean Brown
1995 *Developing Prototypic Measures of Cross-cultural Pragmatics* (Technical report #7). Honolulu: University of Hawai'i at Manoa, Second Language Teaching and Curriculum Center.
- Ikeda, Naoki
2017 Measuring L2 oral pragmatic abilities for use in social contexts: Development

- and validation of an assessment instrument for L2 pragmatics performance in university settings. Ph.D. dissertation, School of Languages and Linguistics, The University of Melbourne.
- Ikeda, Naoki
in press Assessing L2 learners' pragmatic ability in problem-solving situations at an English-medium university. *Applied Pragmatics*.
- Itomitsu, Masayuki
2009 Developing a test of pragmatics of Japanese as a foreign language. Ph.D. dissertation, The Ohio State University.
- Kane, Michael T.
2006 Validation. In: Robert L. Brennan (ed.), *Educational Measurement* (4th edition), 17–64. Westport, CT: Greenwood Publishing.
- Kane, Michael T.
2013 Validating the interpretation and uses of test scores. *Journal of Educational Measurement* 50(1): 1–73.
- Kasper, Gabriele
2006 Beyond repair: Conversation analysis as an approach to SLA. *AILA Review* 19: 83–99.
- Knoch, Ute and Catherine Elder
2013 A framework for validating post entry language assessment. *Papers in Language Testing and Assessment* 2(2): 48–66.
- Leech, Geoffrey
1983 *Principles of Pragmatics*. London: Longman.
- Liu, Jianda
2006 *Measuring Interlanguage Pragmatic Knowledge of EFL learners*. Frankfurt: Peter Lang.
- McNamara, Timothy F. and Carsten Roever
2006 *Language Testing: The Social Dimension*. Malden, MA: Blackwell.
- Messick, Samuel
1989 Validity. In: Robert L. Linn (ed.), *Educational Measurement*, 13–103. New York: American Council on Education and Macmillan.
- Mey, Jacob L.
2001 *Pragmatics: An Introduction*. Oxford: Blackwell.
- Purpura, James E.
2004 *Assessing Grammar*. Cambridge: Cambridge University Press.
- Roever, Carsten
2005 *Testing ESL Pragmatics*. Frankfurt: Peter Lang.
- Roever, Carsten
2006 Validation of a web-based test of ESL pragmalinguistics. *Language Testing* 23(2): 229–256.
- Roever, Carsten
2011 Testing of second language pragmatics: Past and future. *Language Testing* 28(4): 463–481.
- Roever, Carsten, Catriona Fraser and Catherine Elder
2014 *Testing ESL Sociopragmatics: Development and Validation of a Web-Based Test Battery*. Frankfurt: Peter Lang.

- Sasaki, Miyuki
1998 Investigating EFL students' production of speech acts: A comparison of production questionnaires and role plays. *Journal of Pragmatics* 30(4): 457–484.
- Searle, John R.
1969 *Speech Acts: An Essay in the Philosophy of Language*. Cambridge: Cambridge University Press.
- Suendermann-Oeft, David, Vikram Ramanarayanan, Moritz Teckenbrock, Felix Neutatz and Dennis Schmidt
2015 HALEF: An open-source standard-compliant telephony-based modular spoken dialog system: A review and an outlook. In: Gary G. Lee, Hong Kook Kim, Minwoo Jeong and Ji Hwan Kim (eds.), *Natural Language Dialog Systems and Intelligent Assistants*, 53–61. New York: Springer.
- Tada, Masao
2005 Assessment of EFL pragmatic production and perception using video prompts. Ph.D. dissertation, Temple University.
- Taguchi, Naoko and Carsten Roever
2017 *Second Language Pragmatics*. Oxford: Oxford University Press.
- Thomas, Jenny
1995 *Meaning in Interaction*. London: Longman.
- Timpe, Veronika
2013 *Assessing Intercultural Language Learning*. Frankfurt: Peter Lang.
- Timpe-Laughlin, Veronika and Ikkyu Choi
2017 Exploring the validity of a second intercultural pragmatics assessment tool. *Language Assessment Quarterly* 14(1): 19–35.
- Walters, F. Scott
2004 An application of conversation analysis to the development of a test of second language pragmatic competence. Ph.D. dissertation, University of Illinois, Urbana-Champaign.
- Walters, F. Scott
2007 A conversation-analytic hermeneutic rating protocol to assess L2 oral pragmatic competence. *Language Testing* 24(2): 155–183.
- Walters, F. Scott
2013 Interfaces between a discourse completion test and a conversation analysis informed test of L2 pragmatic competence. In: Steven J. Ross and Gabriele Kasper (eds.), *Assessing Second Language Pragmatics*, 172–195. Basingstoke: Palgrave Macmillan.
- Yamashita, Sayoko O.
1996 *Six Measures of JSL Pragmatics*. Honolulu: University of Hawai'i, Second Language Teaching and Curriculum Center.
- Yoshitake, Sonia
1997 Measuring interlanguage pragmatic competence of Japanese students of English as a foreign language: A multi-test framework evaluation. Ph.D. dissertation, Columbia Pacific University.
- Youn, Soo Jung
2013 Validating task-based assessment of L2 pragmatics in interaction using mixed methods. Ph.D. dissertation, University of Hawai'i at Manoa.

Youn, Soo Jung

2015 Validity argument for assessing L2 pragmatics in interaction using mixed methods. *Language Testing* 32(2): 199–225.

III. Pragmatic disorders

17. Pragmatic disorders: An overview

Louise Cummings

Abstract: Pragmatic disorders can be a significant barrier to effective communication for many children and adults. Yet, their characterization is often unclear and misleading, leading to misidentification of pragmatic language impairments. In this chapter, pragmatic disorder is characterized in terms of points of breakdown in the human communication cycle. Pragmatic competence is represented as a wide-ranging rational capacity that guides the production and interpretation of utterances. When this competence is impaired or does not develop along normal lines, pragmatic disorders of varying severity are the result. The chapter examines how these disorders are manifested in four clinical conditions: autism spectrum disorder; traumatic brain injury; right-hemisphere damage; and dementias. Linguistic data from children and adults with these conditions are analysed. The role of cognitive deficits, particularly theory of mind impairments, in pragmatic disorders is increasingly acknowledged. The chapter concludes by examining theoretical accounts of theory of mind and addressing how these accounts might contribute to an understanding of the type of mental state attribution that is essential to utterance interpretation in individuals with pragmatic disorder.

1. Introduction

For nearly forty years, researchers and clinicians have acknowledged that communication may be disrupted by impairments of the pragmatics of language. These impairments have been more or less successfully characterized across a wide range of clinical studies (see Cummings [2007a, 2007b, 2009] for a critical review). For some of these studies, a pragmatic disorder arises when a speaker produces utterances which fail to facilitate a conversational exchange. The failure may take the form of a lack of relevance to an exchange or the contribution of information which is incomplete, misleading or uninformative. For other studies, a pragmatic disorder occurs when a hearer is unable to glean a speaker's communicative intention in producing an utterance. A hearer may be unable to establish if a speaker is producing an utterance with a view to making a request, issuing a warning, or declining an invitation. For still other studies, a pragmatic disorder is what leads speakers to select inappropriate topics for conversation, misrepresent the order of events in a story or fail to relinquish turns to an interlocutor in conversation. Each of these so-called pragmatic disorders represents a significant respect in which an individual's competence as a communicator can be called into question. The chap-

<https://doi.org/10.1515/9783110431056-017>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 499–522. Berlin/Boston: De Gruyter Mouton.

ters in this part of the volume examine clinical conditions in which communicative or pragmatic competence either does not develop along normal lines or is disrupted for the first time in adulthood. The result is a range of pragmatic impairments which have more or less serious implications for an individual's effectiveness as a communicator.

In providing an overview of pragmatic disorders, the aim of this chapter is threefold. First, it is to characterize these disorders in as transparent a manner as possible so that an accurate clinical identification of them may be made. This involves an examination of the points in the communication cycle where pragmatic breakdown may occur and where pragmatic disorders may arise. Second, it is to introduce some of the clinical disorders in which there are marked pragmatic language impairments. The introduction and illustration of those impairments must occur alongside an acknowledgement that aspects of pragmatic competence can be intact, even in individuals with marked pragmatic deficits. Third, it is to examine theoretical frameworks such as relevance theory (Sperber and Wilson [1986] 1995) and how these apply to a key cognitive component of pragmatic competence, namely, the ability to attribute mental states to the minds of others (i. e. theory of mind). One mental state in particular — communicative intentions — is integral to communication between speakers and hearers. The result will be a wide-ranging account of some of the pragmatic disorders which will be examined in detail in later chapters.

2. Pragmatic breakdown in the communication cycle

By any standard, human communication is a remarkable achievement. A complex array of sensorimotor, linguistic and cognitive skills must come together in seamless unison to make this achievement possible. For the most part, these skills work well and the result is an effortless exchange of linguistic utterances between speakers and hearers. However, when one or more of these skills is disrupted or does not develop along normal lines, the effect can be a quite devastating loss of one of our most important capacities. In this section, the different stages in the human communication cycle will be examined from a pragmatic perspective. The aim will be to identify specific points in this cycle where disruption of pragmatic language skills has an adverse effect on one's capacity to communicate. A further aim of this examination will be to introduce the many and varied ways in which pragmatics is disrupted in children and adults with clinical disorders in advance of a detailed examination of some of these disorders in subsequent chapters. We begin with a brief overview of the eight stages or phases that are integral to human communication and are depicted in Figure 1.

The communication of every linguistic utterance starts out from a *communicative intention*. Speakers must have in mind a thought or idea that they believe is of

interest or relevance to a hearer. However, this idea must also satisfy expectations and norms about what it is appropriate to communicate in a particular context. The mere formulation of an intention to communicate is not sufficient in itself to constitute a successful act of communication if that intention transgresses societal norms and interpersonal expectations about what it is appropriate to communicate. On the assumption that a speaker can generate an appropriate communicative intention, it is then necessary to frame that intention within a linguistic code that will be recognized and understood by the hearer. This stage of the communication cycle is called *language encoding* and involves the selection of the phonological, syntactic and semantic structures that are the essence of the linguistic utterance. A successfully encoded utterance is still a rather abstract representation which must undergo two further stages in the cycle before it can be produced a speaker. The first of these stages — the third stage in the overall cycle — is *motor programming*. During motor programming, phonetic units which will guide the movement of the articulators are selected and arranged within a motor representation of the utterance. These units will specify everything, from the timing of articulatory movements to the sequencing, range and force of these movements. Finally, nervous impulses are sent to the articulatory musculature which causes a series of speech-related movements to be performed. This final stage in the production of an utterance is called *motor execution* and is essentially dependent on a range of fine-grained motor speech skills. These first four stages in the communication cycle are depicted in Figure 1 (see Cummings [2008, 2014a, 2018] for further discussion).

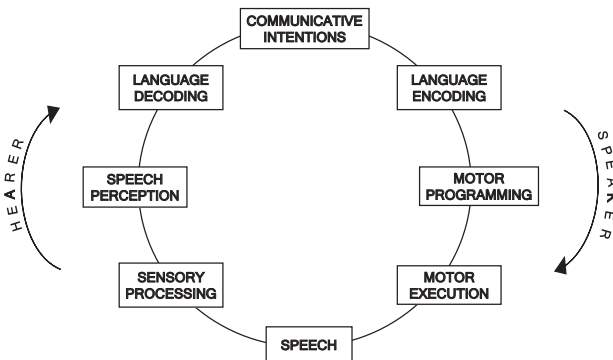


Figure 1: The human communication cycle

A spoken utterance will have no further relevance if a hearer is not capable of uncovering the communicative intention that motivated it. During *sensory processing* sound waves are converted by means of mechanical and physiological processes into nervous signals which are carried from the inner ear to the auditory cortices in the brain. Equally significant is the sensory processing of visual stimuli

as visual information is often more important than auditory information in establishing a speaker's communicative intention in producing an utterance (Wharton 2009). On the assumption that there are no hearing or visual impairments, the brain receives auditory and visual information which it must then process further. During *speech perception* there is recognition of the auditory information that the brain receives. This information may be perceived to be the spoken form of words in a language. Alternatively, it may be recognized as a familiar environmental sound such as a barking dog. The recognition of speech sounds is an early stage in utterance interpretation. The latter process only properly gets underway during *language decoding* when a series of rules begins to unlock the phonological, syntactic and semantic structures that constitute the linguistic utterance. The linguistic decoding of an utterance is sometimes sufficient in itself to establish the speaker's communicative intention in producing it. So, a declarative utterance like *The painting is valuable* may serve the descriptive purpose that its speaker intended it to fulfil. However, often a decoded utterance must undergo additional pragmatic processing in order for a hearer to establish the *communicative intention* that motivated a speaker to produce the utterance. In this way, the speaker who produces the above declarative utterance may have done so with a view to suggesting to a hearer that he or she should purchase the painting. The receptive stages in the communication cycle are also depicted in Figure 1.

Typically, when clinicians and researchers discuss pragmatic disorders, they do so on the understanding that these disorders only arise when there is breakdown in three stages of the communication cycle. These stages are communicative intentions, language encoding and language decoding. In this way, investigators readily acknowledge that adults with dementia or children with autism spectrum disorder (ASD) can generate inappropriate communicative intentions. These intentions may transgress certain expectations of their social role in a context or may simply be irrelevant to the conversational exchange in which the speaker is engaged. For example, the child or adult with ASD who asks of a stranger *Can you give me your money?* exhibits a communicative intention — a request to be given money — which transgresses his or her social role as a participant in the exchange who is unfamiliar to the hearer. Investigators also readily concede that incorrect selections at the stage of language encoding can result in pragmatic disorders. In this way, the adult with aphasia or child with specific language impairment may lack the linguistic structures which are needed to produce indirect speech acts. In the absence of these structures, a range of more direct speech acts may be used, with potentially adverse consequences for the social relationship between speaker and hearer. Finally, researchers and clinicians readily acknowledge that a range of child and adult clients with pragmatic disorders have problems with one or more aspects of language decoding. The adult with schizophrenia may be unable to disambiguate aspects of an utterance or assign referents to pronouns and other deictic expressions, with the result that a fully enriched logical form of the utterance is not

obtained. Even if such a form is achieved, an adult with Alzheimer's dementia may be unable to use that form in conjunction with other aspects of context to derive an implicature of the speaker's utterance.

In all these cases and more, investigators readily concede the presence of a pragmatic disorder. However, impairments of language encoding, language decoding and communicative intentions are not the full story as far as pragmatic disorders are concerned. This is because breakdowns at other points in the communication cycle can also give rise to these disorders. During motor programming, a speaker may consistently select the wrong syllable in a word or word in an utterance to receive primary stress. This can substantially alter the interpretation of an utterance by a hearer. For example, the primary stress (indicated in bold) in the utterance *John did not build a new **boat** with wood* sets up the interpretation that John built something other than a boat with wood. However, the same utterance with primary stress on a different word, e. g. *John did not build a new boat with **wood***, sets up a quite different interpretation, one in which John built the boat with material other than wood. During motor execution, a speaker may struggle to control the loudness of an utterance or may be unable to use pitch falls and rises appropriately. These motoric disturbances can alter the interpretation of the type of speech act (statement, question or command) that a speaker intends to convey. The resulting pragmatic disturbances in each of these cases have a motoric basis but are no less pragmatic in nature on account of this fact. Moreover, these disturbances are not unlike some of the communicative problems that are experienced by clients with Parkinson's disease, a clinical population which is now known to have significant pragmatic impairments (Monetta, Grindrod and Pell 2009; Hall et al. 2011; Holtgraves and McNamara 2010).

By the same token, receptive stages of the communication cycle other than language decoding can also be the basis of pragmatic disorders. Sensory impairments of both hearing and vision can compromise the ability of a hearer to interpret a speaker's utterance. If a hearer receives degraded visual information from a speaker's face, for example, he or she may not detect important visual cues that a speaker intends an utterance to stand as a sarcastic remark in an exchange. Similarly, if a hearer cannot detect the intonation used in an utterance or subtle variations in the loudness of an utterance, he or she may fail to establish the illocutionary force of a speaker's utterance. The pragmatic difficulties of individuals with hearing loss and visual impairment appear to confirm that there are substantial challenges to utterance interpretation from both these sensory impairments (Goberis et al. 2012; Tadić, Pring and Dale 2010). Even if sensory processing is intact, impaired perception or recognition of auditory and visual stimuli presents its own barrier to successful utterance interpretation. Impaired perception of a range of visual cues including eye gaze and facial expressions is a well-recognized phenomenon in individuals with autism spectrum disorder (Guillon et al. 2014; Lozier, Vanmeter and Marsh 2014). To the extent that utterance interpretation can turn on the abil-

ity to recognize facial expressions or assess the significance of eye gaze, it is not surprising that the understanding of utterances is disrupted in clients for whom these social perceptual skills are impaired. Where pragmatic disorders were shown above to have their basis in motoric processes, in the cases just described they are related to impairments of sensory and perceptual processes. Although neither set of processes is linguistic in nature each is nevertheless instrumental to one's competence as a communicator.

3. Defining pragmatic competence

The above discussion demonstrates how pragmatic disorders can arise at every stage of the communication cycle. To capture this range of impairment, we appealed to linguistic, cognitive and sensorimotor skills. Collectively, these skills are the basis of our pragmatic competence. More often than not, these skills are intact in speakers and hearers and the result is a process of effortless communication. When these skills fail to develop along normal lines or are disrupted through injury, illness or disease, our pragmatic competence is compromised with adverse consequences for communication. In this section, the notion of pragmatic competence will be examined further. This examination will address the range of skills that lie at the heart of this competence and how impairment of those skills can cause pragmatic disorders. It will also consider how aspects of pragmatics may be retained or preserved in individuals in whom there are significant pragmatic deficits. An illustration of both facets of pragmatic competence will be achieved by examining data from clients with pragmatic disorders. Several of these clients have clinical disorders which will be examined in subsequent chapters. We begin with a working definition of pragmatic competence:

Pragmatic competence is a uniquely human capacity that guides the exchange of meaningful utterances between speakers and hearers. It draws on diverse linguistic, cognitive and sensorimotor skills which act in concert to achieve effective communication. Individually, these skills may be intact or impaired, with variable consequences for our ability to communicate. Pragmatic competence is broader than linguistic competence on which it depends in part.

Two features of this definition require expansion. Firstly, in describing pragmatic competence as a "uniquely human capacity", pragmatic competence is part of the rational structures that characterize us as human. Pragmatic competence is a type of communicative rationality that regulates the exchanges in which speakers and hearers participate. This rationality ordains what communicative goals are permissible in an exchange and how those goals may best be achieved. It emerges that pragmatic competence is not simply a set of skills, albeit skills which display a high level of complexity and integration. Rather, it is a rational capacity that has

a regulative, normative character for the speakers and hearers who are guided by it. Secondly, pragmatic competence is a much broader concept than a notion of linguistic competence à la Chomsky. Clearly, no utterance can give rise to an implicature or presuppose certain propositions in the absence of linguistic structures. Knowledge of these structures is the essence of linguistic competence. But pragmatic competence has a far greater reach which encompasses knowledge and skills beyond strictly linguistic knowledge. For example, a capacity to attribute mental states to the minds of others (theory of mind) is at least as important to pragmatic competence as the ability to use certain linguistic constructions to represent the presuppositions of an utterance. Theory of mind will be examined in section 4.

Having acknowledged the rational, normative character of pragmatic competence, we can now begin to make progress towards a deeper understanding of this notion by examining clinical conditions in which pragmatics is impaired. Chief among these conditions is autism spectrum disorder (ASD). The pragmatic impairments of children and adults with ASD have been extensively investigated in a wide-ranging literature that spans several cognitive scientific disciplines (see Cummings [2005, 2012a, 2014b, 2016, 2017a] for discussion). Individuals who sustain a traumatic brain injury (TBI) can also exhibit marked pragmatic deficits. Often, these deficits occur in the context of executive dysfunction related to frontal lobe pathology, earning the language impairment in TBI the label of a “cognitive-communication disorder”. On account of the physical forces exerted during a road traffic accident — the most common cause of TBI — the brain can sustain damage at multiple neuroanatomical sites. However, pragmatic impairments can also arise in adults as a result of localized brain damage in either the left or right cerebral hemisphere. This damage is most often caused by a cerebrovascular accident (CVA) or stroke. In left-hemisphere damage (LHD), pragmatic disorders typically occur in the context of aphasia, while in right-hemisphere damage (RHD) they are related to cognitive deficits. Pragmatic deficits in RHD will be examined below. Finally, pragmatic language skills can also deteriorate in the context of cognitive decline in a range of dementias. An examination of some examples of disordered pragmatics in the dementias will conclude the discussion of this section.

3.1. Autism spectrum disorder

Autism spectrum disorder (ASD) is a neurodevelopmental disorder in which children and adults exhibit persistent deficits in social communication and social interaction alongside restricted, repetitive patterns of behaviour, interests or activities (American Psychiatric Association 2013). Approximately 50% of individuals with autistic disorder do not develop functional speech (O’Brien and Pearson 2004). For those individuals who do become verbal communicators, receptive and expressive aspects of pragmatics are impaired. Children and adults with ASD have been found to have difficulty comprehending irony and metaphor (Gold, Faust and Goldstein

2010; Martin and McDonald 2004), detecting violations of Grice's maxims (Surian, Baron-Cohen and Van der Lely 1996) and using features of context in utterance interpretation (Loukusa et al. 2007a). ASD is an interesting clinical disorder for what it can reveal about the cognitive substrates of pragmatic competence. At least certain problems of utterance interpretation in ASD appear to be related to deficits in cognitive and affective theory of mind (Cummings 2013, 2014c). This can be seen in the extracts below from Loukusa et al. (2007b), in which two boys with Asperger's syndrome (a form of ASD) are presented with a scenario followed by a question:

The researcher shows a picture of a boy sitting on the branch of a tree, with a wolf underneath the boy at the bottom of the tree. The wolf is growling at the boy. A man with a gun is walking nearby. The researcher reads the following verbal scenario aloud and then asks a question: 'The boy sits up in the tree and a wolf is at the bottom of the tree. How does the boy feel?'

A 7-year-old boy with Asperger's syndrome responds: Fun because he climbs up the tree. I always have fun when I climb up a tree.

The researcher shows the child a picture with a mother and a girl. The girl has a dress on and she is running. There are muddy puddles on the road. The girl has just stepped in the puddle and the picture shows the mud splashing. The researcher reads the following verbal scenario aloud and then asks a question: "The girl with her best clothes on is running on the dirty road. The mother shouts to the girl: 'Remember that you have your best clothes on!' What does the mother mean?"

A 9-year-old boy with Asperger's syndrome responds: You have your best clothes on.

Clearly, neither child's response is satisfactory. The failure in each case is related to an inability to attribute cognitive and affective mental states to the mind of an actor in the relevant scenario. In the first scenario, the child with Asperger's syndrome is unable to attribute the affective mental state of *fear* to the boy in the tree. Instead, his own perspective entirely dominates his response when he replies that the boy must be having fun because that is what he experiences when he climbs a tree. In the second scenario, the boy with Asperger's syndrome does not grasp the particular *communicative intention* (a cognitive mental state) that motivates the mother's verbal behaviour, namely, that she is *warning* her daughter to keep her best clothes clean. Instead, the boy merely repeats the mother's utterance with no evidence of any appreciation of its intended meaning. The theory of mind (ToM) deficits (see section 4) which underlie these aberrant responses have quite specific pragmatic consequences for these children. For even as these boys are unable to produce satisfactory responses to the examiner's questions, certain other aspects of pragmatic competence are evidently intact. Both children display, for example, an appreciation of adjacency pair structure, namely, that a question in an exchange sets up an expectation of a response. Additionally, the 7-year-old child with Asperger's syndrome displays intact pragmatic knowledge of the referential use of pronouns when he uses 'he' to refer to the boy in the depicted scenario.

3.2. Traumatic brain injury

Traumatic brain injury (TBI) is a significant cause of death and disability in children and adults. Although anyone can sustain a TBI, young children and older adults are particularly vulnerable on account of their increased risk of trips and falls. Among the sequelae of TBI are physical disability, sensory impairments, speech and swallowing disorders (dysarthria and dysphagia), cognitive deficits, psychiatric disorders, and language impairment. Communication disorders in particular pose a considerable barrier to the social reintegration of adults with TBI (Cummings 2011, 2015). Language impairment in TBI can take the form of aphasia. However, structural language skills are often intact while higher-level pragmatic language skills are disrupted. Impairment of pragmatic aspects of language commonly occurs alongside cognitive deficits, most notably of executive functions. Anderson (2008: 4) defines the key elements of executive function as “anticipation and deployment of attention; impulse control and self-regulation; initiation of activity; working memory; mental flexibility and utilization of feedback; planning ability and organization; and selection of efficient problem-solving strategies”. In the following extracts, two children with TBI and impaired working memory are tasked with producing summaries of a narrative (Chapman et al. 2006). The narrative is about a man called John Pierpont who pursues many different careers throughout his life but without success. His lack of success is attributed to the fact that he is not motivated by money but by human values which are not highly regarded in the workplace. The summaries unfold as follows:

Child with mild traumatic brain injury:

It's about, um, this guy who would try to do, he tried to, to succeed at work, but he couldn't. So he tried a lot of different stuff until he was seventy. And then this person, thing, something, found him and sent him to this place where he could find a job, and he, he did that for the last five years of his life, and then he passed away. That's so sad.

Child with severe traumatic brain injury:

John was a failure at everything mostly that he did because he would always, like, in math, um, give, treat the students like easily and make their homework really easy and like make them get good grades when they really shouldn't have gotten that, and the stuff was too easy. And like when he was, um, selling things, he'd sell the things way too low. But the things that he could, he did get in, he quit. And he just quit because he didn't like the things that he got into. And when, when he was older, he um, wrote some poetry and some songs that we still use today.

Neither of these extracts is a successful summary of the narrative in question. The summary of the child with mild TBI is particularly uninformative. This is due to the large number of non-specific words which are used by the narrator, e. g. “guy”, “person”, “stuff”, “thing”, “something”, “place”. This child's use of non-specific vocabulary may be accounted for by a word-finding difficulty. This is a *linguistic*

explanation of the uninformative nature of the child's summary. An alternative, *cognitive* explanation is that the child produces an uninformative summary because he has a degraded representation of the original narrative in working memory. The child with severe TBI produces a more informative narrative summary than the child with mild TBI (notwithstanding his extensive use of "things" and "stuff"). However, his narrative summary is problematic in other pragmatic respects. The summary attends to the "parts" of the story — John gave students good grades and he sold things at a low price — without establishing the significance of each of those parts, i. e. John was motivated by human values over monetary gain. The failure to integrate each of these parts into a whole, which represents the gist or moral of the story, is a type of cognitive processing deficit called weak central coherence (WCC). Martin and McDonald (2003) examine WCC as a theoretical contender for an explanation of pragmatic language impairments in TBI.

Alongside the pragmatic weaknesses of these narrative summaries, there are also areas of considerable pragmatic strength. The child with mild TBI uses grammatical ellipsis appropriately when he states "he tried to succeed at work, but he couldn't [succeed at work]". He also makes effective use of different forms of cohesion including anaphoric reference (e. g. "this guy who would try to do, he tried to...") and conjunctions (e. g. "So he tried a lot of different stuff"). The child with severe TBI is equally adept at using certain pragmatic aspects of language. He too makes good use of cohesive devices including personal pronouns (e. g. "treat the students like easily and make their homework really easy and like make them get good grades") and demonstrative pronouns (e. g. "make them get good grades when they really shouldn't have gotten that"). Both narrators also succeed in representing events in a correct temporal order. So jobs that John undertook as a young man are related before events that occurred later in his life. Although neither child succeeds in producing a competent narrative summary, there is much to commend each of these summaries in pragmatic terms. Once again, pragmatic competence is seen to be a complex construct, with pragmatic deficits related to cognitive and linguistic factors sitting alongside intact pragmatic skills.

3.3. Right-hemisphere damage

Unlike multi-focal pathology in TBI, cerebrovascular accidents (CVA) or strokes — the most common cause of acquired brain damage in adults — are more likely to result in localized brain damage. Depending on the location of such damage, a range of functional impairments can arise following a CVA. A stroke-induced lesion in the right cerebral hemisphere can cause communication and cognitive disorders (Cummings 2019a). The incidence of (non-aphasic) language and communication problems in RHD has been estimated to be 50%, with marked difficulties for 20% (Benton and Bryan 1996). More recently, Côté et al. (2007) estimated the incidence of these problems to be higher than 50% in a rehabilitation

centre setting. The comprehension of non-literal language is particularly impaired in adults with RHD. This impairment affects the comprehension of implicatures, metaphors, idioms, humour, sarcasm and indirect speech acts (Cummings 2014b), with a tendency towards literal, concrete interpretation of these non-literal forms. Because language and communication problems in RHD occur in the presence of marked cognitive deficits in attention, spatial and executive functions (Pulsipher et al. 2013), right-hemisphere language disorder is described as a “cognitive-communication disorder”.

The tendency in RHD towards literal, concrete interpretation of non-literal language is evident in the following extract from Abusamra et al. (2009: 77–78). It is an exchange between an examiner (E) and a male patient (P) with RHD. The patient has been asked to explain the meaning of one of the metaphors from the *Protocole Montréal d’Evaluation de la Communication* (MEC) (Joanette, Ska and Côté 2004):

E: What does this phrase mean: My friend’s mother-in-law is a witch?

P: Let’s change also one word: My son-in-law’s mother-in-law is a witch?

E: And so what does it mean?

P: I know she is a person who hasn’t had a pleasant life, throughout her marriage. That...that she’s about to be separated from her husband; I’m referring to the mother-in-law of my son-in-law (ha, ha, ha)

E: OK it’s not important — it’s the same.

P: Certainly! The mother-in-law of my son-in-law. The mother-in-law of my son-in-law is a witch!

E: What does being a witch mean?

P: Because the woman is separated, because all her life she has criticized her husband for the way he is; only seen in his defects, who has kept his daughter all her life under a glass bell and she’s now a poor lady because she can’t find the fiancé her mother would like.

E: So what does witch mean, then?

P: What does it specifically mean? It means being tied down to religious sects, to religions, to umbanda...who knows, there are so many.

E: So therefore, “The mother-in-law of my son-in-law is a witch”. Does it mean the mother-in-law of my friend practices black magic? And the mother-in-law of my friend has many brooms and she is also a bad person an rude?

P: It’s absolutely clear. My friend’s mother-in-law has many brooms...no! My friend’s mother-in-law practices black magic.

Despite the examiner’s best efforts to prompt P, he never moves beyond a literal, concrete interpretation of the metaphor in *X is a witch*. This interpretation rests on certain conventional attributes of witches, including the practice of black magic and being “tied down to religious sects”. When P utters “My friend’s mother-in-law has many brooms...no!”, it appears that he is about to reject the conventional meaning of *witch*. However, P never expresses an alternative, metaphorical meaning of this word. Problems with the interpretation of non-literal language in RHD

have been attributed to theory of mind deficits (Winner et al. 1998) and visuo-perceptual and visuo-spatial deficits (Papagno et al. 2006). Aside from P's evident difficulty with metaphor interpretation, he also exhibits another pragmatic problem in this exchange. On at least two occasions, P appears to relate information from his personal experience. The use of egocentric language is a feature of discourse in RHD (Lehman Blake 2006). The failure to move beyond one's own perspective in egocentric discourse may also have its roots in theory of mind impairments in clients with RHD.

There is more to say about pragmatic competence in RHD beyond the cognitively-based language and discourse impairments of this population. For as the above exchange between E and P demonstrates, there are also intact aspects of pragmatics in RHD. The entire exchange is a metalinguistic exercise in which E and P discuss the meaning of a metaphorical utterance. P appears to grasp the metalinguistic purpose that is served by the exchange even as he fails to establish the metaphorical meaning of the expression in question. P also contributes and relinquishes turns at appropriate points in the exchange. Alongside intact turn-taking, P is aware that questions raise a conversational expectation to produce answers, and duly fulfils this expectation on each occasion that a question is used. In his first turn, P introduces a female person for whom there is no referent. This lack of reference is subsequently addressed in the utterance "I'm referring to the mother-in-law of my son-in-law". Once again, there is evidence of preserved pragmatic knowledge in P even though his wider pragmatic competence is disrupted to a significant extent.

3.4. Dementias

A range of neurodegenerative diseases cause language impairments in the context of a progressive decline in cognitive skills (Cummings 2019b, 2019c). The so-called dementias include Alzheimer's dementia but also less common dementias such as Parkinson's disease dementia, vascular dementia, dementia with Lewy bodies and frontotemporal dementia. Pragmatic impairments in Alzheimer's dementia have been extensively investigated (Cummings 2014b), and include impaired comprehension of metaphors, idioms and proverbs early in the course of disease (Papagno 2001; Rassiga et al. 2009; Leyhe et al. 2011). In recent years, investigators have begun to characterize pragmatic deficits in a number of non-Alzheimer dementias including AIDS dementia complex, frontotemporal dementia, Parkinson's disease dementia and dementia with Lewy bodies (see section 6.4 in Cummings [2014b] for extended discussion). In illustration of some of these deficits, consider the following exchange between an examiner (E) and a 36-year-old man called Warren (W) who was studied by McCabe, Sheard and Code (2008). Warren was diagnosed with AIDS dementia complex by an AIDS specializing neurologist. The exchange between Warren and the examiner unfolds as follows:

E: What would be the longest job you had?

W: Oh, when I had the business, cleaning the building

E: mm and that was for how many years?

W: 8 years, like I said I was spoiled

E: And that was when you were in your twenties?

W: Twenty two. (Name) was the only person who had total faith in me. There was an intelligent person in there that, um, he said I've got more common sense. I like that idea 'cause there's nothing common about this little black duck and if I am on my way to prove that I'm not. My great grandmother was born into a family that was indentured to a castle near Salisbury, Newcastle. Well she was supposed to be a house servant. She sort of looked at then at the age of 17 and said "Do I look like a peasant girl to you? I don't think so, I'm jumping on a boat and going to Australia..." (continued in same vein for six more utterances).

Warren's first two turns in this exchange are relevant, informative responses to the examiner's questions. During Warren's third turn, he begins his response in a relevant manner. However, he then quickly digresses into an extended account that involves a substantial amount of irrelevant information. Clearly, Warren has significant difficulty in adhering to Gricean maxims of relation and quantity in his spoken output. He also appears to be distracted by the multiple meanings of words during the course of his response. This can be seen in his use of the expression "common sense" where *common* has the meaning of plain or ordinary good judgement. An alternative meaning of *common*, something that is low-class, vulgar or coarse, then launches Warren into account about his great grandmother. Warren's marked difficulties with topic relevance must be considered alongside some areas of preserved pragmatic function. He is able to use anaphoric reference to achieve cohesion across utterances, e. g. "My great grandmother was born into a family [...] she was supposed to be a house servant". There is an appreciation of deixis when Warren uses "*that* idea" to refer to an earlier part of his spoken discourse. He also couches the words of his great grandmother in direct reported speech towards the end of the above extract. Warren's pragmatic competence involves a complex interplay between a marked impairment of topic relevance and pockets of preserved capabilities.

Quite different pragmatic impairments and skills are evident in the following narrative of a 76-year-old man with dementia with Lewy bodies (DLB) who was studied by Ash et al. (2011). The narrative is based on a wordless children's picture book by Mayer (1969) entitled *Frog, Where are You?* The book tells the story of a young boy and his dog who are searching for their lost frog.

Page 1: (a) There's a boy, his little dog and his frog sitting up by the boy's bed.

Page 1/2: (b) And it's nighttime.

Page 2: (c) Boy's fallen asleep.

Page 2: (d) The frog is getting out of his ... container.

Page 2: (e) and the dog is with the boy, I believe.

- Page 3: (f) Yep, then uh there's a boy, in the bed with the dog on top of him.
 Page 3: (g) and he's about ready to fall asleep I believe.
 Page 4: (h) Boy's playing with his boots.
 Page 4: (i) The dog's crawling into the ... container.
 Page 4: (j) The boy's looking in the boots. (Ash et al. 2011: 33)

The client with DLB exhibits marked difficulties with information management during the development of this narrative. In (a) to (c), he succeeds in setting the scene by introducing the three main characters in the story, providing temporal context (it is night time), and describing an action of one of the characters which has relevance to subsequent events (the boy is sleeping). In (d), there is a clear statement of the problem, the resolution of which becomes the whole point of the story — the boy and his dog launch a search for their frog which has escaped from its container. To this point in the narrative, the client displays reasonably intact knowledge of the type of information that a narrator should provide to a listener. However, (e) and (f) merely repeat aspects of what has already been said and so neither utterance contributes new information to the narrative. The information in (g) is inaccurate, as it is in fact morning in the scene on page 3 and the boy is surprised to discover that his frog has disappeared. In (h) and (i), the client provides information which somehow misses the purpose of the activities that he describes. The boy is not playing with his boots so much as looking into them to see if he can find the frog. Similarly, the dog is crawling into the container with a view to searching for the frog. At this point, the client appears to have lost all appreciation of the search theme that motivates the narrative. Ash et al. (2011) found that this client's difficulty in maintaining the search theme of the narrative correlated with impaired executive functioning in mental search and inhibitory control.

Each of the clinical disorders examined in this section demonstrates that pragmatic competence is a complex construct, with skills and deficits that are mediated by cognitive, linguistic and other factors (see Cummings (2017b) for further discussion of these disorders). Although a complete theory of pragmatic competence is beyond the scope of this chapter, and may not be an intelligible form of enquiry in any event (Cummings 2012b, 2012c, 2014d), some remarks about theory construction are warranted. To make our task a manageable one, only theories of one of the cognitive components of pragmatic competence will be addressed in the remainder of the chapter. That component is theory of mind.

4. Pragmatic competence and theory of mind

In addressing pragmatic disorders in section 3, mention was made of the role of theory of mind (ToM) in some of these clients' pragmatic deficits. In this way, the difficulties of children with Asperger syndrome (a form of ASD) were explained

in terms of deficits in cognitive and affective ToM, while problems with the understanding of non-literal language in adults with RHD were attributed to ToM impairments. So integral is the contribution of ToM to utterance interpretation that it is inconceivable that a theory of pragmatic competence could be envisaged, let alone actually constructed, in the absence of a central role for ToM (a point that has also been acknowledged by Ifantidou [2014] in the context of development of pragmatic competence in L2). In this section, we explore three theoretical approaches to the study of ToM. The first of these approaches — relevance theory (Sperber and Wilson 1995) — has been and continues to be a highly influential theory in linguistic pragmatics. In relevance theory, ToM is conceived of in terms of a metacommunicative module which is a specialization of a more general mind-reading module. The nature of this module and its capacity to represent the type of ToM processes that are at work in utterance interpretation will be examined below. The other two theories which will be addressed in this section are theories of our psychological competence in predicting and explaining the behaviour of other people. So-called ‘theory’ theories and simulation theories of our psychological competence have their origins in developmental psychology and philosophy of mind in the late 1980 s. Unlike relevance theory, simulation and ‘theory’ theories were not specifically developed with a view to explaining ToM processes in utterance interpretation. It will be argued below that this somewhat limits the pragmatic adequacy of these theories as an account of ToM processes during utterance interpretation.

Like all inferential approaches to pragmatics, relevance theory contends that we can only really be said to have understood an utterance when we identify the particular communicative intention that motivated a speaker to produce it. On this relevance-theoretic view, understanding an utterance is simply a special case of understanding intentional behaviour in general. To the extent that utterance interpretation is a special type of mind-reading, the question then becomes one of how we should conceive of this mind-reading process. Is this process to be characterized along the lines of a Fodorian central process (Fodor 1983), in which hearers apply general reasoning abilities to premises about a speaker’s communicative behaviour in order to derive the mental state (communicative intention) that motivated this behaviour? On this approach, mind-reading during utterance interpretation is an exercise in standard belief-desire psychology. Or is this mind-reading process to be characterized in terms of a dedicated inferential mechanism in the form of a module? According to Wilson (2005: 1136), empirical findings lend strong support to the latter characterization: “the developmental and neuropsychological evidence seems to favour a view of mind-reading as a domain-specific modular system rather than a central, reflective one”. Such a modular system contains special-purpose inferential procedures which are attuned to regularities in the data of a particular domain. These procedures confer certain efficiencies on agents who can derive the same mental states that are arrived at by general-purpose reasoning

abilities but in a manner that involves reduced cognitive effort. However, relevance theorists go a step further in claiming that there cannot be a single mind-reading module that can address all routinized tasks of the type envisaged:

[G]iven the complexity of mind-reading, the variety of tasks it has to perform and the particular sub-regularities they exhibit, it is reasonable to assume that mind-reading is not a single, relatively homogeneous system but a collection of autonomous mechanisms or sub-modules articulated together in some way. (Wilson 2005: 1136)

Specifically, speaker's meanings, it is contended, cannot be inferred from utterances using the same general mind-reading mechanisms that attribute intentions to agents in non-communicative domains. While the grounds in support of this latter contention are convincing on their own terms, we will not address them in the present context. Of much greater interest in this context is the nature of a special-purpose mechanism or sub-module as it applies to the communicative domain. Such a mechanism is constrained by a principle of relevance in both the cognitive and communicative domains. In terms of cognition, relevance theorists argue that our minds have evolved to achieve the maximization of relevance. We process information for its relevance and attend only to relevant stimuli. In terms of communication, there is a presumption of optimal relevance in the utterances that speakers produce. In effect, speakers issue hearers with an implicit guarantee that it will be worth their while to attend to and process the utterances they produce. It is then for hearers to make good on this guarantee by establishing the relevance of utterances in the most cost-effective manner possible. A point is reached when the cost of processing an utterance for its contextual implications exceeds the implications that can be derived from it and further relevance processing ceases. For relevance theorists "the regularities described in the Cognitive and Communicative Principles of Relevance should provide an adequate basis for a dedicated comprehension mechanism, a sub-module of the mind-reading module" (Wilson 2005: 1141).

It is not possible in the present context to evaluate the extent to which a sub-module of the mind-reading module that is construed along relevance-theoretic lines succeeds in capturing the type of ToM processes that are integral to utterance interpretation. In earlier publications, I have argued that there are reasons to doubt that a relevance-theoretic mind-reading module can represent the rational, holistic, intentional character of either utterance interpretation or the ToM processes that make this interpretation possible (Cummings 2005, 2014b, 2017c). Having said this, it is clear that relevance theory has made and continues to make an important contribution to clinical studies of pragmatic disorders. In this way, relevance-theoretic concepts have been used to explain problems with referent specification in children with specific language impairment (Schelletter and Leinonen 2003), bridging inference deficits in adults with RHD (Dipper, Bryan and Tyson 1997), impairments of figurative language in children

and adults with autism (Happé 1993), and the deviant responses of children with Asperger's syndrome or high-functioning autism to contextually demanding questions (Loukusa et al. 2007b). In these investigations and other studies, relevance theory has proven clinical value to researchers regardless of any conceptual challenge.

While relevance theorists pursue an account of mind-reading from within linguistic pragmatics, other accounts of this meta-representational capacity have emerged from developmental psychology and philosophy of mind. For so-called 'theory' theorists, the psychological competence that we use to explain and predict the behaviour of others takes the form of a folk psychological theory (philosophy) or a theory of mind (psychology). This theory may be inherited as an innate module similar to Chomsky's language module. This is how one proponent of this modular view characterizes our psychological competence:

The psychology faculty certainly appears to be an intentional module. The faculty has a definite and self-contained body of knowledge that is framed in terms of a specific network of interrelated (and indeed, highly sophisticated and logically intriguing) concepts. Further, it appears to exhibit a degree of informational encapsulation. (Segal 1996: 147)

For Segal at least, the psychology module does not just exhibit domain specificity and informational encapsulation but also certain other features of a Fodorian module:

At present [the psychology module] seems to fit the criteria reasonably well, but not entirely. It does appear to be domain specific, informationally encapsulated, to fire obligatorily, to be reasonably fast and to have a characteristic ontogeny. (Segal 1996: 149)

An alternative to this modular view is that children develop a theory of psychological competence in much the same manner that scientists construct theories in science. The chief proponent of this alternative 'theory' theory is Alison Gopnik. This is how Gopnik characterizes what she calls "theory-formation theory":

My claim is that there are quite distinctive and special cognitive processes that are responsible both for scientific progress and for particular kinds of development in children [...] It is my further claim that theories and theory changes, in particular, are responsible for the changes in children's understanding of the mind. (Gopnik 1996: 169)

Gopnik and others challenge modularity on the grounds that cognitive modules are not able to accommodate the developmental changes that take place in a child's theory of mind — modularity theories, Gopnik and Meltzoff (1997: 54) argue, are "antidevelopmental". This view of cognitive modules is refuted by modular theory theorists such as Scholl and Leslie (1999) who argue that developmental changes can occur in a module via parameterisation. The debate is an interesting one which cannot be pursued further in the present context.

For simulation theorists, our psychological competence is not explained in terms of a theory. Rather, when we simulate we are imaginatively projecting from our own mental activity (what we would think/believe/desire in a situation) to what someone else is likely to think, believe and desire in a similar situation: “According to this view, what lies at the root of our mature mind-reading abilities is not any sort of theory, but rather an ability to project ourselves imaginatively into another person’s perspective, *simulating* their mental activity with our own” (Caruthers and Smith 1996: 3; italics in original). As with ‘theory’ theory, proponents of simulationism differ with respect to the details of how simulation comes about. According to Goldman (1989, 2006), simulation requires first-person awareness of one’s own mental states, with the inference from these states to the mind of another taking the form of an argument from analogy. Alternatively, simulationists like Gordon (1986, 1995, 2004) argue that recognition of one’s own mental states is not a requirement of simulation and that the type of imaginative identification that occurs in simulation can take place without introspective self-awareness. Gordon (1986) explains how simulation proceeds as follows:

[O]ur decision-making or practical reasoning system gets partially disengaged from its ‘natural’ inputs and fed instead with suppositions and images (or their ‘subpersonal’ or ‘sub-doxastic’ counterparts). Given these artificial pretend inputs the system then ‘makes up its mind’ what to do. Since the system is being run off-line, as it were, disengaged also from its natural output systems, its ‘decision’ isn’t actually executed but rather ends up as an anticipation [...] of the other’s behavior (Gordon 1986: 170).

It is interesting to consider to what extent, if any, ‘theory’ theories and simulation theories might contribute to an explanation of pragmatic competence in individuals with pragmatic disorders. While modular ‘theory’ theorists do not have utterance interpretation within their explanatory sights, their commitment to the modular project places them in the same camp as relevance theory and they will not be addressed further here. The idea that children actively construct theories in the same manner as scientists construct theories certainly has pragmatic plausibility. The work of Bruno Bara and colleagues has charted the developmental stages that children pass through on their mastery to complex speech acts (Bara, Bosco and Bucciarelli 1999; Bucciarelli, Colle and Bara 2003). Although these investigators explain the increasing difficulty of different types of speech acts in terms of the complexity of their underlying inferences and mental representations, their approach is consistent with the idea that children actively construct increasingly sophisticated theories of the minds of others. (Of course, modular ‘theory’ theorists would claim that these pragmatic findings are also consistent with the type of internal specialization that they claim occurs in modules.) The extent to which simulation theory may contribute to an explanation of pragmatic competence in individuals with pragmatic disorders is even more difficult to assess. It is difficult to envisage how clients with autism spectrum disorder, who exhibit marked defi-

cits of imagination, could possibly attempt an *imaginative projection* of the type proposed by simulation theory. Certainly, the ASD population could provide an interesting clinical test bed for the claims advanced by simulation theorists. Imaginative projection along with the proposals of ‘theory’ theorists require extensive further research and consideration before they can contribute to an explanation of pragmatic competence in children and adults with pragmatic disorders.

5. Summary

This chapter has introduced readers to the many and varied ways in which pragmatics can become disrupted in adults or fail to develop along normal lines in children. Pragmatic disorders were shown to emerge from breakdown at several locations in the communication cycle, and not simply at the stages of language encoding and decoding and the generation and recovery of communicative intentions, as most clinical researchers appear to assume. To develop a fully-fledged concept of pragmatic competence, pragmatic disorders were examined alongside pragmatic skills in several clinical conditions. These conditions were autism spectrum disorder, traumatic brain injury, right-hemisphere damage and the dementias. A key feature of these disorders is that pragmatic impairments often occur in the presence of severe and persistent cognitive deficits. A central component of pragmatic competence in any context, but particularly in a clinical context where cognitive disorders are commonplace, is the notion of theory of mind. All utterance interpretation in pragmatics involves the attribution of communicative intentions to speakers (one dimension of ToM), and it is to ToM that we must turn to understand many types of pragmatic impairment. The chapter concluded with an examination of three theories of ToM from different disciplinary backgrounds — linguistic pragmatics, philosophy of mind and developmental psychology — along with some critical reflection around these theories.

References

- Abusamra, Valeria, H el ene C ot e, Yves Joannette and Aldo Ferreres
2009 Communication impairments in patients with right hemisphere damage. *Life Span and Disability* 12(1): 67–82.
- American Psychiatric Association
2013 *Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (DSM-5)*. Washington, DC: American Psychiatric Association.
- Anderson, Peter J.
2008 Towards a developmental model of executive function. In: Vicki Anderson, Rani Jacobs and Peter J. Anderson (eds.), *Executive Functions and the Frontal Lobes: A Lifespan Perspective*, 3–22. London/New York: Taylor & Francis.

- Ash, Sharon, Corey McMillan, Rachel G. Gross, Philip Cook, Brianna Morgan, Ashley Boller, Michael Dreyfuss, Andrew Siderowf and Murray Grossman
2011 The organization of narrative discourse in Lewy body spectrum disorder. *Brain and Language* 119(1): 30–41.
- Bara, Bruno G., Francesca M. Bosco and Monica Bucciarelli
1999 Developmental pragmatics in normal and abnormal children. *Brain and Language* 68(3): 507–528.
- Benton, E. and Karen L. Bryan
1996 Right cerebral hemisphere damage: Incidence of language problems. *International Journal of Rehabilitation Research* 19(1): 47–54.
- Bucciarelli, Monica, Livia Colle and Bruno G. Bara
2003 How children comprehend speech acts and communicative gestures. *Journal of Pragmatics* 35(2): 207–241.
- Carruthers, Peter and Peter K. Smith
1996 Introduction. In: Peter Carruthers and Peter K. Smith (eds.), *Theories of Theories of Mind*, 1–8. Cambridge: Cambridge University Press.
- Chapman, Sandra B., Jacquelyn F. Gamino, Lori G. Cook, Gerri Hanten, Xiaoqi Li and Harvey S. Levin
2006 Impaired discourse gist and working memory in children after brain injury. *Brain and Language* 97(2): 178–188.
- Côté, H el ene, M elissa Payer, Francine Giroux and Yves Joanne
2007 Towards a description of clinical communication impairment profiles following right-hemisphere damage. *Aphasiology* 21(6–8): 739–749.
- Cummings, Louise
2005 *Pragmatics: A Multidisciplinary Perspective*. Edinburgh: Edinburgh University Press.
- Cummings, Louise
2007a Pragmatics and adult language disorders: Past achievements and future directions. *Seminars in Speech and Language* 28(2): 98–112.
- Cummings, Louise
2007b Clinical pragmatics: A field in search of phenomena? *Language & Communication* 27(4): 396–432.
- Cummings, Louise
2008 *Clinical Linguistics*. Edinburgh: Edinburgh University Press.
- Cummings, Louise
2009 *Clinical Pragmatics*. Cambridge: Cambridge University Press.
- Cummings, Louise
2011 Pragmatic disorders and their social impact. *Pragmatics and Society* 2(1): 17–36.
- Cummings, Louise
2012a Pragmatic disorders. In: Hans-J org Schmid (ed.), *Cognitive Pragmatics*, 291–315. (Handbook of Pragmatics, Volume 4) Berlin/Boston: De Gruyter Mouton.
- Cummings, Louise
2012b Theorising context: The case of clinical pragmatics. In: Rita Finkbeiner, J org Meibauer and Petra B. Schumacher (eds.), *What is a Context? Linguistic Approaches and Challenges*, 55–80. Amsterdam: John Benjamins.

- Cummings, Louise
2012c Establishing diagnostic criteria: The role of clinical pragmatics. *Lodz Papers in Pragmatics* 8(1): 61–84.
- Cummings, Louise
2013 Clinical pragmatics and theory of mind. In: Alessandro Capone, Franco Lo Piparo and Marco Carapezza (eds.), *Perspectives on Linguistic Pragmatics*, 23–56. (Perspectives in Pragmatics, Philosophy & Psychology, Volume 2) Dordrecht: Springer.
- Cummings, Louise
2014a *Communication Disorders*. Basingstoke: Palgrave Macmillan.
- Cummings, Louise
2014b *Pragmatic Disorders*. Dordrecht: Springer.
- Cummings, Louise
2014c Pragmatic disorders and theory of mind. In: Louise Cummings (ed.), *Cambridge Handbook of Communication Disorders*, 559–577. Cambridge: Cambridge University Press.
- Cummings, Louise
2014d Can there ever be a *theory* of utterance interpretation? *Reti, Saperi, Linguaggi* 2: 199–222.
- Cummings, Louise
2015 Pragmatic disorders and social functioning: A lifespan perspective. In: Alessandro Capone and Jacob L. Mey (eds.), *Interdisciplinary Studies in Pragmatics, Culture and Society*, 179–208. (Perspectives in Pragmatics, Philosophy & Psychology, Volume 4) Dordrecht: Springer.
- Cummings, Louise
2016 Clinical pragmatics. In: Yan Huang (ed.), *Oxford Handbook of Pragmatics*, 346–361. Oxford: Oxford University Press.
- Cummings, Louise
2017a Clinical pragmatics. In: Yueguo Gu, Anne Barron and Gerard Steen (eds.), *Routledge Handbook of Pragmatics*, 419–432. London/New York: Routledge.
- Cummings, Louise
2017b *Case Studies in Communication Disorders*. Cambridge: Cambridge University Press.
- Cummings, Louise
2017c Cognitive aspects of pragmatic disorders. In: Louise Cummings (ed.), *Research in Clinical Pragmatics*, 587–616. (Perspectives in Pragmatics, Philosophy & Psychology, Volume 11) Cham, Switzerland: Springer International Publishing.
- Cummings, Louise
2018 *Speech and Language Therapy: A Primer*. Cambridge: Cambridge University Press.
- Cummings, Louise
2019a On making a sandwich: Procedural discourse in adults with right-hemisphere damage. In: Alessandro Capone, Marco Carapezza and Franco Lo Piparo (eds.), *Further Advances in Pragmatics and Philosophy. Part 2: Theories and Applications*, 331–355. Cham, Switzerland: Springer International Publishing.

- Cummings, Louise
 2019b Narrating the Cinderella story in adults with primary progressive aphasia. In: Alessandro Capone, Marco Carapezza and Franco Lo Piparo (eds.), *Further Advances in Pragmatics and Philosophy. Part 2: Theories and Applications*, 301–329. Cham, Switzerland: Springer International Publishing.
- Cummings, Louise
 2019c Describing the cookie theft picture: Sources of breakdown in Alzheimer's dementia. *Pragmatics and Society* 10(2): 153–176.
- Dipper, Lucy T., Karen L. Bryan and John Tyson
 1997 Bridging inference and relevance theory: An account of right hemisphere damage. *Clinical Linguistics & Phonetics* 11(3): 213–228.
- Fodor, Jerry A.
 1983 *The Modularity of Mind*. Cambridge, MA: MIT Press.
- Goberis, Dianne, Dinah Beams, Molly Dalpes, Amanda Abrisch, Rosalinda Baca and Christine Yoshinaga-Itano
 2012 The missing link in language development of deaf and hard of hearing children: Pragmatic language development. *Seminars in Speech and Language* 33(4): 297–309.
- Gold, Rinat, Miriam Faust and Abraham Goldstein
 2010 Semantic integration during metaphor comprehension in Asperger syndrome. *Brain and Language* 113(3): 124–134.
- Goldman, Alvin I.
 1989 Interpretation psychologized. *Mind and Language* 4(3): 161–185.
- Goldman, Alvin I.
 2006 *Simulating Minds: The Philosophy, Psychology, and Neuroscience of Mindreading*. Oxford: Oxford University Press.
- Gopnik, Alison
 1996 Theories and modules: Creation myths, developmental realities and Neurath's boat. In: Peter Carruthers and Peter K. Smith (eds.), *Theories of Theories of Mind*, 169–183. Cambridge: Cambridge University Press.
- Gopnik, Alison and Andrew N. Meltzoff
 1997 *Words, Thoughts, and Theories*. Cambridge, MA: MIT Press.
- Gordon, Robert M.
 1986 Folk psychology as simulation. *Mind & Language* 1(2): 158–171.
- Gordon, Robert M.
 1995 Simulation without introspection or inference from me to you. In: Martin Davies and Tony Stone (eds.), *Mental Simulation: Evaluations and Applications*, 53–67. Oxford: Blackwell.
- Gordon, Robert M.
 2004 Intentional agents like myself. In: Susan Hurley and Nick Chater (eds.), *Perspectives on Imitation: From Neuroscience to Social Science*, Volume 2, 95–106. Cambridge, MA: MIT Press.
- Guillon, Quentin, Nouchine Hadjikhani, Sophie Baduel and Bernadette Rogé
 2014 Visual social attention in autism spectrum disorder: Insights from eye tracking studies. *Neuroscience and Biobehavioral Reviews* 42: 279–297.
- Hall, Deborah, Bichun Ouyang, Eryn Lonnquist and Jill Newcombe
 2011 Pragmatic communication is impaired in Parkinson disease. *International Journal of Neuroscience* 121(5): 254–256.

- Happé, Francesca G.E.
1993 Communicative competence and theory of mind in autism: A test of relevance theory. *Cognition* 48(2): 101–119.
- Holtgraves, Thomas and Patrick McNamara
2010 Pragmatic comprehension deficit in Parkinson's disease. *Journal of Clinical and Experimental Neuropsychology* 32(4): 388–397.
- Ifantidou, Elly
2014 *Pragmatic Competence and Relevance*. Amsterdam/Philadelphia: John Benjamins.
- Joanette, Yves, Bernadette Ska and Hélène Côté
2004 *Protocole Montréal d'Évaluation de la Communication (MEC)*. Isbergues, France: Ortho-Edition.
- Lehman Blake, Margaret T.
2006 Clinical relevance of discourse characteristics after right hemisphere brain damage. *American Journal of Speech-Language Pathology* 15(3): 255–267.
- Leyhe, Thomas, Ralf Saur, Gerhard W. Eschweiler and Monika Milian
2011 Impairment in proverb interpretation as an executive function deficit in patients with amnesic mild cognitive impairment and early Alzheimer's disease. *Dementia and Geriatric Cognitive Disorders Extra* 1(1): 51–61.
- Loukusa, Soile, Eeva Leinonen, Sanna Kuusikko, Katja Jussila, M.-L. Mattila, Nuala Ryder, Hanna Ebeling and Irma Moilanen
2007a Use of context in pragmatic language comprehension by children with Asperger syndrome or high-functioning autism. *Journal of Autism and Developmental Disorders* 37(6): 1049–1059.
- Loukusa, Soile, Eeva Leinonen, Sanna Kuusikko, Katja Jussila, M.-L. Mattila, Nuala Ryder, Hanna Ebeling and Irma Moilanen
2007b Answering contextually demanding questions: Pragmatic errors produced by children with Asperger syndrome or high-functioning autism. *Journal of Communication Disorders* 40(5): 357–381.
- Lozier, Leah M., John W. Vanmeter and Abigail A. Marsh
2014 Impairments in facial affect recognition associated with autism spectrum disorders: A meta-analysis. *Development and Psychopathology* 26(4 Pt1): 933–945.
- Martin, Ingerith and Skye McDonald
2003 Weak coherence, no theory of mind or executive dysfunction? Solving the problem of pragmatic language disorders. *Brain and Language* 85(3): 451–466.
- Martin, Ingerith and Skye McDonald
2004 An exploration of causes of non-literal language problems in individuals with Asperger syndrome. *Journal of Autism and Developmental Disorders* 34(3): 311–328.
- Mayer, Mercer
1969 *Frog, Where Are You?* New York: Penguin Books.
- McCabe, Patricia J., Christine Sheard and Chris Code
2008 Communication impairment in the AIDS dementia complex (ADC): A case report. *Journal of Communication Disorders* 41(3): 203–222.

- Monetta, Laura, Christopher M. Grindrod and Marc D. Pell
2009 Irony comprehension and theory of mind deficits in patients with Parkinson's disease. *Cortex* 45(8): 972–981.
- O'Brien, Gregory and Joanne Pearson
2004 Autism and learning disability. *Autism* 8(2): 125–140.
- Papagno, Costanza
2001 Comprehension of metaphors and idioms in patients with Alzheimer's disease: A longitudinal study. *Brain* 124(7): 1450–1460.
- Papagno, Costanza, Rita Curti, Silvia Rizzo, Franca Crippa and Maria Rosa Colombo
2006 Is the right hemisphere involved in idiom comprehension? A neuropsychological study. *Neuropsychology* 20(5): 598–606.
- Pulsipher, Dalin T., Nikki H. Stricker, Joseph R. Sadek and Kathleen Y. Haaland
2013 Clinical utility of the Neuropsychological Assessment Battery (NAB) after unilateral stroke. *The Clinical Neuropsychologist* 27(6): 924–945.
- Rassiga, Cecilia, Federica Lucchelli, Franca Crippa and Costanza Papagno
2009 Ambiguous idiom comprehension in Alzheimer's disease. *Journal of Clinical and Experimental Neuropsychology* 31(4): 402–411.
- Schelleter, Christina and Eeva Leinonen
2003 Normal and language-impaired children's use of reference: Syntactic versus pragmatic processing. *Clinical Linguistics & Phonetics* 17(4–5): 335–343.
- Scholl, Brian J. and Alan M. Leslie
1999 Modularity, development and 'theory of mind'. *Mind & Language* 14(1): 131–153.
- Segal, Gabriel
1996 The modularity of theory of mind. In: Peter Carruthers and Peter K. Smith (eds.), *Theories of Theories of Mind*, 141–157. Cambridge: Cambridge University Press.
- Sperber, Dan and Deirdre Wilson
[1986] 1995 *Relevance: Communication and Cognition*. Oxford: Blackwell.
- Surian, Luca, Simon Baron-Cohen and Heather Van der Lely
1996 Are children with autism deaf to Gricean maxims? *Cognitive Neuropsychiatry* 1(1): 55–72.
- Tadić, Valerie, Linda Pring and Naomi Dale
2010 Are language and social communication intact in children with congenital visual impairment at school age? *Journal of Child Psychology and Psychiatry* 51(6): 696–705.
- Wharton, Tim
2009 *Pragmatics and Non-Verbal Communication*. Cambridge: Cambridge University Press.
- Wilson, Deirdre
2005 New directions for research on pragmatics and modularity. *Lingua* 115(8): 1129–1146.
- Winner, Ellen, Hiram Brownell, Francesca Happé, Ari Blum and Donna Pincus
1998 Distinguishing lies from jokes: Theory of mind deficits and discourse interpretation in right hemisphere brain-damaged patients. *Brain and Language* 62(1): 89–106.

18. Pragmatic competence in autism spectrum disorders

Livia Colle

Abstract: Communication difficulties are recognized as one of the major features of the diagnosis across the autism spectrum (ASD). Individuals with autism present a broad spectrum of communicative difficulties that vary enormously according to their levels of overall intellectual functioning. Communication problems may be characterized by strongly linguistic deficits or only difficulties related to pragmatics in both verbal and non-verbal communication. The aim of the present chapter is to investigate communicative skills and impairments in patients with ASD in a wide range of verbal and non-verbal communicative phenomena. Particular attention will be paid to the role of the severity of the disorder and the stage of development in determining communicative impairments.

1. Introduction

Communication difficulties are characteristic of autism in all its forms and are recognized as one of the major features of the diagnosis across the autism spectrum (ASD). In his seminal clinical studies, Kanner (1943) stated that the defining characteristics of the disorder were the patients' inability to relate to others, including members of their own families, disorders of language development (with non-communicative and ritualistic use of language) and echolalia. People with echolalia repeat noises and phrases that they hear. They may not be able to communicate effectively, for example, they might repeat a question rather than answer it. However, although there has always been consensus that communicative deficits are a core feature of autism spectrum disorders, the task of providing a clear picture of communicative impairments and a comprehensive measure for evaluating them presents some challenges. The end of the last century saw a surge in research on pragmatic capacities in autism (e. g., Eales 1993; Happé 1993; Loveland et al. 1990; Tager-Flusberg and Anderson 1991; Wetherby 1986), however, the pervasiveness of the deficit remains an empirical question.

The first challenge relates to the severity of the disorder and to the level of individual cognitive functioning. Depending on the severity of the disorder, communication problems may be characterized both by strongly linguistic deficits and by difficulties in the pragmatic domain, such as problems with using communicative signs appropriately. Individuals with more severe forms of ASD may be impaired in specific aspects of language such as lexical and syntactic processing and in some

<https://doi.org/10.1515/9783110431056-018>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 523–544. Berlin/Boston: De Gruyter Mouton.

cases language may be absent altogether. Individuals with high functioning ASD or Asperger's Syndrome (AS) are generally less language impaired but they nonetheless present a variety of difficulties related to pragmatics in both verbal and non-verbal communication (DSM-5, American Psychiatric Association 2013). However, even within the group of patients with high-functioning ASD, it is possible to identify a variety of levels of competence, depending on individual differences and on the tests used. One variable that may influence the facility with which autistic people process pragmatic language is the cognitive demands of the narrative. In this study we will leave aside the strictly linguistic issues and their interaction with pragmatic ability on the autistic spectrum and will focus exclusively on the pragmatic difficulties typical for this condition.

A second challenge for the analysis of pragmatic capacity in ASD is related to the developmental nature of the disorder. It is therefore important to bear in mind that communication difficulties can involve two distinct levels of analysis, depending on whether the object of investigation is the development of pragmatic abilities during early years development or in adulthood. Some abilities, such as declarative pointing (Bates et al. 1979), may be lacking at one year of age but may be eventually acquired at a later stage of a child's development. However, certain pragmatic difficulties persist into adulthood and can be considered characteristic social impairments in ASD.

A third difficulty concerns the definition of the term *pragmatics*. Following Morris's (1938) tripartite linguistic theory, *pragmatics* refers to the relationship between certain linguistic expressions and the context they are used in, since in many communicative interactions it is the context that clarifies and disambiguates the meaning of an utterance. In this sense, pragmatics has explored specific linguistic phenomena such as deictic expressions, figurative language and irony, all phenomena that can be fully understood only through reference to the conversational context they occur in. In a wider sense, pragmatic abilities involve not only linguistic phenomena but the general capacity of human beings to use a variety of forms of communication, both verbal and non-verbal, adapting them appropriately to the context of interaction (Bara 2010). The concept of pragmatic ability has many different connotations. One consequence of this is that the focus of research in ASD tends to shift between the verbal abilities of these patients and their non-verbal abilities, leading to a fragmentation of results and an overall picture which fails to describe comprehensively the typical ASD competencies and deficits. In this chapter we will refer to pragmatics in the wider sense, including both verbal and non-verbal capacities. We will aim to provide a general description of pragmatic abilities in autism, considering first non-verbal communicative phenomena and continuing with verbal behaviours.

2. Non-verbal communicative impairments

2.1. Joint attention

One early impairment relates to the ability to maintain eye contact during communicative interactions. Kanner's study (1943) reported that the autistic child presents a low level of *eye contact*. This observation was later confirmed by a number of studies. Osterling and Dawson (1994) analysed first birthday party films of children later diagnosed with autism disorder, attempting to identify early indications of pathology. They found that at one year of age autistic children could already be distinguished from typically developing children (TD): the strongest predictor of future diagnosis was the frequency with which the child made eye contact with others. Similar results were obtained by Woods and Wheterby (2003), who analysed video recordings of two-year-old children, comparing children with autism, mental retardation and neurotypical development. Reduced eye contact can in fact be considered as a warning sign and as a possible precursor of absence of joint attention, an impairment which is typical for ASD (Baron-Cohen et al. 1995). Joint attention is defined as the ability which neurotypical children develop at around 9/12 months for splitting attention between a communicative partner and an external object or event which constitutes the referent of their communicative exchange (Tomasello 1995). Various studies have pointed to the possibility that autistic children have a specific difficulty in developing joint attention in the first year of life (Doehring et al. 1995; Lewy and Dawson 1992; Mundy et al. 1986). Reduced joint attention at this key stage of development can generate a cascade of other issues, including delays in language development, social reciprocity, imitation, and so on (Baron-Cohen et al. 1995). Conversely, being able to follow the gaze of an adult who is naming an object facilitates learning names and assigning them to objects and thus expands vocabulary (Baron-Cohen, Baldwin and Crowson 1997). Early absence of joint attention behaviour during critical phases of development appears to impact negatively on the future competencies of the child. Although many autistic children are able to acquire joint attention skills at a later developmental stage, delayed development of joint attention produces delays in other communication skills.

2.2. Emotional understanding

Individuals with ASD may have problems interpreting the emotional states of their interlocutors. A series of studies indicate that they may experience difficulties: in matching facial expressions of emotion with appropriate gestures, vocalizations and postures; identifying the same emotional expression in different individuals (Hobson, Ouston and Lee 1988); labelling facial expressions of emotion (Davies et al. 1994); matching basic emotions and neutral expressions (Loukusa et al. 2014) and decoding emotions through facial expressions, prosody and verbal content

(Lindner and Rosén 2006). However, the extensive body of literature evaluating autistic capacity for emotion recognition prompted by facial expression provides mixed results. Some empirical studies have shown that adults with ASD fail to react appropriately to some forms of negative emotions (Sigman et al. 1992), while other studies have failed to detect this deficit in emotion recognition or have shown that the impairment is restricted to complex emotions (Golan, Sinai-Gavrilov and Baron-Cohen 2015). Less attention has been paid to the way autistic patients understand and experience emotions during communicative interaction. Understanding the emotional tone in which a phrase is pronounced (both in terms of prosody and in terms of facial expression) is obviously crucial for identifying the sense of that phrase and the communicative intention of the speaker. The available data suggest that even this task can be a challenging one for people with autism. Some studies have shown that autistic children find it hard to match verbally expressed emotions with appropriate facial expressions or with words which refer to emotions (Boucher, Lewis and Collis 1998; Hobson, Ouston and Lee 1988). Rutherford, Baron-Cohen and Wheelwright (2002) evaluated a group of 19 adults with high-functioning ASD to investigate their ability to discern emotional meaning in 40 phrases. The subjects were asked to distinguish between fragments of recorded dialogue which differed in various ways, such as volume and tone of voice. There were significant differences in performance between the autistic group and the control group, suggesting that the ASD group had greater difficulty in discrimination. These results are in line with other studies showing that adults with ASD are able to identify simple mental states such as basic emotions or intentions (i. e. sadness, anger); however, when these simple mental states are presented in an interpersonal experimental setting, the ability of individuals with high functioning ASD to understand and reproduce the same basic mental states appears to be very compromised (Loveland et al. 1997; Angeleri et al. 2016). The difficulty that autistic individuals experience in interpreting emotional cues during interpersonal interaction is related not only to facial expressions but also to the features that signal the emotional tone of the utterance, such as the tone of voice or the linguistic register being used. This is an aspect which has emerged in recent studies of children (Taylor et al. 2015) as well as in adult studies (Baron-Simon, Baldwin and Crowson 1997).

2.3. Gestures

Communicative impairment in individuals with ASD also extends to the domain of gestures used for communicative purposes. The presence of deficits in non-verbal communication in ASD has been widely reported in the clinical literature. Gestural impairment has even been established as a diagnostic measure in some clinical tools, such as the Autistic Diagnostic Observation Schedule (ADOS, Lord et al. 2002) and the Autism Diagnostic Interview (ADI, Lord, Rutter and Le Couteur 1994). The literature of child development generally identifies two fundamental

categories of deictic gestures (pointing) which emerge simultaneously towards the end of the first year: imperative and declarative pointing. Imperative pointing is used to make the adult do something for the child, in order to achieve some end, such as fetching an object for the child. Declarative pointing, on the other hand, is used to direct the adult's attention to some event or object in the environment. Interaction with the adult is here the ultimate goal and the object is used as a means to share experience with the adult (Bates, Camaioni and Volterra 1975). Difficulties in non-verbal communication may appear very early on in childhood; young children with ASD use fewer pointing gestures than their typically developing peers; declarative pointing in particular is usually compromised in children with autism. One study of imperative and declarative pointing (Baron-Cohen 1991) focused on the production and understanding of both types of pointing and found that autistic children have no trouble understanding or producing imperative pointing while they have considerable difficulties with the understanding and production of declarative pointing. Nonetheless, some autistic children do eventually learn declarative pointing, although later than non-autistic children (Camaioni et al. 1997). As we underlined in the introduction above, in cases of ASD it is always important to bear in mind the possibility of future development, in order to distinguish between the cases where pragmatic difficulty remains a stable feature over time and those where it is only a delayed development of basic communicative abilities, as it could be for declarative pointing. However, even when failure to use declarative pointing may in some cases become less conspicuous during the course of development, adults with ASD appear to use this gesture less frequently than controls as an instrument for codifying social interactions. Two studies by Klin et al. (2003; 2002) used eye tracking technology to monitor eye movements of subjects who were watching videos of natural social interactions. They found that the adults with ASD failed to track the proto-declarative gestures and that their attention was directed primarily by the verbal communication cues.

Understanding of *iconic* gestures, or gestures whose function is to describe objects or situations, represents another area of non-verbal communication that is problematic for people with ASDs. Children with ASD show less frequent, less varied and less informative iconic gestures, i. e. gestures depicting semantic content through their form, placement and / or motion (Atwood, Frith and Hermelin 1988; Loveland et al., 1988). They have also been found to display a reduced variety of iconic gestures (Colgan et al. 2006) and to rarely use gestures spontaneously, even though they are able to produce gestures when they are explicitly requested to do so (Luyster, Lopez and Lord 2007). Sowden, Clegg and Perkins (2013) conducted a longitudinal survey on 4 young children with ASD. The children were filmed over a period of eight months during the stage of early language development. All participants associated gestures with spoken words or with vocalizations but their gestures rarely provided additional information over and above speech content.

By adolescence, individuals with ASD produce representational gestures with a frequency similar to that of their TD peers, which is consistent with a larger trend of normalization of behavioral differences in ASD from childhood into adolescence (O'Hearn et al. 2011). However, there is also evidence that adolescents with High Functioning Autism (HFA) produce gestures which are more temporally asynchronous with speech. Morett and colleagues (2015) highlighted that improper use of gesture in ASD primarily reflects insufficient use of gesture to supplement meaning conveyed via speech. The cross-modal processing of speech and co-expressive gestures seems impaired in children and adolescents with high functioning ASD, as revealed by their eye movements in an eye-tracking study (Silverman et al. 2010). Another study by De Marchena and Eigsti (2010) involved 15 adolescents with high functioning ASD and a group of matched typically developing controls who were requested to complete a narrative task. Naïve external observers were asked to rate the story telling for communicative qualities. Overall, the stories told by the ASD group were judged to be less engaging and less clear than those of the control group and although the gesture count of the adolescents with ASD was similar to that of the TD group, their gestures were less closely synchronized and less clearly linked to the narrative content.

3. Verbal pragmatic impairments

3.1. Deictic expressions

Another difficulty frequently associated with pragmatic impairments in autism concerns the correct use of deictic expressions. By *deictic expressions* we mean those terms of an utterance which refer to the spatio-temporal context or to the agents involved here and now in the communication, terms which can be disambiguated only within the context of the conversation itself. An example of deictic expression can be: *Hand me that book **there***, in which the adverb *there* acquires meaning only through the spatial context of the interaction. In general, deixis is expressed by demonstrative adjectives (such as *this* and *that*), by adverbs of time and place (such as *now*, *yesterday*, *here*, *there*) and by verb tense. Some experimental studies have indicated that children and adults with ASD may find it difficult to use these expressions correctly. Studies of narrative development in children with autism confirm difficulties in using pragmatic markers of time and space (Bruner and Feldman 1993; Loveland and Tunali 1993) and that these difficulties are more pronounced in ASD than in children with specific speech and language disorders (Baltaxe and D'Angiola 1992). Similar results have been obtained in a study of adults with high functioning autism or Asperger Syndrome (AS). Both Asperger's Syndrome and High Functioning Autism are considered more mild than other levels of disability on the autism spectrum. The individuals with these diag-

noses produced significantly fewer referential expressions during a story telling task (temporal expressions and anaphoric pronouns) than the neurotypical control group (Colle et al. 2008).

3.2. Turn-taking and structuring conversations

In Dobbinson, Perkins and Boucher (1998) the authors provide a qualitative analysis of the structure of a conversation held with a 28-year-old woman with ASD. The aim was to discover why conversational exchanges with autistic individuals are often described by non-autistic persons as unsatisfactory. There are multiple reasons for finding it difficult to engage in conversation with autistic individuals. In the first place, the topics proposed tend to be repetitive and limited and are generally restricted to the favourite topics and often very circumscribed special interests that are typical for this diagnosis. Special interests marked by unusual intensity and focus are in fact one of the clinical characteristics that define autism spectrum disorder (DSM-5, American Psychiatric Association 2013). This usually has the effect of creating a one-directional monologue rather than an interpersonal interchange, and moreover transitioning between topics does not generally follow the usual conversational conventions but takes place in an abrupt and one-sided manner. In general, individuals with ASD find it difficult to select conversation topics that are both appropriate to the situation and congenial to their dialogue partners (Paul et al. 2009). In their study, Paul et al. also assess *turn-taking* and *pauses* between turns. Numerous *superimpositions* of turn-taking were observed and there were almost no pauses between one turn and another, which indicates that these skills are problematic for autistic individuals. On the other hand, the opposite phenomenon was also observed, some pauses being excessively lengthy. What happens in conversations with a person with ASD is that he or she frequently takes their turn to speak too soon or too late, which leads to superimposing one turn on another. This would be in line with the observations of Thurber and Tager-Flusberg (1993): due to poor management of pauses, turn-taking is disrupted and unsynchronized. Problems with following the normal flow of turn-taking appear to be a lifetime characteristic of individuals with ASD. In one recent study, Choi and Lee (2013), a sample of 12 children with autism (age range from 7 – 12 years old) was compared with a matching sample of neurotypical children to test capacity for turn-taking and topic management during conversations. The results showed significant differences in both areas.

Another apparently problematic aspect of conversation for individuals with autism is related to small talk, or constructing open-ended conversational exchanges based on chatting without clear-cut aims or objectives. Across the autistic spectrum, individuals typically find it difficult to initiate and sustain a conversation which is appropriate for the context of the interaction and adapted to the interests of the dialogue partner (Jones and Schwartz 2009; Paul et al. 2009). The study

by Jones and Schwartz compared family interactions of children with autism with those of neurotypical children; traditional dinner time conversations were filmed and subsequently coded. The comparison showed that children with ASD made fewer comments, were less likely to continue conversations in progress, were involved in fewer turn-taking exchanges and gave fewer replies to other family members. Further, children with autism tend to bring conversations to an abrupt conclusion (Rubin and Lennon 2004). Using turn-taking to intervene in an ongoing conversation appears to be particularly challenging and switching topic in accordance with the inclinations of the dialogue partner is also problematic (Paul et al. 2009). Interestingly, Paul et al. examined conversations of individuals with autism, with Asperger's Syndrome and with Pervasive Developmental Disorder and found further differences within the spectrum between subjects with Asperger's Syndrome and autistic individuals: the latter found it hard to determine which topics and what information should be chosen in a *cooperative* manner adequate to all participants in the conversation. For example, during conversations individuals with autism were less likely to pick up the verbal signals indicating the end of a turn, due partly to their poor synchronization of pauses between turns, as discussed above. Low sensitivity to signals from the dialogue partner indicating the rhythm and the appropriateness of the interpersonal exchange appears to be a fundamental element in the pragmatic difficulties of autistic individuals. In the same way as turn-taking, both topic management and conversational rhythm require sensitivity to the context of the interaction: in other words, appropriate reading of the contextual elements, such as signs of engagement or disengagement on the part of the interlocutor, information already provided or emerging in the course of the conversation, and so on.

3.3. Prosody

One difficulty frequently reported on in the research literature as characteristic for the autism spectrum concerns tone of voice. This difficulty can involve various different aspects: there can be an extremely wide range of intonation or an unusually limited range (Baltaxe, Simmons and Zee 1984); problems with timbre and volume control; inconsistency in the way accentuation is used for emphasis (Schriberg et al. 2001). These features taken together constitute a sort of "vocal presentation" that is typical for people on the autism spectrum, both high functioning and lower functioning, and can produce an eccentric impression in communicative exchanges with others.

A further prosodic difficulty in autism is related to pauses in conversation: the brief breaks that occur during conversational turn-taking and also within one person's speech, which are normally signalled by prosodic markers. People with ASD make very little use of so-called non-grammatical pauses, generally employed to give the speaker time to reflect on the most appropriate lexical option (Thurber and

Tager-Flusberg 1993). On a pragmatic level, these pauses are relevant if they indicate cognitive processing rather than the end of one person's turn in a conversation, and in this case the dialogue partner will wait until the person speaking has finished what he has to say. Thurber and Tager-Flusberg, and later Dobbins, Perkins and Boucher (1998), observed that individuals with autism do not synchronize pauses between conversational turn-taking and that as a result their speech can appear synopated and uneven. Comparing with control groups, other studies have also shown that individuals with autism give the same prosodic emphasis to new information as to information already provided in the course of the conversation, and without any differentiation whatsoever (McCaleb and Prizant 1985). One study by Peppé et al. (2007) assessed prosodic difficulties in autism not only in terms of ability to produce utterances with correct intonation but also in terms of ability to comprehend utterances of others when differentiated by a variety of prosodic markers. The results showed a significant correlation between errors of production and errors of comprehension.

The close relationship between communicative and social difficulties in autism is also evident in another area of pragmatic competence: sensitivity to the context of interaction, to the knowledge shared by the partners in the interaction and therefore to the style of communication, which can be more or less formal depending on the speakers' familiarity with each other. Individuals with autism often adopt a register which is considered excessively formal for the context they are engaged in and this can make them appear peculiar and out of place. Ghaziuddin and Gerstein (1996) found that out of 30 individuals with a diagnosis of high functioning autism or Asperger Syndrome, 17 were unable to select the most appropriate register for a given situation, opting for a formal style even when this was not required. However, this difficulty in selecting the right linguistic style to fit a given communicative context can also manifest itself in the opposite sense; there is anecdotal and clinical evidence that patients with ASD can sometimes come across as discourteous in the way they express their wishes or their needs (see Rutter 1965; Volden 2002). Some studies comparing children with autism and typically developing children point to problems in identifying the most appropriate way to make requests, taking into account the age and degree of relationship with the interlocutor (such as contemporary or adult, friend / acquaintance or stranger (Bates and Silvern 1977). This problem with selecting the correct conversational register seems to affect not only the production by individuals with autism but also their comprehension. Surian, Baron-Cohen and Van der Lely (1996), examined the ability to recognize the rules of politeness in an experimental study which compared a sample of children with autism and a control group of typically developing children. A pair of dolls gave polite or rude answers to questions made by a third doll. One question was *Would you like a piece of my cake?* and the alternative possible responses were *No, thank you* or *No, it's disgusting*. The researchers suggested to the participants in the experiment that the doll could have given answers that were either normal or "silly", implying that the "silly" responses

were rude. Children with ASD were on average less able than the control group to identify the responses that violated the rules of politeness.

Similarly, limited sensitivity to context can be linked to the often pedantic conversational style of individuals with autism, who find it difficult to discriminate relevant from irrelevant information, or to distinguish what is obvious from what is not known to the interlocutor and must be specified if the exchange is to make sense. Since they have diminished awareness of the shared information already at the disposition of the interlocutor, people with autism can be both pedantic, providing superfluous and obvious information, and at the same time vague, since they tend to omit those details which are relevant to the other person involved in the communicative exchange (Baltaxe 1977; Hobson 2012). Volden and colleagues (2007) analysed how autistic children described to a variety of listeners “how you go to the restaurant”. The degree of linguistic competence of the listeners was variable (for example, some were native speakers and others not). Typically developing children tended to adopt a variety of different strategies at different levels in order to simplify their language: on the lexical level, they selected easy, everyday words; on the syntactic level, they opted for coordinated complete sentences rather than subordinate clauses and on a gestural level they employed illustrative gestures. The study showed that although the children with autism managed to simplify their language in interaction with a listener of lower linguistic competence, they were significantly less competent at this task than the children of the control group (Volden and Sorenson 2009).

Lack of sensitivity to the social context has also been studied in the field of theory of mind (ToM), with a focus on recognition of situations that could be characterized as *gaffes*, or *faux pas*. Baron-Cohen and colleagues (1999) formulated an experimental test on detecting faux pas as an advanced test for theory of mind. One example: a scientist named Steve is travelling by plane together with his wife. Suddenly, another scientist seated in the row behind taps him on the shoulder. Steve looks round, recognizes him and exclaims, *Hi! Good to see you again! Let me introduce my wife, Betsy. Betsy, this is Jeffrey, an old friend of mine from Harvard days.* Betsy: *Oh, hi, Jeffrey, pleased to meet you.* The other man replies, *Er, my name isn't Jeffrey, it's Mike.* According to the authors, in order to recognize this type of situation as a *gaffe* or *faux pas*, a person must be able to appreciate both that there may be a difference between a speaker's knowledge state and that of a listener and that there may be an emotional impact on the listener who realizes this. In this study children with high functioning autism were unable to recognize that an embarrassing interaction had taken place between the two interlocutors. In another study conducted by Zalla et al. (2009) with a sample of adults with Asperger Syndrome, the same problem emerged on a more subtle level. Although the subjects with Asperger Syndrome managed to recognize that “something strange was said or done” in the story, they were unable to provide plausible explanations in terms of motives and intentions of the persons involved in the conversation.

3.4. Inferred meaning

One of the fundamental characteristics of communicative difficulty in high functioning autism involves the more complex pragmatic phenomena: that is, those situations in which there is a mismatch between the speaker's communicative intention and the content she/he expresses or where the content does not correspond to the literal meaning expressed. The prototypical examples for these indirect expressions are metaphorical or ironical statements. People with high functioning autism can accurately convey and understand simple and direct communicative intentions, unlike individuals with more severe forms of autism, who present more profound linguistic and cognitive deficits. In the case of high functioning autism, one of the most important communicative difficulties relates to inability to read between the lines of communicative exchanges, or in other words to understand the speaker's intention when it does not correspond to the literal meaning of her/his statements. Difficulties in understanding non-literal aspects of communication are manifested in a variety of ways in autistic individuals and these difficulties are compounded by the fact that there are a great many forms of communication which are non-literal: irony, humour, metaphorical expressions, pragmatic inferences (presuppositions and pragmatic implications). This is an area of communication where even high functioning autistic individuals and people with Asperger Syndrome are to a greater or lesser degree in difficulty (Jolliffe and Baron-Cohen 1999). Particularly where these advanced pragmatic abilities are concerned, interpretation of deficits can be complicated by the role that in each individual can have various compensatory strategies, such as learning by heart some typical ironic expression. Paradoxically, Ozonoff and Miller (1996) found that autistic individuals were more non-literal in their interpretations of indirect requests than the control group.

3.5. Irony and humour

Irony is held to be one of most complex pragmatic phenomena. Irony implies the use of words to express something other than and frequently opposite to a literal meaning and it is commonly used and effortlessly understood in everyday conversations. Detecting irony, however, actually involves quite complex mental representations, since the listener is required to understand not only that the speaker does not mean exactly what she / he said, but also that she / he does not expect to be understood literally. The ability to understand intended meanings behind ironic remarks generally emerges between 7 and 8 years of age (Demorest et al. 1984; Winner and Leekam 1991). Several early childhood studies have shown that children with high functioning ASD have significant difficulties in understanding forms of irony (Happé 1993); difficulties which appear to persist into adult life, when individuals with high-functioning ASD may correctly detect irony in a laboratory setting (Happé 1993) but may nonetheless find it hard to explain what prompted their cor-

rect responses. They also have difficulties in using and understanding irony in their everyday lives (Leekam and Prior 1994), difficulties that have been attributed to impaired theory of mind (Happé 1995). Impaired theory of mind skills could lead to a partial or inaccurate attribution of the speaker's beliefs and intent, resulting in misinterpretation of ironic language. However, the various experimental assessments of the ability of autistic subjects to comprehend and engage in ironic or more generally humorous communication have produced inconsistent data. There is still little agreement about the ways in which individuals with autism understand and employ humour. This is due to the variety of different stimuli used in the studies and further complicated by the fact that this ability may change in the course of the developmental trajectory. Some studies suggest that autistic individuals are able to appreciate humour, particularly more simple, slapstick style humour (Van Bourgondien and Mesibov 1987), and that they show a preference for pictorial jokes over verbal jokes (Emerich et al. 2003). Their problems with comprehension of verbal humour appear to be connected with prosodic or paralinguistic aspects. Wang et al. (2006) found significant differences in the way in which children with ASD use prosodic and contextual cues to interpret irony, at both the behavioural and neural levels. Despite performing at above chance levels, children with ASD were less accurate than TD children in detecting the communicative intent behind a speaker's remark overall and particularly in conditions where the outcome of the event strongly indicated a non-literal interpretation.

One recent study explored whether young people with ASD have a preferred specific style of understanding and producing humour. Wu et al. (2014) used two questionnaires: one focusing on comprehension and appreciation of jokes based either on nonsense or on an incongruity / resolution structure. The results showed that students with autism did not comprehend the nonsense jokes and incongruity / resolution jokes similar to control students, but they experienced greater enjoyment when reading nonsense jokes. The students with autism preferred nonsense jokes which featured less logical reasoning and which played on the ambiguity generated by homophones.

The second questionnaire evaluated use of different styles of humour: 1) affiliative humour; 2) self-incentivizing or self-enhancing humour; 3) aggressive humour; 4) self-defeating humour. The first two are positive humour styles, whereas the latter two are negative style humour. The use of affiliative, self-ironic and self-defeating humour was less common among the students with autism, who inclined mainly towards an aggressive style of humour. Another study, by Samson, Huber and Ruch (2013) also found a preference for the use of negative and sarcastic irony.

Difficulty in producing irony and humour was found also in a study by Ozonoff and Miller (1996) which showed that adults with autism had more trouble finding suitable endings for jokes than for serious stories. Participants were asked to listen to recordings of brief jokes whose endings had been deleted; they were then presented with a selection of positive endings to complete the jokes and requested to

select the funniest options. These alternative endings could belong to one of five types: 1) coherent with the rest of the story but surprising, and therefore funny; 2) coherent but not surprising, and therefore not funny; 3) not coherent but surprising and funny; 4) not coherent, surprising but not funny, since touching on a theme which was related to but tangential to the focus of the joke; 5) surprising, but not funny, not coherent and quite irrelevant to the story. The autistic subjects selected mainly type 2 and 3 endings, performing at a significantly lower level than the control group. These results appear to confirm that adults with ASD retain a basic capacity for certain less complex forms of humorous communication that do not involve the pragmatic inferences typically associated with ironic narrative (Lyons and Fitzgerald 2004).

3.6. Figurative language

A further phenomenon that has been studied in relation to autism is understanding of metaphor. Various studies have highlighted that patients with ASDs do not immediately access the implicit meanings of metaphorical expressions but remain focused on the literal sense, which is often meaningless. In one such study, Minshew and colleagues (1995) tested individuals with ASD on the Test of Language Competence. Results showed that the ASD group performed at a significantly lower level than that of the IQ matched TD controls on subtests evaluating ability to draw inferences and to process metaphoric expressions.

In a study by Dennis et al. (2001), individuals with ASD were presented with an idiomatic expression, such as *I have butterflies in my stomach*, followed by a description of a number of situations, only one of which was considered to provide a suitable context for the use of the metaphor. In this case the correct context was “This is what a girl said about her first day at school”. The participants in the study were requested to identify the most suitable context for figurative expression. Results showed that the ASD group had significant difficulty recognizing an appropriate context, indicating difficulty in understanding the implicit meaning of the figurative expression. For a more fine-grained understanding of the specific difficulties faced by individuals with ASD, it may be helpful to consider in greater detail a descriptive study carried out by Melogno et al. (2012). This study involved two children with ASD who were tested on a metaphor comprehension test. The test was made up of 25 items consisting of metaphors drawn in large part from the spontaneous speech of typically developing children between the ages of 4 and 6 years old. The researchers presented 12 metaphors in sentences taken out of context and 13 metaphors embedded in the context of brief stories, alerting the children to the fact that some words might have been “used in slightly odd ways”. The test departs from the premise that metaphors represent the effect of a semantic incongruity which is due to the fact that the usual meanings of the two component words belong to very different domains: it is the linking of these

diverse domains that gives rise to the incongruity. For example, in the phrase, *The moon is a light bulb*, the moon belongs to the domain of heavenly bodies and the light bulb belongs to the domain of electrical appliances. This study lists the various possible ways of dealing with this semantic incongruity, at different levels of processing. At the most elementary level, (0), the conflict can simply be ignored, but in different ways:

- a) Negation: The association is denied since it is considered invalid. "That's not true: the moon isn't a light bulb. That's a lie."
- b) Evasion: "I don't know."
- c) Partial focalization: focus on only one of the two words. "The moon is big"; "The light bulb is small."
- d) Magical interpretation: some other-worldly power has transformed one object into the other: "There was a fairy who used her magic wand to change the moon into a light bulb."
- e) Metonymic interpretation: the meanings of the words are linked through spatial or temporal contiguity: "If you look at them closely, one beside the other, in my bedroom there is a drawing of a moon on the light bulb."

At the intermediate level, (1), the semantic conflict is acknowledged and reformulated in a plausible manner: the connection between the two terms is justified on the basis of a common ground made up of perceptual or functional characteristics. For example: "Both give us light", "The moon is yellow and the light bulb is too".

At the highest level, (2), the syntheses carried out at the lower levels are elaborated further, taking into account both the differences and the similarities between the two terms: "This means that the moon gives us light just like the light bulb, but the light bulb shines in the daytime too and the moon only shines at night." "Because the moon shines in the night time. The moon is a light bulb because it gives light but it looks like a segment of a mandarin because it has the same shape and colour; it's almost like a light bulb but the light bulb works by electricity and the moon doesn't." The answers given by the two participants with ASD were only at levels 0 and 1.

MacKay and Shaw (2004) compared ASD and TD performance on a task using brief, simple stories encompassing irony, metonymy, rhetorical questions, litotes, hyperbole and indirect requests. At the end of each story, participants were asked "What does X mean by Y?". In all six categories of figurative language the control group performed more successfully than the group with ASD. The results also showed that many participants in the ASD group could not recognize a speaker's intentionality, although the potential relationship between pragmatic performance and theory of mind abilities was not explored quantitatively. This relationship has been measured in another study by Happé (1993) using a sentence completion task, Happé found that the performance of ASD participants who had failed on a

ToM task were significantly worst in metaphor understanding. Happé concluded that ToM abilities are a prerequisite for understanding different kinds of figurative language such as metaphor and irony.

A study by Rundblad and Annaz (2010), aimed to investigate the development of ability to understand metaphor and metonymy in children with autistic spectrum disorders. This study used cross-sectional trajectory analysis of children with autism between 5 and 11 years old, examining comprehension of metaphor and metonymy and comparing their development with that of TD controls.

The autistic children's performance on the comprehension task was poor, indicating impaired understanding of both metaphor and metonymy, and this was the case across all age groups. Unlike the group of TD children, whose understanding improved with increasing chronological age, the children with ASD showed no age related enhancement of performance. However, recent research based on experimental and case studies show that specific intervention can enhance metaphor comprehension in children with ASD (Persicke et al. 2012; Melogno, Pinto and Orsolini 2017)

4. Conclusion

The aim of the present chapter was to investigate communicative skills and impairments in patients with ASD in a wide range of verbal and non-verbal communicative phenomena. These capacities were described towards life span, to demonstrate the importance of longitudinal analysis of pragmatic capacities across the autism spectrum, in order to understand which aspects must be considered permanently impaired and vice versa which aspects are simply delayed in relation to typical development.

People with high functioning autism can accurately convey and understand simple and direct communicative intentions, unlike individuals with more severe forms of autism, who present more profound linguistic and cognitive deficits. However, difficulties in understanding non-literal aspects of communication are manifested in many forms of communication: irony, humour, metaphorical expressions, pragmatic inferences (presuppositions and pragmatic implications). These difficulties seem remain stable impaired features over time in children and adolescents with high functioning ASD. Individuals with ASD also find it difficult to select conversation topics that are both appropriate to the situation and congenial to their dialogue partners. Limited sensitivity to context can be linked to the often pedantic conversational style of individuals with autism, who find it difficult to discriminate relevant from irrelevant information. This difficulty can involve also prosody.

References

- American Psychiatric Association
 2013 *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*. Washington: American Psychiatric Association.
- Angeleri, Romina, Ilaria Gabbatore, Francesca M. Bosco, Katuscia Sacco and Livia Colle
 2016 Pragmatic abilities in children and adolescents with Autism Spectrum Disorder: A study with the ABaCo battery. *Minerva Psychiatrica* 57(3): 93–103.
- Attwood, Anthony, Uta Frith and Beate Hermelin
 1988 The understanding and use of interpersonal gestures by autistic and Down's syndrome children. *Journal of Autism and Developmental Disorders* 18(2): 241–257.
- Baltaxe, Christiane A. M.
 1977 Pragmatic deficits in the language of autistic adolescents. *Journal of Pediatric Psychology* 2(4): 176–180.
- Baltaxe, Christiane A. M. and Nora D'Angiola
 1992 Cohesion in the discourse interaction of autistic, specifically language-impaired, and normal children. *Journal of Autism and Developmental Disorders* 22(1): 1–21.
- Baltaxe, Christiane A. M., James Q. Simmons III and Eric Zee
 1984 Intonation patterns in normal, autistic and aphasic children. In: Antonie Cohen and M. P. R. van den Broecke (eds.), *Proceedings of the Tenth International Congress of Phonetic Sciences*, 713–718. Dordrecht: Foris.
- Bara, Bruno G.
 2010 *Cognitive Pragmatics: The Mental Processes of Communication*. Cambridge, MA: MIT Press.
- Baron-Cohen, Simon
 1991 Precursors to a theory of mind: Understanding attention in others. In: Andrew Whiten (ed.), *Natural Theories of Mind: Evolution, Development and Simulation of Everyday Mindreading*, 233–251. Oxford: Blackwell.
- Baron-Cohen, Simon, Dare A. Baldwin and Mary Crowson
 1997 Do children with autism use the speaker's direction of gaze strategy to crack the code of language? *Child Development* 68: 48–57.
- Baron-Cohen, Simon, Ruth Campbell, Annette Karmiloff-Smith, Julia Grant and Jane Walker
 1995 Are children with autism blind to the mentalistic significance of the eyes? *British Journal of Developmental Psychology* 13(4): 379–398.
- Baron-Cohen, Simon, Michelle O'Riordan, Valerie Stone, Rosie Jones and Kate Plaisted
 1999 A new test of social sensitivity: Detection of faux pas in normal children and children with Asperger syndrome. *Journal of Autism and Developmental Disorders* 29(5): 407–418.
- Bates, Elizabeth, Laura Benigni, Inge Bretherton, Luigia Camaioni and Virginia Volterra
 1979 Cognition and communication from 9–13 months: Correlational findings. In: E Bates (ed.), *The Emergence of Symbols: Cognition and Communication in Infancy*, 69–140. New York: Academic Press.

- Bates, Elizabeth, Luigia Camaioni and Virginia Volterra
1975 The acquisition of performatives prior to speech. *Merrill-Palmer Quarterly of Behavior and Development* 21: 205–226.
- Bates, Elizabeth and Louise Silvern
1977 Social adjustment and politeness in preschoolers. *Journal of Communication* 27(2): 104–111.
- Boucher, Jill, Virginia Lewis and Glyn M. Collis
1998 Familiar face and voice matching and recognition in children with autism. *Journal of Child Psychology and Psychiatry* 39: 171–181.
- Bruner, Jerome and Carol Feldman
1993 Theory of mind and the problem of autism. In: Simon Baron-Cohen, Helen Tager-Flusberg and Donald J. Cohen (eds.), *Understanding other Minds*, 267–291. Oxford: Oxford University Press.
- Camaioni, Luigia, Paola Perucchini, Filippo Muratori and Annarita Milone
1997 Brief report: A longitudinal examination of the communicative gestures deficit in young children with autism. *Journal of Autism and Developmental Disorders* 27(6): 715–725.
- Choi, Jieun and Yoonkyoung Lee
2013 Conversational turn-taking and topic manipulation skills of children with high-functioning Autism Spectrum Disorders. *Communication Sciences and Disorders* 18(1): 12–23.
- Colgan, Siobhan E., Elizabeth Lanter, Cara McComish, Linda R. Watson, Elizabeth R. Crais and Grace T. Baranek
2006 Analysis of social interaction gestures in infants with autism. *Child Neuropsychology* 12(4–5): 307–319.
- Colle, Livia, Simon Baron-Cohen, Sally Wheelwright and Heather K. J. van der Lely
2008 Narrative discourse in adults with high-functioning autism or Asperger Syndrome. *Journal of Autism and Developmental Disorder* 38(1): 28–40.
- Davies, Susan, Dorothy Bishop, Antony Manstead and Digby Tantam
1994 Face perception in children with autism and Asperger's syndrome. *Journal of Child Psychology and Psychiatry* 35(6): 1033–1057.
- De Marchena, A. Brooke and Inge-Marie Eigsti
2010 Conversational gestures in autism spectrum disorders: Asynchrony but not decreased frequency. *Autism Research* 3(6): 311–322.
- Demorest, Amy, Christine Meyer, Erin Phelps, Howard Gardner and Ellen Winner
1984 Words speak louder than actions: Understanding deliberately false remarks. *Child Development* 55: 1527–1534.
- Dennis, Maureen, Anne L. Lazenby and Linda Lockyer
2001 Inferential language in high-function children with autism. *Journal of Autism and Developmental Disorders* 31(1): 47–54.
- Dobbinson, Sushie, Michael R. Perkins and Jill Boucher
1998 Structural patterns in conversations with a woman who has autism. *Journal of Communication Disorders* 31(2): 113–133.
- Doehring, Peter, S. Benaroya, C. Klaiman and C. Scuccimarri
1995 Using joint attention, play and imitation skills in the differential diagnosis of young children with autism and with developmental disorders. *Conference of the Society for Research in Child Development*, Indianapolis, IN.

- Eales, Martin J.
 1993 Pragmatic impairments in adults with childhood diagnoses of autism or developmental receptive language disorder. *Journal of Autism and Developmental Disorders* 23(4): 593–617.
- Emerich, David M., Nancy A. Creaghead, Sandra Grether, Donna S. Murray and Carol Grasha
 2003 The comprehension of humorous materials by adolescents with high-functioning autism and Asperger's syndrome. *Journal of Autism and Developmental Disorders* 33(3): 253–257.
- Ghaziuddin, Mohammad and Leonore Gerstein
 1996 Pedantic speaking style differentiates Asperger syndrome from high-functioning autism. *Journal of Autism and Developmental Disorders* 26(6): 585–595.
- Golan, Ofer, Yana Sinai-Gavrilov and Simon Baron-Cohen
 2015 The Cambridge Mindreading Face-Voice Battery for Children (CAM-C): Complex emotion recognition in children with and without autism spectrum conditions. *Molecular Autism* 6(22): 1–9.
- Happé, Francesca
 1993 Communicative competence and theory of mind in autism: A test of relevance theory. *Cognition* 48: 101–19.
- Happé, Francesca
 1995 The role of age and verbal ability in the theory of mind task performance of subjects with autism. *Child Development* 66(3): 843–855.
- Hobson, R. Peter
 2012 Autism, literal language and concrete thinking: Some developmental considerations. *Metaphor and Symbol* 27(1): 4–21.
- Hobson, R. Peter, Janet Ouston and Anthony Lee
 1988 Emotion recognition in autism: Coordinating faces and voices. *Psychological Medicine* 18: 911–923.
- Jolliffe, Therese and Simon Baron-Cohen
 1999 A test of central coherence theory: Linguistic processing in high-functioning adults with autism or Asperger syndrome: Is local coherence impaired? *Cognition* 71(2): 149–185.
- Jones, Christopher D. and Ilene S. Schwartz
 2009 When asking questions is not enough: An observational study of social communication differences in high functioning children with autism. *Journal of Autism and Developmental Disorders* 39(3): 432–443.
- Kanner, Leo
 1943 Autistic disturbances of affective contact. *Nervous Child: Journal of Psychopathology, Psychotherapy, Mental Hygiene, and Guidance of the Child* 2: 217–50. Reprinted in Kanner, Leo
 1973 *Childhood Psychosis: Initial Studies and New Insights*. New York: Wiley.
- Klin, Ami, Warren Jones, Robert Schultz, Fred Volkmar and Donald Cohen
 2002 Visual fixation patterns during viewing of naturalistic social situations as predictors of social competence in individuals with autism. *Archives of General Psychiatry* 59: 809–816.
- Klin, Ami, Warren Jones, Robert Schultz, Fred Volkmar and Donald Cohen
 2003 The enactive mind, or from actions to cognition: Lessons from autism. *Phil-*

osophical Transactions of the Royal Society of London Series B – Biological Sciences 358(1430): 345–360.

- Leekam, Susan and Margot Prior
 1994 Can autistic children distinguish lies from jokes? A second look at second-order belief attribution. *Journal of Child Psychology and Psychiatry* 35: 901–915.
- Lewy, Arthur L. and Geraldine Dawson
 1992 Social stimulation and joint attention in young autistic children. *Journal of Abnormal Child Psychology* 20(6): 555–566.
- Lindner, Jennifer L. and Lee A. Rosén
 2006 Decoding of emotion through facial expression, prosody and verbal content in children and adolescents with Asperger’s syndrome. *Journal of Autism and Developmental Disorders* 36(6): 769–777.
- Lord, Catherine, Michael Rutter, Pamela DiLavore, Susan Risi
 2002 *Autism Diagnostic Observation Schedule (ADOS)*. Los Angeles, CA: Western Psychological Services.
- Lord, Catherine, Michael Rutter and Ann Le Couteur
 1994 Autism Diagnostic Interview-Revised: A revised version of a diagnostic interview for caregivers of individuals with possible pervasive developmental disorders. *Journal of Autism and Developmental Disorders* 24(5): 659–685.
- Loukusa, Soile, Leena Mäkinen, Sanna Kuusikko-Gauffin, Hanna Ebeling and Irma Moilanen
 2014 Theory of mind and emotion recognition skills in children with specific language impairment, autism spectrum disorder and typical development: Group differences and connection to knowledge of grammatical morphology, word-finding abilities and verbal working memory. *International Journal of Language and Communication Disorders* 49(4): 498–507.
- Loveland, Katherine A., Susan H. Landry, Sheryl O. Hughes, Sharon K. Hall and Robin E. McEvoy
 1988 Speech acts and the pragmatic deficits of autism. *Journal of Speech, Language, and Hearing Research* 31(4): 593–604.
- Loveland, Katherine A., Robin E. McEvoy, Belgin Tunali and Michelle L. Kelley
 1990 Narrative story telling in autism and Down’s syndrome. *British Journal of Developmental Psychology* 8(1): 9–23.
- Loveland, Katherine A. and Belgin Tunali
 1993 Narrative language in autism and the theory of mind hypothesis: A wider perspective. In: Simon Baron-Cohen, Helen Tager-Flusberg and Donald J. Cohen (eds.), *Understanding other minds*, 247–266. Oxford: Oxford University Press.
- Loveland, Katherine A., Belgin Tunali-Kotoski, Y. Richard Chen, Juliana Ortégón, Deborah A. Pearson, Kristin A. Brelsford and M. Cullen Gibbs
 1997 Emotion recognition in autism: Verbal and nonverbal information. *Development and Psychopathology* 9(03): 579–593.
- Luyster, Rhiannon, Kristina Lopez and Catherine Lord
 2007 Characterizing communicative development in children referred for autism spectrum disorders using the MacArthur-Bates Communicative Development Inventory (CDI). *Journal of Child Language* 34(3): 623–654.

- Lyons, Viktoria and Michael Fitzgerald
2004 Humor in autism and Asperger syndrome. *Journal of Autism and Developmental Disorders* 34(5): 521–531.
- MacKay, Gilbert and Adrienne Shaw
2004 A comparative study of figurative language in children with autistic spectrum disorders. *Child Language Teaching and Therapy* 20(1): 13–32.
- McCaleb, Peggy and Barry Prizant
1985 Encoding of new versus old information by autistic children. *Journal of Speech and Hearing Disorders* 50: 230–240.
- Melogno, Sergio, Caterina D’Ardia, Maria Pinto and Gabriel Levi
2012 Metaphor comprehension in autistic spectrum disorders: Case studies of two high-functioning children. *Child Language Teaching and Therapy* 28(2): 177–188.
- Melogno, Sergio, Maria Pinto and Margherita Orsolini
2017 Novel metaphors comprehension in a child with high-functioning autism spectrum disorder: A study on assessment and treatment. *Frontiers in Psychology* 7: 1–8.
- Minshew, Nancy, Gerald Goldstein and Don J. Siegel
1995 Speech and language in high-functioning autistic individuals. *Neuropsychology* 9(2): 255–261.
- Morett, Laura M., Kirsten O’Hearn, Beatriz Luna and Avniel Ghuman
2015 Altered gesture and speech production in ASD detract from in-person communicative quality. *Journal of Autism and Developmental Disorders* 46(3): 998–1012.
- Morris, Charles
1938 Foundations of the Theory of Signs. In: Otto Neurath, Rudolf Carnap and Charles Morris (eds.), *International Encyclopedia of Unified Science*, 77–138. Chicago: Chicago University Press.
- Mundy, Peter, Marian Sigman, Judy Ungerer and Tracy Sherman
1986 Defining the social deficits of autism: The contribution of non-verbal communication measures. *Journal of Child Psychology and Psychiatry* 27(5): 657–669.
- O’Hearn, Kirsten, Laura Lakusta, Elizabeth Schroer, Nancy Minshew and Beatriz Luna
2011 Deficits in adults with autism spectrum disorders when processing multiple objects in dynamic scenes. *Autism Research* 4(2): 132–142.
- Osterling, Julie and Geraldine Dawson
1994 Early recognition of children with autism: A study of first birthday home videotapes. *Journal of Autism and Developmental Disorders* 24(3): 247–257.
- Ozonoff, Sally and Judith N. Miller
1996 An exploration of right-hemisphere contributions to the pragmatic impairments of autism. *Brain and Language* 52(3): 411–434.
- Paul, Rhea, Stephanie M. Orlovski, Hilary C. Marcinko and Fred Volkmar
2009 Conversational behaviors in youth with high-functioning ASD and Asperger syndrome. *Journal of Autism and Developmental Disorders* 39(1): 115–125.
- Peppé, Susan, Joanne McCann, Fiona Gibbon, Anne O’Hare and Marion Rutherford
2007 Receptive and expressive prosodic ability in children with high-functioning autism. *Journal of Speech, Language and Hearing Research* 50: 1015–1028.

- Persicke, Angela, Jonathan Tarbox, Jennifer Ranick and Megan St. Clair
2012 Establishing metaphorical reasoning in children with autism. *Research in Autism Spectrum Disorders* 6: 913–920.
- Rubin, Emily and Laurie Lennon
2004 Challenges in social communication in Asperger syndrome and high-functioning autism. *Topics in Language Disorders* 24(4): 271–285.
- Rundblad, Gabriella and Dagmara Annaz
2010 The atypical development of metaphor and metonymy comprehension in children with autism. *Autism* 14(1): 29–46.
- Rutherford, Mel D., Simon Baron-Cohen and Sally Wheelwright
2002 Reading the mind in the voice: A study with normal adults and adults with Asperger syndrome and high functioning autism. *Journal of Autism and Developmental Disorders* 32(3): 189–194.
- Rutter, Michael
1965 Classification and categorization in child psychiatry. *Journal of Child Psychology and Psychiatry* 6(2): 71–83.
- Samson, Andrea C., Oswald Huber and Willibald Ruch
2013 Seven decades after Hans Asperger's observations: A comprehensive study of humor in individuals with Autism Spectrum Disorders. *Humor* 26(3): 441–460.
- Sigman, Marian D., Connie Kasari, Jung-Hye Kwon and Nurit Yirmiya
1992 Responses to the negative emotions of others by autistic, mentally retarded, and normal children. *Child Development* 63(4): 796–807.
- Silverman, Laura B., Loisa Bennetto, Ellen Campana and Michael K. Tanenhaus
2010 Speech-and-gesture integration in high functioning autism. *Cognition* 115(3): 380–393.
- Sowden, Hannah, Judy Clegg and Michael Perkins
2013 The development of co-speech gesture in the communication of children with autism spectrum disorders. *Clinical Linguistics and Phonetics* 27(12): 922–939.
- Surian, Luca, Simon Baron-Cohen and Heather K. J. van der Lely
1996 Are children with autism deaf to Gricean maxims? *Cognitive Neuropsychiatry* 1(1): 55–71.
- Tager-Flusberg, Helen and Michael Anderson
1991 The development of contingent discourse ability in autistic children. *Journal of Child Psychology and Psychiatry* 32(7): 1123–1134.
- Taylor, Lauren J., Murray T. Maybery, Luke Grayndler and Andrew J. O. Whitehouse
2015 Evidence for shared deficits in identifying emotions from faces and from voices in autism spectrum disorders and specific language impairment. *International Journal of Language and Communication Disorders* 50(4): 452–466.
- Thurber, Christopher and Helen Tager-Flusberg
1993 Pauses in the narrative produced by autistic, mentally retarded, and normal children as an index of cognitive demand. *Journal of Autism and Developmental Disorders* 23: 309–322.
- Tomasello, Michael
1995 Joint attention as social cognition. In: Chris Moore and Philip J. Dunham

- (eds.), *Joint Attention: Its Origins and Role in Development*, 103–130. New York: Erlbaum.
- Van Bourgondien, Mary E. and Gary B. Mesibov
1987 Humor in high-functioning autistic adults. *Journal of Autism and Developmental Disorders* 17(3): 417–424.
- Volden, Joanne
2002 Features leading to judgments of inappropriacy in the language of speakers with autism: A preliminary study. *Journal of Speech-Language Pathology and Audiology* 26(3): 138–146.
- Volden, Joanne, Joyce Magill-Evans, Keith Goulden and Margaret Clarke
2007 Varying language register according to listener needs in speakers with autism spectrum disorder. *Journal of Autism and Developmental Disorders* 37(6): 1139–1154.
- Volden, Joanne and Autumn Sorenson
2009 Bossy and nice requests: Varying language register in speakers with autism spectrum disorder (ASD). *Journal of Communication Disorders* 42(1): 58–73.
- Wang, A. Ting, Susan S. Lee, Marian Sigman and Mirella Dapretto
2006 Neural basis of irony comprehension in children with autism: The role of prosody and context. *Brain* 129(4): 932–943.
- Wetherby, Amy M.
1986 Ontogeny of communicative functions in autism. *Journal of Autism and Developmental Disorders* 16(3): 295–316.
- Winner, Ellen and Sue R. Leekam
1991 Distinguishing irony from deception: Understanding the speaker's second-order intention. *British Journal of Developmental Psychology* 9(2): 257–270.
- Woods, Juliann and Amy Wetherby
2003 Early identification of and intervention for infants and toddlers who are at risk for autism spectrum disorder. *Language, Speech, and Hearing Services in Schools* 34(3): 180–193.
- Wu, Ching-Lin, Lei-Pin Tseng, Chih-Pei An, Hsueh-Chih Chen, Yu-Chen Chan, Chen-I Shih and Shu-Ling Zhuo
2014 Do individuals with autism lack a sense of humor? A study of humor comprehension, appreciation, and styles among high school students with autism. *Research in Autism Spectrum Disorders* 8(10): 1386–1393.
- Zalla, Tiziana, Anca-Maria Sav, Astrid Stopin, Sabrina Ahade and Marion Leboyer
2009 Faux pas detection and intentional action in Asperger Syndrome: A replication on a French sample. *Journal of Autism and Developmental Disorders* 39(2): 373–382.

19. Pragmatic competence in Down syndrome

Susan H. Foster-Cohen and Anne K. van Bysterveldt

Abstract: Pragmatic competence in individuals with Down syndrome is highly variable involving complex interactions between genetic and environmental influences that result in a wide spectrum of abilities and challenges. In this chapter we focus on the development of pragmatics in young children with Down syndrome, exploring the complex interrelationships among sensorimotor, social, linguistic and cognitive challenges that generate and influence the emergence of pragmatic skills. We take the approach that individuals' responses to those challenges, including the resources available for communication, the selection from among those resources, and the compensation for the challenges inherent in the syndrome are reflected in how individuals present and interlocutors respond pragmatically. This approach allows the understanding of phenotypic considerations while respecting the individuals' unique presentation within this multi-layered and complex syndrome.

1. Introduction

Down syndrome (DS) is a complex multi-system congenital condition that affects between 10 and 15 live births in every 10,000 (1 in 700 is often quoted), the incidence fluctuating due to both known (e. g., termination rates) and unknown causes (de Graaf, Buckley and Skotko 2015). The most common cause (95–98% of cases) is a non-inherited tripling of all or part of chromosome 21 in all cells of the body. Much rarer are a mosaic form of trisomy 21 (also non-inherited), in which only some of the cells contain the extra chromosome; and an inherited form, due to the translocation of an additional chromosome 21 attaching to a different chromosomal pair (between 1% and 5% of individuals with DS [Devlin and Morrison 2004]). Currently, the only known highly correlated factor for the incidence of DS is maternal age, with older mothers more at risk of having a child with DS.

Although the phenotype has been the subject of a number of studies (Fidler, Hepburn and Rogers 2006; Fidler 2005), many of the specifics of development over time are still being explored (Hahn et al. 2013). Recurring features claimed for individuals with DS include moderate to severe language delays; deficits in verbal processing; relative strengths in visual–spatial processing; speech intelligibility difficulties; relative strengths in affect sharing, social functioning and forming relationships; and challenges in motor skills and motor planning. Some of these features emerge early and others over time (Fidler, Hepburn and Rogers 2006).

<https://doi.org/10.1515/9783110431056-019>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 545–579. Berlin/Boston: De Gruyter Mouton.

Moreover, all of the features are more or less pronounced in individuals, and an enhanced and more even profile can be achieved by clinical intervention (Fidler 2005).

Individuals with DS vary considerably in their pragmatic skills. We explored the pragmatic skills of 24 preschool children with DS (all with standard trisomy 21), mean age 49.75 (SD: 10.87) months, through a combination of the Language Use Inventory (LUI) (O'Neill 2007, 2009) – a parent questionnaire covering the development of pragmatics from the emergence of intentional preverbal communication to the capacities expected of 47 month olds –, and the New Zealand version of the MacArthur-Bates Communicative Developmental Inventory: Words and Sentences (MCDI) designed for 16 to 30 month olds (Fenson et al. 1993; Reese and Read 2000). On the LUI the children varied widely, scoring from 5 to 136 out of a possible total of 161 (Foster-Cohen, van Bysterveldt and Rees, 2016) with some of the oldest children in the group receiving the smallest scores. On the MCDI, children were reported to have similarly varied vocabularies ranging from 40 to 595 lexical items.

At the lower ends on both the LUI and MCDI, children were using gestures or signs and a few words to communicate basic wants and to engage in activities with others and, if they were combining words, they were simple expressions such as “my do it”. At the upper end were children whose parents reported on the LUI that they comment and ask questions about things, themselves and other people; manage activities with others through intelligible speech; engage in linguistic imaginative play, and show adaptability to listener needs. Parents of these children reported on the MCDI that they had recently heard their child say expressions such as “I want listen music song yes please mummy” and “Robin cry, go doctor”. While there was some relationship between age and stage of development it was very weak. Overall, this sample of children with DS spanned the neurotypical developmental pragmatic path from the emergence of intentional communication to levels expected (at the 50th percentile) of children aged about 30 months (O'Neill 2009).

There is currently little understanding of what contributes to this variability. One recent attempt (Deckers et al. 2016) used the framework provided by the World Health Organisation's International Classification of Functioning, Disability and Health – Child and Youth Version (ICF-IY) to try to understand the factors contributing to the communication abilities of six children with DS aged 3;1 to 4;9. However, they concluded that the unique personal and environmental factors of each child need to be taken into account in order to understand their communication profile. We concur. It is important, therefore, that as we try to generalise the pragmatic profiles of children with DS below, the variability between children is kept constantly in mind (Matthews, Biney and Abbot-Smith 2018).

In what follows, we will explore the pragmatics of children with DS both through the literature and through our own research and clinical work with children with DS. This work includes studies of phonological awareness (van Bysterveldt,

Gillon and Foster-Cohen 2010a; van Bysterveldt, Gillon and Moran 2006), speech sound development (van Bysterveldt, Gillon and Foster-Cohen 2016), narrative abilities (van Bysterveldt et al. 2012; van Bysterveldt and Westerveld 2017), literacy emergence (van Bysterveldt, Foster-Cohen and Gillon 2013; van Bysterveldt and Gillon 2014; van Bysterveldt, Gillon and Foster-Cohen 2010b; Westerveld et al. 2015), inferencing in comprehension (Foster-Cohen and Wong 2017), conversational topic management (Wong, Moran and Foster-Cohen 2012), parent perceptions of, and contributions to, the development of pragmatics of children with DS (Foster-Cohen and van Bysterveldt 2016; O'Toole et al. 2018), and the role of pragmatics in the emergence of word combining (Foster-Cohen, van Bysterveldt and Papp 2017). The focus of the current chapter is on the impact of what children with DS bring to the development of their pragmatics and of how the responses of their interlocutors either support or hinder that development, because as noted by Leinonen and Ryder “where one of the participants has difficulty with pragmatic processing...others can compensate for or, unfortunately, compound ensuing conversational difficulties” (Leinonen and Ryder 2008: 58). This also leads to a brief consideration of the kinds of intervention that are needed to support the best outcomes for individuals with DS.

The focus of this chapter is on the early years of development, both because this is the area of our own expertise and because a clinical focus on early intervention from birth has the best chances of positive outcomes (Guralnick 2005, 2011). However, we will make reference to older children and adults as needed, and will indicate some of the issues that arise at older ages, such as the evidence of continued communicative development in adulthood (Roberts, Price and Malkin 2007) and the impact on pragmatics of early onset Alzheimer’s disease now understood to be disproportionately common in people with DS (Zigman and Lott 2007). Before embarking on this review, however, we will briefly articulate the theoretical assumptions that underlie our approach.

We assume that pragmatics is an emergent property of a wide range of human capacities, knowledge and behaviours, including sensory perception, self-regulation, emotion reading, world knowledge, memory, social knowledge, and expressive and receptive language (Foster-Cohen and Wong 2017; Nelson 2009; O’Neill 2012; Perkins 2007; Sperber and Wilson 2002; Lee et al. 2017) and that the same forces operate in both typical and atypical pragmatic development. Perkins (2007, 2008) has argued that the individual speaker is a complex “intrapersonal domain” within which “any malfunctioning capacity will have consequences for the entire intrapersonal domain, and any subsequent adaptation will result in a redistribution of resources across the domain as a whole” (2008: 85). He suggests, “all communicative impairments have a pragmatic dimension in that they produce an interactional imbalance which results in a redistribution of resources and a concomitant reconfiguration of choices” (Perkins 2007: 61) for communication. In this model, both pragmatic ability and disability emerge as a consequence of the resources

available for communication and the (usually unconscious) choices the speaker makes in selecting from among those resources. Relevance theory (Leinonen and Ryder 2008; Sperber 1994; Sperber and Wilson 1995) also proposes that pragmatics emerges as a result of the way humans process the world, interpersonal or otherwise. As with Perkins' model, therefore, there is no need to postulate a system that is different in the face of disorder; it is merely the same system delivering different outcomes.

Under the assumptions just articulated, pragmatic disability is not the direct result of challenges to the systems, but rather the result of the various compensations the individual makes in the face of reduced resources or choices (Perkins 2008). It involves complex interactions between phenotypical characteristics and communicative ability and expression. In constructing this chapter, therefore, we have deliberately chosen an organisation that allows us to explore the generation of, and effects on, pragmatics of sensorimotor, social, linguistic and cognitive challenges in order to elucidate the complex interrelationships between them.

2. The impact of sensorimotor characteristics of DS on pragmatics

Down syndrome is associated with a number of sensorimotor challenges, including some significant health issues (Visoosak et al. 2013); temporary, fluctuating or permanent hearing loss (Shott, Joseph and Heithus 2001); a greater propensity for vision abnormalities than in the general population (Elma et al. 2007); and delayed fine and gross motor development (Fidler et al. 2008; Frank and Esbensen 2015; Weijerman and De Winter 2010).

Approximately 50% of children with DS are born with heart defects; and although, in developed countries at least, these are generally corrected early in life, there is some evidence that children who have (or have had) these defects are particularly delayed in language and communication as toddlers (Visoosak et al. 2013). Heart defects, together with other physiological challenges such as gastrointestinal abnormalities and sleep disorders can lead to dysregulation and discomfort, and negative behavioural responses that can be counter-productive to successful pragmatic engagement with others (Bull 2011).

It is estimated that approximately 40–75% of children with DS experience some form of temporary or permanent hearing loss (Martin et al. 2009), most often through otitis media (“glue ear”). In a study of 344 children with DS born between 2002 and 2006, Park et al. (2012) determined that 87 infants (26.2%) were identified with hearing loss through the newborn hearing screening. Of these, 37.9% had a conductive hearing loss caused by otitis media. However, more than 43% of the newborns with DS who passed their newborn screening developed a conductive hearing loss requiring the insertion of grommets. The frequency of otitis media is thought to be at least partly due to the physiology of the hearing mechanisms

and particularly small ear canals. Although the incidence of hearing loss is high, another study (Shott, Joseph and Heithaus 2001) found that meticulous attention to hearing evaluations and treatment of otitis media can preserve hearing in 98% of children with DS. Hearing loss affects pragmatic development in a number of ways. Most obviously it reduces and/or distorts the linguistic signal (Laws and Hall 2014), impacting children's abilities to know they are being addressed, to comprehend the language addressed to them, and (via the impact on the phonological loop) to reproduce language clearly enough for others to understand them (Laws and Hall 2014). Moreover, the pressure in the ear caused by otitis media, and the discomfort caused by infection, may well be the cause of behaviour that is disruptive of effective conversation.

In addition to conductive hearing loss, children and adults with DS typically have delays and disorders of auditory processing, meaning that even when their hearing is within normal limits, they have trouble extracting the linguistic signal from the background sounds they hear (Arisi et al. 2012). This too can lead to delays in responding that upset the flow of conversational turn-taking, or to misinterpretations of what is heard that can negatively impact comprehension and language learning.

Difficulties with speech sound production is reported to affect most people with DS and to persist across the lifespan (Kumin 2006a; Rupela, Velleman and Andrianopolous 2016). Some researchers argue that sound production is characteristic of delay (Stoel-Gammon 1997; Van Borsel 1996), others that it is difference or disorder (Dodd and Thompson 2001) or both (Cleland et al. 2010; Roberts et al. 2005; van Bysterveldt 2009; van Bysterveldt, Gillon and Foster-Cohen 2016). A range of reasons for the differences have been proposed (Timmins et al. 2009; Kumin 2006b) but the speech profile of any given individual with DS may be the result of a unique and dynamic combination of challenges associated with differences in the use of the articulatory system, difficulties with assembling and production of a motor plan, impairments in phonological representation and development, as well as a range of other prosodic and suprasegmental influences.

Some researchers suggest a phonological basis for the high degree of inconsistency in speech (Dodd and Thompson 2001) and for the use of phonological inventories and processes typical of much younger children (Roberts et al. 2005). Although the quality of very early vocalisations and babble appear largely similar to typically developing (TD) children (B.L. Smith and Stoel-Gammon 1996), the onset of canonical babbling may be delayed and less stable (Lynch et al. 1995) than in typical development, and vocalisation rates do not keep pace with age (Thiemann-Bourque et al. 2014). Phoneme acquisition and emergence is reported to be increasingly delayed and atypical as children develop and has considerable individual variability (Kent and Voperian 2013; Kumin, Council and Goodman 1994). Sokol and Fey (2013) found that while children with DS and mental age (MA) matched peers with other forms of intellectual disability were similar at the

beginning of their study (when the children were between 24 and 33 months) the children with DS had fallen behind these peers in speech sound development 18 months later.

Motor speech deficits may affect as many as 15% of individuals with Down syndrome (Kumin 2006b) and some suggest that the particular physiognomy of the face, jaw and palate may contribute to dysarthric speech (Leddy 1999; Miller and Leddy 1998; Shott 2000; Stoel-Gammon 2001). Difficulties with motor planning and programming also impact the initiation and sequencing of speech movements. Kumin and Adams (2000) have argued that the inconsistent errors, increased difficulty with complexity and unfamiliar words or phrases, omissions and perseverative or anticipatory errors in the speech production of seven children aged 5;7–3;4 were consistent with features of Developmental Apraxia of Speech; and Rupela, Velleman and Andrianopolous (2016) identified a complex profile of both dyspraxic and dysarthric speech deficits in seven children with DS aged between 3;4–8;11 which had a negative effect on intelligibility.

As well as impacting accuracy and intelligibility, motor planning difficulties with timing and intonation also affect prosody (Brown-Sweeney and Smith 1997; Rupela and Manjula 2007; Zampini et al. 2016) and lead to higher rates of dysfluency (Kent and Voperian 2013; Van Borsel and Tetnowski 2007). Voice quality is also affected. Moura et al. (2008) compared voice parameters of 66 children with DS aged between 3 and 8 years with an age-matched control group of TD children. Children with DS produced a lower fundamental frequency, greater perturbation in frequency and amplitude, reduced vowel distinction and a breathier and harsher voice quality.

The impact of these speech challenges on pragmatics can be severe (Perkins 2007). Poor and inconsistent intelligibility impacts the child's ability to get their message across, particularly with peers and other potential interlocutors who do not know them well enough to be able to compensate for their unclear speech; and parents report that the impact on their ability to form friendships and integrate socially with others is lifelong, often leading to frustration and social isolation (Guralnick, Connor and Johnson 2009).

While the fine motor movements of speech are a major impediment to communication, children with DS have a relative strength in fine hand movements (Singer Harris et al. 1997) even while they are delayed relative to TD children (Frank and Esbensen 2015). Together with a relative strength in visual processing, these movements can be used to replace or augment spoken language through the use of gestures and signs (Franco and Wishart 1995; Iverson, Longobardi and Caselli 2003). We discuss the use of signs below.

3. The impact of pre-linguistic and linguistic characteristics of DS on pragmatics

The earliest social engagement or “primary intersubjectivity” (Trevarthen 1979; Trevarthen and Aitken 2001) between infant and adult that forms the basis for intentional communication is reflected in mutual gaze between the infant and another person, in reciprocal or chorused vocalisation, in early (reflexive) imitation and in smiling. Infants with DS engage in all of these behaviours, but later, less, and in ways that change the patterns of interaction between children and parents in the first few weeks of the child’s life (Slonims and McConachie 2006). In a series of studies of infants with DS aged from 6 to 24 weeks, Berger and Cunningham (1981) found that they established eye contact more slowly than TD infants and engaged in shorter periods of mutual gaze. They also found that the infants with DS did not smile or vocalise as much as TD infants (Berger and Cunningham 1983, 1986). However, as Ateş and Küntay (2018) identify, there is a dearth of research on the early establishment of joint attention in atypical populations.

Reflexive imitation, including imitated facial expressions, tongue protrusion, and smiling, is an important component of early emotional connectivity with others and seems to be a relative strength for infants with DS (Abbeduto, Warren and Conners 2007; Heimann, Ullstadius and Swerlander 1998). However, the slower speed of processing can mean that the infant’s imitation is delayed, occurring so long after it was anticipated by the interlocutor that it may fail to be observed, leading to a disruption of the preverbal turn-taking so typical of early pragmatic development. Moreover, while intentional imitation of actions, which emerges later, is also regarded as a strength, children’s slower responses in the context of turn-taking exchanges can mean these contributions are not recognised or attended to. Alternatively, imitation may be overused (Wright, Lewis and Collis 2006), and may reflect a lack of understanding of how to generate a novel response (Abbeduto, Warren and Conners 2007). The accuracy of imitation is also an issue, particularly in imitation of speech (Rupela, Velleman and Andrianopoulos 2016) as suggested above.

At around five months old, TD children move to a stage of “secondary intersubjectivity” as they become able to combine attention to an interlocutor with attention to an object (Trevarthen 1979). Children with DS move to this stage later, some not until they are more than twelve months old, effectively extending the period of primary intersubjectivity (Slonims and McConachie 2006). Nonetheless, infants with DS do draw the attention of an interlocutor to an object of interest and are able to respond appropriately to similar bids by others (Sigman et al. 1999).

We can distinguish between coordinated and supported joint engagement, the former being true secondary intersubjectivity where the child is paying attention to both the interlocutor and the topic of interest (usually indicated by social referencing glances) and the latter being where child and partner are both attending to

the same thing but without the triad of attention seen in coordinated joint attention. In a longitudinal study of 19 boys with DS from 2;6 to 3;6, Adamson et al. (2009) found that they were not significantly different from a group of TD younger children (aged 18–30 months) in either of these types of joint attention, although they were not using or responding to language or other symbols (e. g. gestures) as much in these contexts. In other words, these exchanges were less “symbol-infused”, although (as with TD children) they were likely to become more symbol-infused when the children displayed more interest in people and in novel objects of shared attention (Adamson, Deckner and Bakeman 2010). In these studies, the children with DS reflected what might be interpreted as a difficulty in shifting focus from the interlocutor to an object to which the adult is trying to direct attention, particularly if this is done through interactions characterised by commenting and requesting (Adamson et al. 2009). The shift between object and interlocutor may, in and of itself, be difficult, either because of the attentional shifting it requires, or because cognitive understanding impacts this shift. Consistent with this is the finding by Kasari et al. (1995) that children with DS use fewer social referencing checks at 23 months when presented with an ambiguous situation. O’Neill and Happé (2000), also suggest shifting attention between interlocutors in triadic situations is difficult for children with DS.

Some authors have found that children with DS find requesting objects or asking for help with objects in the preverbal phase difficult to establish (Fidler et al. 2005; Mundy et al. 1995). Fidler and colleagues did not, however, find a similar effect on requests for social routines and games, suggesting that it is not the act of request itself that is challenging, but the act of trying to regulate someone else’s behaviour. The Language Use Inventory (LUI) provides parents with an opportunity to record (across 13 questions) their child’s use of gestures to ask for something and to get a parent to notice something, including “lifting arms to be picked up”, “taking the adult’s hand to lead them to an object of interest”, pointing, and reaching. In our groups of 24 children with DS matched to 24 TD children on the LUI Total Score, (which is independent of the section on preverbal gestures), we found the DS and TD groups both averaged between “sometimes” and “often” for their use of this preverbal communication, suggesting that when matched on overall communicative development, children with DS and TD children have similar profiles of non-verbal gesture use, whether they are communicating verbally or not (Foster-Cohen, van Bysterveldt and Rees 2016).

There is a generally held opinion that people with DS of all ages are particularly friendly and sociable (Sigman et al. 1999) although depression, common among older people with DS, presumably reduces this (Dykens 2007). The assumption of heightened sociability may stem from the extension of the primary intersubjectivity phase mentioned above, as well as findings of an ongoing preference for attention to people compared to objects, coupled with an ability to respond empathetically to the expression of emotion (Adamson, Deckner and Bakeman

2010; Slonims and McConachie 2006). However, if heightened sociability exists (and some question this (Dykens, Hodapp and Evans 2006)), it is only relative to other deficits (Fidler, Hepburn and Rogers 2006) and on a par with mental age. We return to this issue below.

Despite the perception of sociability, it has been noted by a number of researchers that children with DS are often passive and lacking in responsiveness (Berger 1990; Crawley and Spiker 1983; Linn, Goodman and Lender 2000), presumably at least partly because of low muscle tone. The impact of passivity includes a redistribution of speaking turns between child and adult. Berger and Cunningham (1983) found that while parents of TD children decreased the amount of vocalisation they used in interaction with their infants over time, parents of infants with DS increased the amount of vocalisation they used, while other researchers found that parents of children with DS used the same number of words to younger and older infants (Thiemann-Bourque et al. 2014). While these reactions on the part of parents may be in the interests of trying to encourage engagement, if the extra time needed for infants with DS to organise their responses cognitively and motorically is not recognised, it can lead to asynchronous conversations characterised by out-of-phase turn-taking and consequent speaker clashes (Berger and Cunningham 1983). On the other hand, as Tannock has argued (Tannock 1988), what might be seen as intrusiveness and overly directive responses resulting from the higher verbal input can also be seen as important scaffolding of conversational contributions and support for language development (Girolametto et al. 1999; Guralnick 2016). Finally, it is important to recognise that some parents find it hard to encourage higher levels of responsiveness in their children because of their own personality or mental state (e. g., when a parent is depressed); and this can have a significant impact on the attunement associated with the effective pragmatics of communication (Howe 2006).

As already noted, the emergence of symbolically infused interactions is delayed in children with DS. This is reflected in the later emergence of vocabulary, word combinations and more complex language (Abbeduto, Warren and Conners 2007); some children never getting beyond the very earliest stages of language development. Why there should be such large discrepancies within a single syndrome is unclear, but for some children the possibility of one or more co-morbid conditions may explain the lower levels of functioning. For example, the percentage of individuals with DS who also have a diagnosis of Autism Spectrum Disorder (ASD) (noted for its negative impact on pragmatics) is significantly above the expected rates, and appears to be greater among children with weaker cognitive skills (DiGuseppi et al. 2010; Hepburn et al. 2008; Moss et al. 2013) although care must be taken to distinguish autism from autistic symptoms in communication. Anxiety and depression are also not uncommon, particularly in adolescents and adults with DS (Dykens 2007). And other conditions, such as seizures and motor planning disorders, which have also been observed to be part of the phenotype

(Bull 2011; Daunhauer et al. 2014; Fidler et al. 2008), will all limit the capacity for communication; as will early onset Alzheimer's disease (Lott 2012).

While the emergence of first words is often delayed and vocabularies grow more slowly (te Kaat-van den Os, Volman and Jongmans 2014), children with DS make more extensive use of symbolic gesture than TD at the same stage of language development (Caselli et al. 1998). When this capacity for symbolic gesture is harnessed in the establishment of shared conventional or idiosyncratic signs, it can significantly increase the communicative resources of the child. The success of gesture and sign for communication in children with DS is the result of the physical capacity for forming the hand movements, the cognitive capacity to develop stable meanings for gestures and signs in both production and comprehension (John and Mervis 2010), and the relative strength of comprehension and communication supported through visuo-spatial skills (Abbeduto, Warren and Conners 2007; Fidler 2005). In combination, these allow topics of conversation to be initiated and maintained, needs and desires to be met, and social engagement to be sustained with those who share the gestural and sign repertoire of the child.

All the children in our research cohort attended an early intervention programme that promotes signed vocabulary as a support for the transition to spoken language. The children's use of sign was recorded using a modification to the New Zealand MCDI (Reese and Read 2000) that offers a sign option for each of the vocabulary items on the form. On average the vocabularies of the 24 children with DS in our study consisted of 38.16% "sign only" for items; 16.83% "both sign and word" for the same item; and 45.01% of "word only". However, five children never used signs and two exclusively used signs, pointing to variability due either to the child's preference or the parent's (or both). Several of the children who transitioned successfully to a largely spoken vocabulary did so by transitioning through sign-word equivalents. It is important to note, however, that the MCDI is not able to reveal whether children were using signs and words together in ways that allowed the signs to supplement the words to create a sign+word expression. Te Kaat-van den Os et al. (2015) examining gesture and word combinations noted that supplementary use of gesture with words was rare in children with DS, so may have been rare in our sample as well.

Developing a symbol vocabulary (in whatever medium) opens up a greater range of communicative options than prelinguistic gesture, providing the vehicle for early speech acts such as requesting, commenting, questioning, refusing, answering, etc. Research consistently shows delays in the development and use of all these pragmatic acts in children with DS, but the general consensus is that within the bounds of the variability already identified, most children with DS use the same range of speech acts as developmentally comparable TD children (Cogging, Carpenter and Owings 1983; Martin et al. 2009). Some acts are easier than others, however. Answering, for example, is a particularly easy contribution to a conversation, and a question-answer sequence that relies only on single-word

utterances can give the impression of rich engagement. However, these exchanges can be quite limited, as the example below shows:

(1) Linda, 2;6 and her mother have been drawing a pig.

Child: pig uhm daw [= draw] wawa [= pig].

Mother: yep, piggie

Child: ugh [pulls her sock off].

Mother: what are these [points at the sock]?

Child: uh [looks at mother]

Mother: what's that [points at the sock]?

Child: piggy.

Mother: what's come off?

Child: huh [turns her gaze at mother].

Mother: what is that?

Child: ko [= sock] [holding her sock].

Mother: sock. (Foster-Cohen and Wong 2017)

The repetition of “What is that?” questions requires only a one-word answer from the child, and as this provides no new information for the mother to use to develop a topic, she turns to the next question. The result is an exchange with little sustained content. It is one of the main aims of parent training programmes such as the Hanen programme (Girolametto and Weitzman 2006) to encourage parents to expand on their children's utterances, and to use other devices such as *wh*-questions which call for longer and richer responses (Wong, Moran and Foster-Cohen 2012).

Speech acts that are initiative rather than responsive pose additional challenges to children with Down syndrome. A number of researchers have, for example, found delays in the emergence of requesting (Beeghly, Weiss-Perry and Cicchetti 1990; Mundy et al. 1995; Sigman et al. 1999). Others have found delays in commenting, but have also found that those who are stronger in commenting abilities at an early age have stronger linguistic skills later (Yoder, Warren and Abbeduto 2004), presumably because, unless limited to simple acts such as claiming possession of an object (“mine”), commenting usually calls for greater linguistic resources and is less likely to be achievable through gesture or demonstration.

Advanced pragmatic functions of all kinds call for considerable linguistic resources and these are well known to be delayed or reduced in individuals with DS. Importantly, however, several authors have noted that expressive syntax is more delayed than receptive syntax (see Abbeduto, Warren and Connors 2007 for a summary), which means that the full message the child is endeavouring to communicate may not be interpretable from the language used. This can result not only in frustration on the part of the child, but also lower levels of language use by the interlocutor whose natural tendency is to follow rather than lead the child in

syntactic complexity in conversation (Foster-Cohen and Wong 2017). When this is coupled with both higher rates of communication breakdown and more limited repair strategies than TD children (Abbeduto et al. 2008; Martin et al. 2017; Price et al. 2018), significant opportunities for developing conversational skills are lost, and repeated requests for repair can lead to disengagement (Barstein et al. 2018). It is important to note, however, that, although grammatical comprehension development may plateau earlier (Witecy and Penke 2017), children with DS can and do continue to increase their productive syntactic resources well into adulthood (Thordardottir, Chapman and Wagner 2002), and many become able to express themselves in extended forms such as narratives, explanations and the giving of definitions. However, as Lee et al. (2017) suggest, greater resources can lead to greater opportunities for pragmatic violations. This is, at least in part, because these speech events are not only linguistically complex, they are also cognitively complex, so we turn now to the impact of intellectual aspects of the disability and explore their impact on pragmatics.

4. The impact of social-cognitive and cognitive characteristics of DS on pragmatics

Down syndrome is often regarded as the quintessential intellectual disability (ID) and is used for comparison in research on other types of disability, as if the ID were consistent across individuals with DS. However, as with other aspects of development, the variability in cognition between individuals and within aspects of cognition is considerable. Standardised IQ testing suggests that while individuals with DS have an average IQ of 50, some have IQs as low as 20 while others have been reported to place in the typical range (Bull 2011). However, such global measures do not show the complexity of specific intellectual challenges; nor do they reveal changes in cognitive skills over time (Chapman and Hesketh 2000; Couzens, Cuskelly and Haynes 2011; Grieco et al. 2015; Patterson, Rapsey and Glue 2013). It is therefore necessary to unpack the cognitive challenges that are most implicated in pragmatic functioning, and also to explore those aspects of pragmatic skills which might develop differently in DS from other forms of intellectual disability (Guralnick 2016; Hahn et al. 2013; Karmiloff-Smith 2011; Martin, Lee and Losh 2018).

Imitation is a key factor in all aspects of learning and is regarded as a relative strength in children with DS (Abbeduto, Warren and Conners 2007). However, while children with DS show relatively good imitation of actions (Wright, Lewis and Collis 2006), the evidence of an ability to imitate speech sounds is more limited, possibly because of the motor challenges summarised earlier (Fidler 2005) and because of memory challenges to be addressed below. Moreover, while some studies have suggested children can be encouraged to imitate in the moment and even retain specific sound imitations over time following specific behavioural

training (Feeley et al. 2011), generalising the ability to imitate language to new situations appears challenging (Gazdag and Warren 2000). Imitation, or repetition of the interlocutor's turn, serves an important function in pragmatics, as a means of checking comprehension, expressing agreement, indicating that an idea is being considered, as a form of emphasis, and so forth. Garrod and Pickering suggest imitation functions to align "social representations between pairs of interacting individuals" (Garrod and Pickering 2004: 10). It is a positive that individuals with DS have some strengths in imitation in context (Abbeduto, Warren and Conners 2007), even if it is used as "a 'placeholder' when the child is uncertain how to respond" (249). It functions to keep the individual in the play or conversation, supporting their exposure to appropriate conversational gambits. However, if it is mistaken for reasoned creative response, opportunities for intervention will have been missed.

Another key contribution to effective pragmatics is the ability to recognise the internal states of others through recognising facial emotions. Williams et al. (2005) tested the ability of children with DS aged between 7 and 17 years old on their ability to recognise emotions on unfamiliar faces in photographs representing happiness, sadness, anger, surprise, fear and disgust. They found that although they could recognise these emotions above chance level, they were consistently less successful than a group of MA matched TD four-year-olds. The children with DS particularly found fear hard to recognise, perhaps because, the authors speculate, fear is related neurologically to parts of the limbic system (particularly the amygdala) that are reduced in volume and complexity in DS. The researchers used their findings to suggest that the widely held view that people with DS have strong social skills should be explored in more detail as it appears not to be a uniform strength (Cebula, Moore and Wishart 2010; Wishart 2007).

Challenges with overt recognition of internal mental states, however, does not mean that children with DS are unable to empathise. Certainly, children with DS have been demonstrated to show "affect sharing" (Hahn et al. 2013) and to respond with sympathetic behaviour in the face of the distress of others, (Kasari, Freeman and Bass 2003). More muted facial expressions that are briefer, and involve less of the face, have been observed in children with DS (Kasari and Sigman 1996), although these may be as much the result of motor issues as the cognition underlying such expressions. Nonetheless they may give an interlocutor the impression that the child is not emotionally engaged. A lack of social engagement has also been observed in adults with DS (Iarocci et al. 2008). As already mentioned, some researchers have suggested that lower, or slower, levels of responsiveness may trigger what some have interpreted negatively as excessive directiveness or intrusion on the part of parents (Crawley and Spiker 1983). However, others have seen the parental behaviour as more active support for sustained engagement in interactions (Crawley and Spiker 1983; Tannock 1988). While it appears to be the child's behaviour that triggers the different behaviour in the adult, and occurs without awareness and early in the engagement history of child and parent (Slonims and

McConachie 2006), parents and other adults can be taught to respond in ways that aim to encourage the child to take a more active role in the conversation (Girolametto and Weitzman 2006; Wong 2012).

Beyond recognising the intention behind facial expression, theory of mind (TOM) skills are vital to mutually satisfying communicative exchanges. The more advanced sorts of TOM abilities are slow to develop in children with DS, if they develop at all (Lee et al. 2017). Giaouri, Alevriadou and Tsakiridou (2010) have provided some evidence that ten-year-old children with DS have particular difficulty with false belief and appearance–reality tasks (such as the smarties test). In an earlier study, Abbeduto and colleagues (Abbeduto et al. 2001) showed that children and young adults with DS (aged between 11 and 23) performed more poorly on a false belief test of TOM than would be predicted by their mental age assessed through a test of non-verbal cognition. However, as noted by Cummings (2013), there is little research on TOM in populations with intellectual disability.

Other key cognitive factors in effective pragmatics include the components of executive function (EF): the ability to pay attention, to shift attention, to plan, evaluate, and remember (Baddeley and Jarrold 2007). Lee et al. (2017) showed that school-aged children with Down syndrome exhibit a consistent relationship between pragmatic skills and EF, and Lanfranchi et al. (2010) found that adolescents with DS had widespread EF difficulties, including set shifting, planning/problem-solving, working memory, inhibition/perseveration, and sustaining attention; a finding similar to those of Lee et al. (2015) who found EF deficits to be stable over time. In a study of six children with DS aged between 3;1 and 4;9, Deckers et al. (2016) found that “most children showed a weakness in sustained attention, concentration, short-term memory, undertaking of multiple tasks, orientation skills and adaptability” (12). Other studies have also found memory, particularly verbal short-term memory, fragile (Laws 2002, 2004; Miolo, Chapman and Sindberg 2005). The superiority of visuo-spatial memory (Laws 2002) can be exploited positively by using sign and written language as early supports for oral language in therapy and teaching contexts (Burgoyne et al. 2012; Vandereet et al. 2011; Wright et al. 2013; Zampini and D’Odorico 2009). However, even the visuo-spatial strengths of individuals with DS are compromised when they are required to process more than one visual stimulus at a time (Lanfranchi et al. 2009). Persistence in tasks has also been noted as a challenge, with children exhibiting high levels of frustration (Jahromi et al. 2008) and/or the use of social engagement (so-called “party tricks”) to avoid cognitively challenging tasks (Fidler et al. 2008); although persistence has been found to be greater when parents support the child’s ability to be autonomous (Gilmore et al. 2009). All of these factors will impact on pragmatic skills that call for sustained attention and both cognitive and linguistic skills, such as extended conversational topics (Abbeduto and Hesketh 1997). The motivation to persist in exchanges comes from curiosity about the world of people and objects

and this in turn is dependent on accurate perception of the world, so the knock-on dependencies of this multi-layered syndrome compound each other.

Children with DS have generally been found to initiate and maintain topics on a par with TD children matched for MA (Tannock 1988). They have also been found to use the same range of communicative functions. Although some researchers have found requesting to be delayed (L. Smith and von Tetzchner 1986), others have found answers, questions and protests equivalent to MA matched children (Beeghly, Weiss-Perry and Cicchetti 1990). We compared each member of the 24 pairs of children in our study on their questioning behaviours using a subset of items from the LUI that ask whether children used expressions such as “Can I do it?”, “Where’s dolly?”, “Do you like carrots?”, “My turn?” or made requests for clarification. Some of these are likely to be used for requests for action and others as requests for information; but both types could function to either initiate or maintain topics of conversation. We found there were no significant differences between the two groups, supporting the conclusion that each of the children with DS presented comparably to their younger paired child (Foster-Cohen, van Bysterveldt and Rees 2016). However, as the children with DS are delayed relative to their chronological aged peers, their less mature use of questions will have social and communicative consequences (Court, Rosenthal and Mizrahi 2007).

Sustaining a conversational topic that goes beyond a simple question–answer type sequence (such as that illustrated above) and includes turns that elaborate on a topic requires coherence with immediately preceding material provided by an interlocutor and accessing and using ideas and material brought to the conversation from observation or memory (Ochs and Schieffelin 1983). This is a complex skill, and gauging the amount and type of information required can be beyond many children with DS (Abbeduto, Warren and Conners 2007). Roberts et al. (2007) found that while boys with DS were able to maintain topics with the number of on-topic turns reasonably comparable to MA matched TD children, their turns were less elaborative, with more that were simple responses and acknowledgements. From a clinical point of view, therefore, it is important to pay close attention to the quality of the content of conversational contributions. It is important not to assume that because children with DS can stay on topic (maybe even more than would be expected from their Mean Length of Utterance (MLU) (Beeghly, Weiss-Perry and Cicchetti 1990)) that the quality of those topics is high. Helping parents understand the need to support this crucial skill can improve their capacity to help their children establish and develop more mature topics of conversation (Wong 2012).

The back and forth of conversation requires an ability not only to comprehend the interlocutor’s meaning (overtly or covertly expressed [Sperber and Wilson 1995]), and to formulate and express a relevant response but to do so within a short time-frame. Slow processing and planning can lead to miscommunication if a response to a contribution is made after the conversation has moved on; or to disengagement if the speaker is perceived not to have responded in a period when

in fact they were planning a response. Individuals with DS have challenges of both processing and planning (Daunhauer et al. 2014), and one of the earliest and key aspects of intervention is always to help parents and others to reduce the speed of their speech and allow more time for a response (Girolametto and Weitzman 2006) rather than “jumping in” in ways that can be perceived as overly directive. Planning challenges could also be why children with DS appear to find answering questions easier than other sorts of conversational contributions.

Extended communication events such as narratives call for even more sustained and complex degrees of processing (Seung and Chapman 2003), planning and execution, particularly when they are not (or not well) scaffolded by the other participant. On the other hand, they provide opportunities for building up shared understanding, which can itself serve to make weak linguistic skills more effective. This may explain why some authors have found children’s expressive skills to be better in narrative contexts, particularly those with picture supports, than in conversation (Miles, Chapman and Sindberg 2006; Martin, Lee and Losh 2018).

TD children are generally proficient in personal narrative skills by the time they enter primary school (Hughes, McGillivray and Schmieck 1997; McCabe et al. 2008). Fictional narrative development also typically develops during this time (McCabe et al. 2008; Paul and Smith 1993). However, expository narrative development extends over a longer period though childhood and adolescence (Gunter and Koenig 2011). For children with DS, however, all aspects of narrative development are substantially delayed (Abbeduto, Warren and Connors 2007; Berglund, Eriksson and Johansson 2001).

Narrative proficiency can be examined from both a macrostructure, story element, perspective (e. g., highpoint analysis [McCabe and Rollins 1994]) and a microstructure, sentence level linguistic, perspective (Finestack, Palmer and Abbeduto 2012). Narrative proficiency in children and young people with DS has been examined in both fictional and personal narrative contexts and at macro- and microstructure levels (see Segal and Pesco 2015 for a review). Research suggests that both sampling context and the types of supports provided during elicitation have been shown to impact the children’s narrative performance (Kover et al. 2012; Miles, Chapman and Sindberg 2006; van Bysterveldt et al. 2012, van Bysterveldt and Westerveld 2017). In these studies, narratives are generally elicited using photo prompts, pictures or books and, as mentioned above, there is some evidence that the provision of visual support is associated with increased utterance length, by providing a scaffold for children to support their expression of ideas and reducing the cognitive demands of the task (Miles, Chapman and Sindberg 2006).

One of our own studies examined the personal narratives of 25 children with DS ages 5–13 (van Bysterveldt et al. 2012), elicited using a series of unfamiliar photos with accompanying scripts to prompt the child to recall and retell a personal experience (Westerveld, Gillon and Miller 2004). Although these were not

records of the child's own experiences, the photos were effective in eliciting personal narratives that included at least one past tense event for all participants. We hypothesised that the use of more familiar photos (i. e. children's own photos) may provide even further support and result in more advanced narratives. However, a subsequent study comparing the use of familiar and unfamiliar photo prompts found they were equally effective in eliciting personal narratives from the children with DS (van Bysterveldt and Westerveld 2017).

Examiner behaviour has also been implicated in contributing to the quality and quantity of narratives, with negative associations reported between the number of examiner utterances and the number and or length of children's utterances (Kover et al. 2012; van Bysterveldt and Westerveld 2017). Conversely, examiner support and prompting may also be facilitative in supporting a child to produce a higher quality narrative than they could achieve independently (van Bysterveldt et al. 2012). The following example contains an excerpt from a personal narrative relating to a baking activity, in which the examiner's prompting and affirmation supported the child to continue her story.

- (2) Examiner: great, what else?
 Child: (Umm) we grate the cheese.
 Child: We grate the cheese.
 Examiner: Uhuh.
 Child: For sauce.
 Examiner: The sauce yeah.
 Child: And we put some>
 Child: We put this in there.
 Child: And we put some sprinkle (of a) of a breadcrumbs.
 Examiner: Breadcrumbs yes.

Issues with speech intelligibility and dysfluency discussed in more detail above may also influence narrative production (Miller and Leddy 1998). Miller and Leddy suggest these deficits may impact the coordination of children's discourse and may lead them to constrain the complexity and length of their utterances to facilitate their being understood. Moreover, we suggest that, as in the example below from our own data, the listener may provide a response or feedback that is completely unconnected or irrelevant. Here, the examiner's response to the child's unintelligibility is to repeat her question and then provide affirmation despite not being able to understand what the child has said and does not help the child expand on their initial offering of "that one". (Note: x denotes an unintelligible word).

- (3) Examiner: You tell me what happened at the beach?
 Child: That one.
 Child: x x x.

Examiner: What happened at the beach?
Examiner: When you went to the beach?
Child: x.
Examiner: Who did you go with?
Child: x.
:03 (pause)
Child: x.
Examiner: Yeah.
Child: x.
Examiner: Is that right?

There appears to be an association between narrative abilities, age, and reading abilities (Finestack, Palmer and Abbeduto 2012; Kay-Raining Bird et al. 2008; van Bysterveldt et al. 2012), with van Bysterveldt et al. (2012) reporting longer and more complex narratives produced by the children with more advanced reading skills. Cleave et al. (2012) investigated narrative development over the course of a year in 32 children and adolescents with DS ages 5–16 via narrative retelling and generation tasks. Although children demonstrated some growth in areas of narrative structure, the researchers reported children and adolescents still experienced ongoing difficulties with the narrative tasks.

Some research suggests children with DS demonstrate a strength in narrative macrostructure abilities relative to their well-documented expressive language difficulties (Finestack, Palmer and Abbeduto 2012; Miles, Chapman and Sindberg 2006) and poorer performance on narrative microstructure measures (Chapman et al. 1998; Keller-Bell and Abbeduto 2007; van Bysterveldt et al. 2012). Difficulties with narrative production may be attributed to deficits in expressive language rather than an inability to mentally represent the event (Boudreau and Chapman 2000). Miles, Chapman and Sindberg (2006) reported better quality narratives (from the point of view of macrostructure) produced by children with DS compared to a control group matched for MLU (a microstructure measure). Finestack, Palmer and Abbeduto (2012) also reported a relative macrostructure advantage. However, after controlling for language abilities this advantage diminished. These findings demonstrate that narrative production remains challenging for individuals with DS, with narrative skills limited by poorer expressive than receptive language, and by particular deficits in syntactic and morphological relative to semantic abilities (Eadie et al. 2002; Laws and Bishop 2003).

Other extended speech events, including referential communication tasks, such as giving descriptions, may also be compromised by both cognitive and linguistic limitations. Abbeduto et al. (2006) found that adolescents and young adults with DS are more likely to produce ambiguous descriptions of novel objects and less likely to help the listener by providing “referential frames”, such as comparisons with known objects, (“It’s a bit like a...”), that might help scaffold the listener’s

comprehension. Such supports enhance the informational adequacy of a speaker's message; as do checks for comprehension. Coggins and Stoel-Gammon (1982) found that when asked for clarification five-year-old children with DS could respond. However, Abbeduto et al. (2008) found adolescents with DS less likely to indicate they had not understood others.

Finally, pragmatic competence also involves understanding and using the cultural and interpersonal conventions of interaction: the sociolinguistics of pragmatics or the "sociopragmatics" (Leech 1983; O'Neill 2012). These include such things as politeness formulae, proxemics, and knowledge of appropriate topics of conversation, depending on factors to do with perceptions of gender, status, setting, and so forth. All of these can be challenging for children with DS, particularly as social expectations change with chronological age, and may not take into account the lag in the development of mental age with respect to chronological age. From a clinical point of view, our own experience is that parents, teachers and others are (appropriately) counselled to encourage the most mature behaviour early, as unlearning less mature, more tolerated, behaviours is often difficult. "Cute" behaviour in a small child will have very different pragmatic implications when used by a pre-teen or teenager. This appears to be one of a number of topics in need of further research, both in terms of understanding the issues and in developing clinical responses (Næss et al. 2017).

5. Summary and clinical implications

We have suggested that understanding the pragmatics of individuals with Down syndrome requires attention to all aspects of the syndrome and to their impact on social engagement and language use at all levels from the phonetic and phonological to the macro-discourse unit. Importantly, we have tried to show how the different areas of challenge interact, with the sensorimotor challenges impacting the cognitive and social and vice versa. We have also suggested that how other individuals respond to the child with DS plays an important role in the development of their pragmatic skills.

The literature on the pragmatics of children and adults with DS spans a period at the beginning of which deinstitutionalisation was only just occurring, little was expected of individuals with DS, and little early intervention was available. The success of early intervention (Guralnick 2011) means that our understanding of the communicative competence of individuals with DS has changed considerably over the years. The overall picture, however, is that in most areas, children with DS are delayed rather than disordered, but that the prognosis for "catching up" is poor. Despite development, even well into adulthood, the impact of the syndrome is life-long and profound; and the successes of the few should not hide the challenges of the many.

The clinical power for helping each child reach their full potential (whatever that may be) rests with the interlocutor: parent, teacher, peer, therapist (Guralnick 2016; Iarocci et al. 2008; Hauser-Cram et al. 2001) and most education systems based on chronological age groupings are not supportive of the slower pace of development. There is, though, a lack of research on the longitudinal trajectories of development of individuals with DS; and this is particularly concerning given the wide and poorly understood variation in the capacities of individuals with DS. Given that the syndrome appears to be the result of a relatively simple genetic anomaly, it behoves us to work harder to understand the epigenetic and environmental factors that generate this wide spectrum of abilities and challenges.

Although children with DS may need encouragement to participate in conversational and other types of exchange, there is a wide range of capacities that can be harnessed by those who understand the nature of the syndrome and can be sufficiently meta-pragmatic in their own behaviour to scaffold the child effectively (Guralnick 2016). Despite the limited linguistic, cognitive or social resources of individuals with DS detailed in this chapter, these capacities include a facility for signing; an ability to use visual supports for comprehension; capacities for emotion reading and a social attraction to people; the ability to acquire vocabulary and, over time for many, both simple and complex language. Key people in the daily lives of individuals with DS can recognise, understand and respond to their expressions of communicative frustration; avoid assuming that poor speech equals poor thought/message content; accurately read the child's communicative intent; and scaffold more advanced pragmatic skills (Meadan et al. 2014).

Acknowledgements

We would like to thank Beth Rees for her help with our search of the literature and Jan Murphy, Lee Bennetts and Beth Rees for their feedback on a draft of this chapter.

References

- Abbeduto, Leonard and Linda J. Hesketh
 1997 Pragmatic development in individuals with mental retardation: Learning to use language in social interactions. *Mental Retardation and Developmental Disabilities Research Reviews* 3(4): 323–333.
- Abbeduto, Leonard, Melissa M. Murphy, Erica K. Richmond, Adrienne Amman, Patti Beth, Michelle D. Weissman, Jee-Seon Kim, Stephanie W. Cawthon, Selma Karadottir and Elisabeth Dykens
 2006 Collaboration in referential communication: Comparison of youth with Down syndrome or Fragile X syndrome. *American Journal on Mental Retardation* 111(3): 170–183.

- Abbeduto, Leonard, Melissa M. Murphy, Sara T. Kover, Nancy D. Giles, Selma Karadottir, Adrienne Amman, Loredana Bruno, Jee-Seon Kim, Susen Schroeder and Julie A. Anderson
2008 Signaling noncomprehension of language: A comparison of Fragile X syndrome and Down syndrome. *American Journal on Mental Retardation* 113(3): 214–230.
- Abbeduto, Leonard, Melissa Pavetto, Erica Kesin, Michelle Weissman, Selma Karadottir, Anne O'Brien and Stephanie Cawthon
2001 The linguistic and cognitive profile of Down syndrome: Evidence from a comparison with Fragile X syndrome. *Down Syndrome Research and Practice* 7(1): 9–15.
- Abbeduto, Leonard, Steven F. Warren and Frances A. Connors
2007 Language development in Down syndrome: From the prelinguistic period to the acquisition of literacy. *Mental Retardation and Developmental Disabilities Research Reviews. Special issue on Down syndrome* 13(3): 247–261.
- Adamson, Lauren B., Roger Bakeman, Deborah F. Deckner and Mary Ann Ronski
2009 Joint engagement and the emergence of language in children with autism and Down syndrome. *Journal of Autism and Developmental Disorders* 39(1): 84–96.
- Adamson, Lauren B., Deborah F. Deckner and Roger Bakeman
2010 Early interests and joint engagement in typical development, autism, and Down syndrome. *Journal of Autism and Developmental Disorders* 40(6): 665–76.
- Arisi, Elena, Stella Forti, Chiara Amadeo, Enrico Fagnani, Eliana Filippini, Elisabetta Iacona, Umberto Ambrosetti and Antonio Cesarani
2012 Auditory late potentials in normal-hearing adult subjects with Down's Syndrome. *Otology and Neurotology* 33(7): 1113–1117.
- Ateş, Beyza Ş. and Aylin C. Küntay
2018 Socio-pragmatic skills underlying language development: Boundaries between typical and atypical development. In: Amalia Bar-Om, Dorit Ravid and Elitzur Dattner (eds.), *Handbook of Communications Disorders: Theoretical, Empirical, and Applied Linguistic Perspectives* (Handbooks of Applied Linguistics 15), 279–310. Berlin: Walter de Gruyter.
- Baddeley, Alan D. and Christopher Jarrold
2007 Working memory and Down syndrome. *Journal of Intellectual Disability Research* 51(12): 925–931.
- Barstein, Jamie, Gary E. Martin, Michelle Lee and Molly Losh
2018 A duck wearing boots?! Pragmatic language strategies for repairing communication breakdowns across genetically based neurodevelopmental disabilities. *Journal of Speech, Language, and Hearing Research* 61: 1440–1454.
- Beeghly, Marjorie, Bedonna Weiss-Perry and Dante Cicchetti
1990 Beyond sensorimotor functioning: Early communicative and play development of children with Down syndrome. In: Dante Cicchetti and Marjorie Beeghly (eds.), *Children with Down Syndrome: A Developmental Perspective* (4th edition), 329–368. Cambridge: Cambridge University Press.
- Berger, Jiri
1990 Interactions between parents and their infants with Down syndrome. In: Dante Cicchetti and Marjorie Beeghly (eds.), *Children with Down Syndrome: A*

- Developmental Perspective* (4th edition), 101–146. Cambridge: Cambridge University Press.
- Berger, Jiri and Cliff C. Cunningham
 1981 The development of eye contact between mothers and normal versus Down's syndrome infants. *Developmental Psychology* 17(5): 678.
- Berger, Jiri and Cliff C. Cunningham
 1983 Development of early vocal behaviors and interactions in Down's syndrome and nonhandicapped infant–mother pairs. *Developmental Psychology* 19(3): 322.
- Berger, Jiri and Cliff C. Cunningham
 1986 Aspects of early social smiling by infants with Down's syndrome. *Child: Care, Health and Development* 12(1): 13–24.
- Berglund, Eva, Mårten Eriksson and Iréne Johansson
 2001 Parental reports of spoken language skills in children with Down syndrome. *Journal of Speech, Language and Hearing Research* 44(1): 179.
- Boudreau, Donna M. and Robin S. Chapman
 2000 The relationship between event representation and linguistic skill in narratives of children and adolescents with Down syndrome. *Journal of Speech, Language and Hearing Research* 43: 1146–1159.
- Brown-Sweeney, Sharon G. and Bruce L. Smith
 1997 The development of speech production abilities in children with Down syndrome. *Clinical Linguistics and Phonetics* 11(5): 345–362.
- Bull, Marilyn J.
 2011 Health supervision for children with Down syndrome. *Pediatrics* 128(2): 393–406.
- Burgoyne, Kelly, Fiona J. Duff, Paula J. Clarke, Sue Buckley, Margaret J. Snowling and Charles Hulme
 2012 Efficacy of a reading and language intervention for children with Down syndrome: A randomized controlled trial. *Journal of Child Psychology and Psychiatry* 53(10): 1044–1053.
- Caselli, M. Cristina, Stefano Vicari, Emiddia Longobardi, Laura Lami, Claudia Pizzoli and Giacomo Stella
 1998 Gestures and words in early development of children with Down syndrome. *Journal of Speech, Language, and Hearing Research* 41(5): 1125–1135.
- Cebula, Katie R., Derek G. Moore and Jennifer G. Wishart
 2010 Social cognition in children with Down's syndrome: Challenges to research and theory building. *Journal of Intellectual Disability Research* 54(2): 113–134.
- Chapman, Robin S. and Linda J. Hesketh
 2000 Behavioral phenotype of individuals with Down syndrome. *Mental Retardation and Developmental Disabilities Research Reviews* 6(2): 84–95.
- Chapman, Robin S., Hye-Kyeong Seung, Scott E. Schwartz and Elizabeth Kay-Raining Bird
 1998 Language skills of children and adolescents with Down syndrome: II. Production deficits. *Journal of Speech, Language and Hearing Research* 41(4): 861–873.

- Cleave, Patricia, Elizabeth Kay-Raining Bird, Rachael Czutrin and Lindsey Smith
2012 A longitudinal study of narrative development in children and adolescents with Down syndrome. *Intellectual and Developmental Disabilities* 50(4): 332–342.
- Cleland, Joanne, Sara Wood, William Hardcastle, Jennifer Wishart and Claire Timmins
2010 Relationship between speech, oromotor, language and cognitive abilities in children with Down's syndrome. *International Journal of Language and Communication Disorders* 45(1): 83–95.
- Coggins, Truman E., Robert L. Carpenter and Nathaniel O. Owings
1983 Examining early intentional communication in Down's syndrome and non-retarded children. *British Journal of Disorders of Communication* 18(2): 98–106.
- Coggins, Truman E. and Carol Stoel-Gammon
1982 Clarification strategies used by four Down's syndrome children for maintaining normal conversational interaction. *Education and Training of the Mentally Retarded* 17(1): 65–67.
- Court, Deborah, Varda Rosenthal and Inbal Mizrahi
2007 Play behaviour and social interactions of children with Down syndrome enrolled in regular preschools. *Down Syndrome Quarterly* 9(1): 10–15.
- Couzens, Donna, Monica Cuskelly and Michele Haynes
2011 Cognitive development and down syndrome: Age-related change on the Stanford-Binet Test. *American Journal on Intellectual and Developmental Disabilities* 116(3): 181–204.
- Crawley, Susan B. and Donna Spiker
1983 Mother-child interactions involving two-year-olds with Down syndrome: A look at individual differences. *Child Development* 54: 1312–1323.
- Cummings, Louise
2013 Clinical pragmatics and Theory of Mind. In: Alessandro Capone, Franco Lo Pipara and Marco Carapezza (eds.), *Perspectives on Linguistic Pragmatics*, 23–56. Cham, Switzerland: Springer International Publishing.
- Daunhauer, Lisa A., Deborah J. Fidler, Laura Hahn, Elizabeth Will, Nancy Raitano Lee and Susan Hepburn
2014 Profiles of everyday executive functioning in young children with Down syndrome. *American Journal on Intellectual and Developmental Disabilities* 119(4): 303–318.
- de Graaf, Gert, Frank Buckley and Brian G. Skotko
2015 Estimates of the live births, natural losses, and elective terminations with Down syndrome in the United States. *American Journal of Medical Genetics Part A* 167(4): 756–767.
- Deckers, Stijn R.J.M., Yvonne Van Zaalén, Judith Stoep, Hans Van Balkom and Ludo Verhoeven
2016 Communication performance of children with Down Syndrome: An ICF-CY based multiple case study. *Child Language Teaching and Therapy* 32(3): 293–311
- Devlin, Lisa and Patrick J. Morrison
2004 Mosaic Down's syndrome prevalence in a complete population study. *Archives of Disease in Childhood* 89: 1177.

- DiGuseppi, Carolyn, Susan Hepburn, Jonathan M. Davis, Deborah J. Fidler, Sara Hartway, Nancy Raitano Lee, Lisa Miller, Margaret Rutenber and Cordelia Robinson
 2010 Screening for autism spectrum disorders in children with Down syndrome: Population prevalence and screening test characteristics. *Journal of Developmental and Behavioral Pediatrics* 31(3): 181.
- Dodd, Barbara and L. Thompson
 2001 Speech disorder in children with Down's syndrome. *Journal of Intellectual Disability Research* 45(4): 308–316.
- Dykens, Elisabeth
 2007 Psychiatric and behavioral disorders in persons with Down syndrome. *Mental Retardation and Developmental Disabilities Research Reviews* 13: 272–278.
- Dykens, Elisabeth, Robert Hodapp and David Evans
 2006 Profiles and development of adaptive behavior in children with Down syndrome. *Down Syndrome Research and Practice* 9(3): 45–50.
- Eadie, Patricia A., Marc E. Fey, Jacinta M. Douglas and Carl L. Parsons
 2002 Profiles of grammatical morphology and sentence imitation in children with specific language impairment and Down syndrome. *Journal of Speech, Language, and Hearing Research* 45: 720–732.
- Elma, Stephen, Jennifer Dickson, A. David Kindley, Christopher C. Scott and Patricia M. Charleton
 2007 Surveillance of vision and ocular disorders in children with Down syndrome. *Developmental Medicine and Child Neurology* 49(7): 513.
- Feeley, Kathleen M., Emily A. Jones, Catherine Blackburn and Sara Bauer
 2011 Advancing imitation and requesting skills in toddlers with Down syndrome. *Research in Developmental Disabilities* 32(6): 2415–2430.
- Fenson, Larry, Philip Dale, J. Steven Reznick, Donna Thal, Elizabeth Bates, Jeffrey P. Hartung, Steve Pethick and Judy S. Reilly
 1993 *MacArthur Communicative Development Inventories: User's Guide and Technical Manual*. San Diego, CA: Singular Publishing Group.
- Fidler, Deborah J.
 2005 The emerging Down syndrome behavioral phenotype in early childhood: Implications for practice. *Infants and Young Children* 18(2): 86–103.
- Fidler, Deborah J., Susan L. Hepburn and Sally J. Rogers
 2006 Early learning and adaptive behaviour in toddlers with Down syndrome: evidence for an emerging behavioural phenotype? *Down Syndrome Research and Practice* 9(3): 37–44.
- Fidler, Deborah J., David E. Most, Cathryn Booth-LaForce and Jean F. Kelly
 2008 Emerging social strengths in young children with Down syndrome. *Infants and Young Children* 21(3): 207–220.
- Fidler, Deborah J., Amy Philofsky, Susan L. Hepburn, Sally J. Rogers and Leonard Abbeduto
 2005 Nonverbal requesting and problem-solving by toddlers with Down syndrome. *American Journal on Mental Retardation* 110(4): 312–322.
- Finestack, Lisbeth H., Meghan Palmer and Leonard Abbeduto
 2012 Macrostructure narrative language of adolescents and young adults with Down syndrome or Fragile X. *American Journal of Speech–Language Pathology* 21(1): 29–46.

- Foster-Cohen, Susan H. and Anne K. van Bysterveldt
2016 Assessing the communication development of children with language delay through parent multi-questionnaire reporting. *Speech, Language and Hearing* 19(2): 79–86.
- Foster-Cohen, Susan H. and Tze-Peng Wong
2017 Early intervention at the interface: Semantic-pragmatic strategies for facilitating conversation with children with developmental disabilities. In: Ilse Depraetere and Raphael Salkie (eds), *Drawing a Line: Perspectives on the Semantics–Pragmatics Interface*, 163–182. Cham, Switzerland: Springer International Publishing.
- Foster-Cohen, Susan H., Anne K. van Bysterveldt and Viktoria Papp
2017 Identifying pragmatic triggers for multi-word expressions in children with complex developmental delays. Poster presentation at the International Association for the Study of Child Language conference, Lyon, France, July 17–21.
- Foster-Cohen, Susan H., Anne K. van Bysterveldt and Beth Rees
2016 Parent observations of the language use of preschool children with Down syndrome. Paper presented at the International Association for the Scientific Study of Intellectual and Developmental Disabilities (IASSIDD) World Congress, Melbourne, August 15–19.
- Franco, Fabia and Jennifer G. Wishart
1995 Use of pointing and other gestures by young children with Down syndrome. *American Journal on Mental Retardation* 100(2): 160–182.
- Frank, Katherine and Anna J. Esbensen
2015 Fine motor and self-care milestones for individuals with Down syndrome using a Retrospective Chart Review. *Journal of Intellectual Disability Research* 59(8): 719–729.
- Garrod, Simon and Martin J. Pickering
2004 Why is conversation so easy? *Trends in Cognitive Sciences* 8(1): 8–11.
- Gazdag, Gail and Steven F. Warren
2000 Effects of adult contingent imitation on development of young children's vocal imitation. *Journal of Early Intervention* 23(1): 24–35.
- Giaouri, Stergiani, Anastasia Alevriadou and Eleni Tsakiridou
2010 Theory of mind abilities in children with Down syndrome and non-specific intellectual disabilities: An empirical study with some educational implications. *Procedia – Social and Behavioral Sciences* 2(2): 3883–3887.
- Gilmore, Linda, Monica Cuskelly, Anne Jobling and Alan Hayes
2009 Maternal support for autonomy: Relationships with persistence for children with Down syndrome and typically developing children. *Research in Developmental Disabilities* 30(5): 1023–1033.
- Girolametto, Luigi and Elaine Weitzman
2006 It takes two to talk – The Hanen program for parents: Early language intervention through caregiver training. In: Rebecca J. McCauley and Marc E. Fey (eds.), *Treatment of Language Disorders in Children*, 77–103. Baltimore, MA: Brookes.
- Girolametto, Luigi, Elaine Weitzman, Megan Wiigs and Patsy Steig Pearce
1999 The relationship between maternal language measures and language development in toddlers with expressive vocabulary delays. *American Journal of Speech–Language Pathology* 8(4): 364–374.

- Grieco, Julie, Margaret Pulsifer, Karen Seligsohn, Brian Skotko and Alison Schwartz
 2015 Down syndrome: Cognitive and behavioral functioning across the lifespan. *American Journal of Medical Genetics Part C: Seminars in Medical Genetics* 169(2): 135–149.
- Gunter, Cheryl D. and Mareile A. Koenig
 2011 *Communication Development and Disorder for Partners in Service*. San Diego: Plural Publishing.
- Guralnick, Michael J.
 2005 Early intervention for children with intellectual disabilities: Current knowledge and future prospects. *Journal of Applied Research in Intellectual Disabilities* 18(4): 313–324.
- Guralnick, Michael J.
 2011 Why early intervention works: A systems perspective. *Infants and Young Children* 24(1): 6.
- Guralnick, Michael J.
 2016 Early intervention for children with intellectual disabilities: An update. *Journal of Applied Research in Intellectual Disabilities* 30(2): 211–229.
- Guralnick, Michael J., Robert T. Connor and L. Clark Johnson
 2009 Home-based peer social networks of young children with Down syndrome: A developmental perspective. *American Journal on Intellectual and Developmental Disabilities* 114(5): 340–355.
- Hahn, Laura J., Deborah J. Fidler, Susan L. Hepburn and Sally J. Rogers
 2013 Early intersubjective skills and the understanding of intentionality in young children with Down syndrome. *Research in Developmental Disabilities* 34(12): 4455–4465.
- Hauser-Cram, Penny, Marji Erickson Warfield, Jack P. Shonkoff and Marty Wyngaarden Krauss
 2001 *Children with Disabilities: A Longitudinal Study of Child Development and Parent Well-Being*. (Monographs of the Society for Research in Child Development 66:3.) Hoboken: Wiley.
- Heimann, Mikael, Eva Ullstadius and Agneta Swerlander
 1998 Imitation in eight young infants with Down's Syndrome. *Pediatric Research* 44(5): 780–784.
- Hepburn, Susan, Amy Philofsky, Deborah J. Fidler and Sally Rogers
 2008 Autism symptoms in toddlers with Down syndrome: A descriptive study. *Journal of Applied Research in Intellectual Disabilities* 21(1): 48–57.
- Howe, David
 2006 Disabled children, parent–child interaction and attachment. *Child and Family Social Work* 11(2): 95–106.
- Hughes, Diana L., LaRae McGillivray and Mark Schmidek
 1997 *Guide to Narrative Language: Procedures for Assessment*. Eau Claire, WI: Thinking Publications.
- Iarocci, Grace, Jodi Yager, Adrienne Rombough and Jessica McLaughlin
 2008 The development of social competence among persons with Down syndrome: From survival to social inclusion. *International Review of Research in Mental Retardation* 35: 87–119.

- Iverson, Jana M., Emiddia Longobardi and M. Cristina Caselli
2003 Relationship between gestures and words in children with Down's syndrome and typically developing children in the early stages of communicative development. *International Journal of Language and Communication Disorders* 38(2): 179–197.
- Jahromi, Laudan B., Amanda Gulsrud, Connie Kasari and Elisabeth Dykens
2008 Emotional competence in children with Down syndrome: Negativity and regulation. *American Journal on Mental Retardation* 113(1): 32–43.
- John, Angela E. and Carolyn B. Mervis
2010 Comprehension of the communicative intent behind pointing and gazing gestures by young children with Williams syndrome or Down syndrome. *Journal of Speech, Language, and Hearing Research* 53(4): 950–960.
- Karmiloff-Smith, Annette
2011 Static snapshots versus dynamic approaches to genes, brain, cognition, and behavior in neurodevelopmental disabilities. *International Review of Research in Developmental Disabilities* 40: 1–15.
- Kasari, Connie, Stephanny F.N. Freeman and Wendy Bass
2003 Empathy and response to distress in children with Down syndrome. *Journal of Child Psychology and Psychiatry* 44 (3): 424–431.
- Kasari, Connie, Stephanny F.N. Freeman, Peter Mundy and Marian D. Sigman
1995 Attention regulation by children with Down syndrome: Coordinated joint attention and social referencing looks. *American Journal of Mental Retardation* 100(2): 128–136.
- Kasari, Connie and Marion Sigman
1996 Expression and understanding of emotion in atypical development: Autism and Down syndrome. In: Michael Lewis and Margaret Wolan Sullivan (eds.), *Emotional Development in Atypical Children*, 109–130. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Kay-Raining Bird, Elizabeth, Patricia L. Cleave, Denise White, Heather Pike and April Helmkey
2008 Written and oral narratives of children and adolescents with Down syndrome. *Journal of Speech, Language and Hearing Research* 51: 436–450.
- Keller–Bell, Yolanda D. and Leonard Abbeduto
2007 Narrative development in adolescents and young adults with Fragile X syndrome. *American Journal of Mental Retardation* 112(4): 289–299.
- Kent, Ray D. and Hourii K. Voperian
2013 Speech impairment in Down syndrome: A review. *Journal of Speech, Language, and Hearing Research* 56: 178–210.
- Kover, Sara T., Andrea McDuffie, Leonard Abbeduto and W. Ted Brown
2012 Effects of sampling context on spontaneous expressive language in males with Fragile X syndrome or Down syndrome. *Journal of Speech, Language, and Hearing Research* 55: 1022–1038.
- Kumin, Libby
2006a Differential diagnosis and treatment of speech sound production problems in individuals with Down syndrome. *Down Syndrome Quarterly* 8(2): 7–18.
- Kumin, Libby
2006b Speech intelligibility and childhood verbal apraxia in children with Down syndrome. *Down Syndrome Research and Practice* 10: 10–22.

Kumin, Libby and Jennifer Adams

2000 Developmental apraxia of speech and intelligibility in children with Down syndrome. *Down Syndrome Quarterly* 5: 1–7.

Kumin, Libby, Cheryl Councill and Mina Goodman

1994 A longitudinal study of the emergence of phonemes in children with Down syndrome. *Journal of Communication Disorders* 27: 293–303.

Lanfranchi, Silvia, Barbara Carretti, Goffredina Spanò and Cesare Cornoldi

2009 A specific deficit in visuospatial simultaneous working memory in Down syndrome. *Journal of Intellectual Disability Research* 53: 474–483.

Lanfranchi, Silvia, Olga Jerman, Elisa Dal Pont, A. Alberti and Renzo Vianello

2010 Executive function in adolescents with Down syndrome. *Journal of Intellectual Disability Research* 54: 308–319.

Laws, Glynis

2002 Working memory in children and adolescents with Down syndrome: Evidence from a colour memory experiment. *Journal of Child Psychology and Psychiatry* 43(3): 353–364.

Laws, Glynis

2004 Contributions of phonological memory, language comprehension and hearing to the expressive language of adolescents and young adults with Down syndrome. *Journal of Child Psychology and Psychiatry* 45(6): 1085–1095.

Laws, Glynis and Dorothy V. M. Bishop

2003 The comparison of language abilities in adolescents with Down syndrome and children with specific language impairment. *Journal of Speech, Language, and Hearing Research* 46(6): 1324–1339.

Laws, Glynis and Amanda Hall

2014 Early hearing loss and language abilities in children with Down syndrome. *International Journal of Language and Communication Disorders* 49(3): 333–342.

Leddy, Mark

1999 The biological basis of speech in people with Down syndrome. In: Jon F. Miller, Mark Leddy and Lewis A. Leavitt (eds.), *Improving the Communication of People with Down Syndrome*, 61–80. Baltimore: Paul H Brookes Publishing.

Lee, Michelle, Lauren Bush, Gary E. Martin, Jamie Barstein, Nell Maltman, Jessica Klusek and Molly Losh

2017 A multi-method investigation of pragmatic development in individuals with Down syndrome. *American Journal on Intellectual and Developmental Disabilities* 122(4): 289–309.

Lee, Nancy Raitano, Payal Anand, Elizabeth Will, Elizabeth I. Adeyemi, Liv S. Clasen, Jonathan D. Blumenthal, Jay N. Giedd, Lisa A. Daunhauer, Deborah J. Fidler and Jamie O. Edgin

2015 Everyday executive functions in Down syndrome from early childhood to young adulthood: Evidence for both unique and shared characteristics compared to youth with sex chromosome trisomy (XXX and XXY). *Frontiers in Behavioral Neuroscience* 9.

Leech, Geoffrey N.

1983 *Principles of Pragmatics*. Harlow, Essex: Longman.

- Leinonen, Eeva and Nuala Ryder
2008 Relevance theory and communication disorders. In: Martin J. Ball, Michael R. Perkins, Nicole Müller and Sara Howard (eds.) *The Handbook of Clinical Linguistics*, 49–60. Oxford: Blackwell.
- Linn, Margaret Inman, Joan F. Goodman and Winifred Lloyds Lender
2000 Played out? Passive behavior by children with Down syndrome during unstructured play. *Journal of Early Intervention* 23(4): 264–278.
- Lott, Ira T.
2012 Neurological phenotypes for Down syndrome across the life span. *Progress in Brain Research* 197: 101.
- Lynch, Michael P., D. Kimbrough Oller, Michelle L. Steffens, Sharyse L. Levine, Deborah L. Basinger and Vivian Umbel
1995 Onset of speech-like vocalizations in infants with Down syndrome. *American Journal of Mental Retardation* 100(1): 68–86.
- Martin, Gary E., Michelle Lee and Molly Losh
2018 Intellectual disability. In: Louise Cummings (ed.), *Research in Clinical Pragmatics* (Perspectives in Pragmatics, Philosophy and Psychology 11), 109–129. Cham, Switzerland: Springer International Publishing.
- Martin, Gary E., Jamie Barstein, Jane Hornickel, Sara Matherly, Genna Durante and Molly Losh
2017 Signalling noncomprehension in communication breakdowns in Fragile X syndrome, Down syndrome and Autism Spectrum disorder. *Journal of Communication Disorders* 65: 22–34.
- Martin, Gary E., Jessica Klusek, Bruno Estigarribia and Joanne E. Roberts
2009 Language characteristics of individuals with Down syndrome. *Topics in Language Disorders* 29(2): 112.
- Matthews, Danielle, Hannah Biney and Kirsten Abbot-Smith
2018 Individual differences in children's pragmatic ability: A review of associations with formal language, social cognition, and executive functions. *Language Learning and Development* 14(3): 186–223.
- McCabe, Allyssa, Lynn Bliss, Gabriela Barra and MariBeth Bennett
2008 Comparison of personal versus fictional narratives of children with language impairment. *American Journal of Speech–Language Pathology* 17: 194–206.
- McCabe, Allyssa and Pamela R. Rollins
1994 Assessment of preschool narrative skills. *American Journal of Speech–Language Pathology* 3: 45–56.
- Meadan, Hedda, Maureen E. Angell, Julia B. Stoner and Marcus E. Daczewitz
2014 Parent-implemented social-pragmatic communication intervention: A pilot study. *Focus on Autism and Other Developmental Disabilities* 29(2): 95–110.
- Miles, Sally, Robin S. Chapman and Heidi A. Sindberg
2006 Sampling context affects MLU in the language of adolescents with Down syndrome. *Journal of Speech, Language and Hearing Research* 49: 325–337.
- Miller, Jon F. and Mark Leddy
1998 Down syndrome: The impact of speech production on language production. In: Rhea Paul (ed.), *Exploring the Speech–Language Connection*, 163–178. Baltimore: Paul H. Brookes Publishing.

- Miolo, Giuliana, Robin S. Chapman and Heidi A. Sindberg
 2005 Sentence comprehension in adolescents with Down syndrome and typically developing children: Role of sentence voice, visual context, and auditory-verbal short-term memory. *Journal of Speech, Language and Hearing Research* 48(1): 172–188.
- Moss, Jo, Caroline Richards, Lisa Nelson and Chris Oliver
 2013 Prevalence of autism spectrum disorder symptomatology and related behavioural characteristics in individuals with Down syndrome. *Autism* 17(4): 390–404.
- Moura, Carla Pinto, Luís Miguel Cunha, Helena Vilarinho, Maria João Cunha, Diamantino Freitas, Miguel Palha, Siegfried M. Pueschel and Manuel Pais-Clemente
 2008 Voice parameters in children with Down syndrome. *Journal of Voice* 22(1): 34–42.
- Mundy, Peter, Connie Kasari, Marian Sigman and Ellen Ruskin
 1995 Nonverbal communication and early language acquisition in children with Down syndrome and in normally developing children. *Journal of Speech, Language, and Hearing Research* 38(1): 157–167.
- Næss, Kari-Anne B., Egil Nygaard, Johanne Ostad, Anne-Stine Dolva and Solveig-Alma Halaas Lyster
 2017 The profile of social functioning in children with Down syndrome. *Disability and Rehabilitation* 39(13): 1320–1331.
- Nelson, Katherine
 2009 *Young Minds in Social Worlds: Experience, Meaning, and Memory*. Cambridge, MA: Harvard University Press.
- Ochs, Elinor and Bambi B. Schieffelin
 1983 *Acquiring Conversational Competence*. London: Routledge and Kegan Paul.
- O'Neill, Daniela K.
 2009 *Language Use Inventory: An assessment of Young Children's Pragmatic Language Development for 18- to 47-Month-Old Children [Manual]*. Waterloo, Ontario: Knowledge in Development.
- O'Neill, Daniela K.
 2007 The language use inventory for young children: A parent-report measure of pragmatic language development for 18- to 47-month-old children. *Journal of Speech, Language and Hearing Research* 50(1): 214–228.
- O'Neill, Daniela K.
 2012 Components of pragmatic ability and children's pragmatic language development. In: Hans-Jörg Schmid (ed.), *Cognitive Pragmatics*, 261–287. (Handbooks of Pragmatics 4.) Berlin/Boston: De Gruyter Mouton.
- O'Neill, Daniela K. and Francesca G.E. Happé
 2000 Noticing and commenting on what's new: Differences and similarities among 22-month-old typically developing children, children with Down syndrome and children with autism. *Developmental Science* 3(4): 457–478.
- O'Toole, Ciara, Alice S.-Y. Lee, Fiona E. Gibbon, Anne K. van Bysterveldt and Nicola J. Hart
 2018 Parent-mediated interventions for promoting communication and language development in young children with Down syndrome. *Cochrane Database of Systematic Reviews* 10: CD012089: 74.

- Park, Albert H., Matt A. Wilson, Paul T. Stevens, Richard Harward and Nancy Hohler
2012 Identification of hearing loss in pediatric patients with Down syndrome. *Otolaryngology–Head and Neck Surgery* 146(1): 135–140.
- Patterson, Tess, Charlene M. Rapsey and Paul Glue
2013 Systematic review of cognitive development across childhood in Down syndrome: Implications for treatment interventions. *Journal of Intellectual Disability Research* 57(4): 306–318.
- Paul, Rhea and Rita L. Smith
1993 Narrative skills in 4-year-olds with normal, impaired, and late-developing language. *Speech-Language Pathology Faculty Publications*. Paper 54.
- Perkins, Michael
2007 *Pragmatic Impairment*. Cambridge: Cambridge University Press.
- Perkins, Michael
2008 Pragmatic impairment as an emergent phenomenon. In: Martin J. Ball, Michael R. Perkins, Nicole Müller and Sara Howard (eds.), *The Handbook of Clinical Linguistics*, 79–91. Oxford: Blackwell.
- Price, Johanna R., Andrea Vizoso, Taylor Ellerbee, Joanne E. Roberts and John Sideris
2018 Communication breakdowns and repair strategies of children with Down syndrome. *Advances in Neurodevelopmental Disorders* 2: 16–24.
- Reese, Elaine and Stephanie Read
2000 Predictive validity of the New Zealand MacArthur communicative development inventory: Words and sentences. *Journal of Child Language* 27(2): 255–266.
- Roberts, Joanne E., Steven H. Long, Cheryl Malkin, Elizabeth Barnes, Martie Skinner, Elizabeth A. Hennon and Kathleen Anderson
2005 A comparison of phonological skills of boys with Fragile X syndrome and Down syndrome. *Journal of Speech, Language, and Hearing Research* 48(5): 980–995.
- Roberts, Joanne E., Gary E. Martin, Lauren Moskowitz, Adrienne A. Harris, Jamila Foreman and Lauren Nelson.
2007 Discourse skills of boys with Fragile X syndrome in comparison to boys with Down syndrome. *Journal of Speech, Language, and Hearing Research* 50(2): 475–492.
- Roberts, Joanne E., Johanna Price and Cheryl Malkin
2007 Language and communication development in Down syndrome. *Mental Retardation and Developmental Disabilities Research Reviews* 13(1): 26–35.
- Rupela, Vani and R. Manjula
2007 Phonotactic patterns in the speech of children with Down syndrome. *Clinical Linguistics and Phonetics* 21(8): 605–622.
- Rupela, Vani, Shelley L. Velleman and Mary V. Andrianopoulos
2016 Motor speech skills in children with Down syndrome: A descriptive study. *International Journal of Speech-Language Pathology* 18(5): 483–492.
- Segal, Aviva and Diane Pesco
2015 Narrative skills of youth with Down syndrome: A comprehensive literature review. *Journal of Developmental and Physical Disabilities* 27(5): 721–743.
- Seung, Hye-Kyeong and Robin S. Chapman
2003 The effect of story presentation rates on story retelling by individuals with Down syndrome. *Applied Psycholinguistics* 24(4): 603–620.

- Shott, Sally R.
 2000 Down syndrome: Common pediatric ear, nose and throat problems. *Down Syndrome Quarterly* 5(2): 1–6.
- Shott, Sally R., Aileen Joseph and Dorsey Heithaus
 2001 Hearing loss in children with Down syndrome. *International Journal of Pediatric Otorhinolaryngology* 61(3): 199–205.
- Sigman, Marian, Ellen Ruskin, Shoshana Arbelle, Rosalie Corona, Cheryl Dissanayake, Michael Espinosa, Norman Kim, Alma Lopez, Cynthia Zierhut, Carolyn B. Mervis and Byron F. Robinson
 1999 *Continuity and Change in the Social Competence of Children with Autism, Down Syndrome, and Developmental Delays*. (Monographs of the Society for Research in Child Development 64:1.) Hoboken: Wiley.
- Singer Harris, Naomi G., Ursula Bellugi, Elizabeth Bates, Wendy Jones and Michael Rossen
 1997 Contrasting profiles of language development in children with Williams and Down syndromes. *Developmental Neuropsychology* 13(3): 345–370.
- Slonims, Vicky and Helen McConachie
 2006 Analysis of mother–infant interaction in infants with Down syndrome and typically developing infants. *American Journal on Mental Retardation* 111(4): 273–289.
- Smith, Bruce L. and Carol Stoel-Gammon
 1996 A qualitative analysis of reduplicated and variegated babbling in vocalizations by Down syndrome infants. *Clinical Linguistics and Phonetics* 10(2): 119–129.
- Smith, Lars and Stephen von Tetzchner
 1986 Communicative, sensorimotor, and language skills of young children with Down syndrome. *Journal of Mental Deficiency* 91(1): 57–66.
- Sokol, Shari and Marc E. Fey
 2013 Consonant and syllable complexity of toddlers with Down syndrome and mixed-aetiology developmental delays. *International Journal of Speech-Language Pathology* 15(6): 575–585.
- Sperber, Dan
 1994 Understanding verbal understanding. In: Jean Khalfa (ed.), *What is Intelligence?* 179–198. Cambridge: Cambridge University Press.
- Sperber, Dan and Deirdre Wilson
 1995 *Relevance: Communication and Cognition* (2nd edition). Oxford/Cambridge, MA: Blackwell.
- Sperber, Dan and Deirdre Wilson
 2002 Pragmatics, modularity and mind-reading. *Mind and Language* 17(1–2): 3–23.
- Stoel-Gammon, Carol
 1997 Phonological development in Down syndrome. *Mental Retardation and Developmental Disabilities Research Reviews* 3(4): 300–306.
- Stoel-Gammon, Carol
 2001 Down syndrome phonology: Developmental patterns and intervention strategies. *Down Syndrome Research and Practice* 7(3): 93–100.
- Tannock, Rosemary
 1988 Mothers' directiveness in their interactions with their children with and without Down syndrome. *American Journal on Mental Retardation* 93(2): 154–165.

- te Kaat-van den Os, Danielle, M. J. M. Volman and Marian Jongmans
2014 Expressive vocabulary development in children with Down's syndrome age 18 to 33 months: Profiles and growth patterns. *Journal of Applied Research in Intellectual Disabilities* 27(4): 398.
- te Kaat-van den Os, Danielle J.A., Marian J. Jongmans, M. (Chiel) J. M. Volman and Peter E. M. Lauteslager
2015 Do gestures pave the way?: A systematic review of the transitional role of gesture during the acquisition of early lexical and syntactic milestones in young children with Down syndrome. *Child Language Teaching and Therapy* 31(1): 71–84.
- Thiemann-Bourque, Kathy S., Steven F. Warren, Nancy Brady, Jill Gilkerson and Jeffrey A. Richards
2014 Vocal interaction between children with Down syndrome and their parents. *American Journal of Speech-Language Pathology* 23(3): 474–485.
- Thordardottir, Elin T., Robin S. Chapman and Laura Wagner
2002 Complex sentence production by adolescents with Down syndrome. *Applied Psycholinguistics* 23(2): 163–183.
- Timmins, Claire, Joanne Cleland, Rebecca Rodger, Jennifer Wishart, Sara Wood and William Hardcastle
2009 Speech production in Down syndrome. *Down Syndrome Quarterly* 11(2): 16–22.
- Trevarthen, Colwyn
1979 Communication and cooperation in early infancy: A description of primary intersubjectivity. In: Margaret Bullowa (ed.), *Before Speech: The Beginning of Interpersonal Communication*, 321–347. Cambridge: Cambridge University Press.
- Trevarthen, Colwyn and Kenneth J. Aitken
2001 Infant intersubjectivity: Research, theory, and clinical applications. *Journal of Child Psychology and Psychiatry* 42(1): 3–48.
- Van Borsel, John
1996 Articulation in Down's syndrome adolescents and adults. *European Journal of Disorders of Communication* 31: 415–444.
- Van Borsel, John and John A. Tetnowski
2007 Fluency disorders in genetic syndromes. *Journal of Fluency Disorders* 32(4): 279–296.
- van Bysterveldt, Anne K.
2009 Speech, phonological awareness and literacy in New Zealand children with Down syndrome. PhD thesis. University of Canterbury, Christchurch, New Zealand.
- van Bysterveldt, Anne K., Susan H. Foster-Cohen and Gail T. Gillon
2013 Engaging families in promoting emergent literacy for children with Down syndrome. In: Holly Kreider, Margaret Caspe and Diana B. Hiatt-Michael (eds.), *Promising Practices for Engaging Families in Literacy*, 29–41. Charlotte, NC: Information Age Publishing.
- van Bysterveldt, Anne K. and Gail T. Gillon
2014 A descriptive study examining phonological awareness and literacy development in children with Down syndrome. *Folia Phoniatrica et Logopaedica* 66: 48–57.

- van Bysterveldt, Anne K., Gail T. Gillon and Susan H. Foster-Cohen
 2010a Integrated speech and phonological awareness intervention for pre-school children with Down syndrome. *International Journal of Language and Communication Disorders* 45(3): 320–335.
- van Bysterveldt, Anne K., Gail T. Gillon and Susan H. Foster-Cohen
 2010b Literacy environments for children with Down syndrome: What's happening at home? *Down Syndrome Research and Practice* 12(2): 98–102.
- van Bysterveldt, Anne K., Gail T. Gillon and Susan H. Foster-Cohen
 2016 Phonemic inventory, phonological error patterns and intelligibility of school age children with Down syndrome. Paper presented at the International Association for the Scientific Study of Intellectual and Developmental Disabilities (IASSIDD) Melbourne, Australia, August 15–19.
- van Bysterveldt, Anne K., Gail T. Gillon and Catherine Moran
 2006 Enhancing phonological awareness and letter knowledge in preschool children with Down syndrome. *International Journal of Disability, Development and Education* 53(3): 301–329.
- van Bysterveldt, Anne K., Marleen F. Westerveld, Gail T. Gillon and Susan H. Foster-Cohen
 2012 Personal narrative skills of school-aged children with Down syndrome. *International Journal of Language and Communication Disorders* 47(1): 95–105.
- van Bysterveldt, Anne K. and Marleen F. Westerveld
 2017 Children with Down syndrome sharing past personal event narratives with their teacher aides: A pilot study. *International Journal of Disability, Development and Education* 64(3): 249–269.
- Vandereet, Joke, Bea Maes, Dirk Lembrechts and Inge Zink
 2011 Expressive vocabulary acquisition in children with intellectual disability: Speech or manual signs? *Journal of Intellectual and Developmental Disability* 36(2): 91–104.
- Visootsak, Jeannie, B. Hess, Roger Bakeman and Lauren B. Adamson
 2013 Effect of congenital heart defects on language development in toddlers with Down syndrome. *Journal of Intellectual Disability Research* 57: 887–892.
- Weijerman, Michel E. and J. Peter De Winter
 2010 The care of children with Down syndrome. *European Journal of Pediatrics* 169(12): 1445–1452.
- Westerveld, Marleen F., Gail T. Gillon and Jon F. Miller
 2004 Spoken language samples of New Zealand children in conversation and narration. *Advances in Speech–Language Pathology* 6: 195–208.
- Westerveld, Marleen F., Gail T. Gillon, Anne K. van Bysterveldt and Lynda Boyd
 2015 The emergent literacy skills of four-year-old children receiving free kindergarten early childhood education in New Zealand. *International Journal of Early Years Education* 23(4): 339–351.
- Williams, Katie R., Jennifer G. Wishart, Tom K. Pitcairn and Diane S. Willis
 2005 Emotion recognition by children with Down syndrome: Investigation of specific impairments and error patterns. *American Journal on Mental Retardation* 110(5): 378–392.
- Wishart, Jennifer G.
 2007 Socio-cognitive understanding: A strength or weakness in Down's syndrome? *Journal of Intellectual Disability Research* 51(12): 996–1005.

- Witecy, Bernadette and Martina Penke
 2017 Language comprehension in children, adolescents, and adults with Down syndrome. *Research in Developmental Disabilities* 62: 184–196.
- Wong, Tze-Peng
 2012 Changes in the conversational skills of preschool children with complex developmental difficulties. PhD thesis. University of Canterbury, Christchurch, New Zealand.
- Wong, Tze-Peng, Catherine Moran and Susan H. Foster-Cohen
 2012 The effects of expansions, questions and cloze procedures on children's conversational skills. *Clinical Linguistics and Phonetics* 26(3): 273–287.
- Wright, Courtney A., Ann P. Kaiser, Dawn I. Reikowsky and Megan Y. Roberts
 2013 Effects of a naturalistic sign intervention on expressive language of toddlers with Down syndrome. *Journal of Speech, Language and Hearing Research* 56(3): 994–1008.
- Wright, Ingram, Vicky Lewis and Glyn M. Collis
 2006 Imitation and representational development in young children with Down syndrome. *British Journal of Developmental Psychology* 24(2): 429–450.
- Yoder, Paul J., Steven F. Warren and Leonard Abbeduto
 2004 Early predictors of language in children with and without Down syndrome. *American Journal on Mental Retardation* 109(4): 285–300.
- Zampini, Laura and Laura D'Odorico
 2009 Communicative gestures and vocabulary development in 36-month-old children with Down's syndrome. *International Journal of Language and Communication Disorders* 44(6): 1063–1073.
- Zampini, Laura, Mirco Fasolo, Maria Spinelli, Paola Zanchi, Chiara Suttora and Nicoletta Salerni
 2016 Prosodic skills in children with Down syndrome and in typically developing children. *International Journal of Language and Communication Disorders* 51(1): 78–83.
- Zigman, Warren B. and Ira T. Lott
 2007 Alzheimer's disease in Down syndrome: Neurobiology and risk. *Mental Retardation and Developmental Disabilities Research Reviews* 13(3): 237–246.

20. Pragmatic competence in aphasia

Gloria Streit Olness and Hanna K. Ulatowska

Abstract: Humans carve pragmatic action and communicative purpose out of a boundless array of contexts and situations through the use of language. For people who have an acquired, neurogenic language disorder called aphasia, potential effects of the impairment on their pragmatic competence are of interest. People with aphasia vary from each other in their relative profiles of severity and type of linguistic deficits, and associated linguistic preservations. However, they are united in their communicative engagement. A discourse analytic approach is applied to a set of naturally occurring, contextually situated, discourse samples of people with aphasia – spoken and written, personally narrated and interactive – representing a range of pragmatic functions. The evidence suggests that communicative efficiency and expression of the referential function may pose challenges for this population. Yet, an overarching pragmatic competence is displayed through their purposeful orchestration of vestiges of preserved language, shared world knowledge, paralinguage, and interlocutor input, to achieve ultimate discourse coherence. Discourse coherence is constrained and facilitated by the typical life context of this population: post-stroke trauma, threats to expression of identity, and societal misunderstanding of aphasia. Suggestions are offered for future research to enhance our understanding of the nuanced role that language may play in pragmatic action.

1. Introduction

Discourse has been conceptualized pragmatically as “the entire context of human language-in-use” (Mey 2001: 190). Humans carve meaning and purpose out of thin air, using a linguistic tool set of rich distributional complexity across systems of phonology, morphology, syntax, and semantics. With these tools, we ply our pragmatic trade of interactive negotiation, interpersonal influence, and communicative goal fulfillment across a boundless set of contexts and situations. Jacob Mey metaphorically describes “[t]he discursive space” as “a fertile chaos, a *tohuwabohu*, ready to accept the impact of language, of the Word” (2001: 191), an allusion to Biblical accounts of the workings of the Word at the very first moments of creation. Indeed, even the most casual metapragmatic observations across a wide variety of everyday contexts reveal the ubiquity of use of language in achieving pragmatic goals, to impact and influence others.

Given our frequent use of language as we act pragmatically, what might become of a person’s pragmatic competence if this fundamental linguistic tool set

<https://doi.org/10.1515/9783110431056-020>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 581–610. Berlin/Boston: De Gruyter Mouton.

were to be adventitiously and abruptly compromised? This constitutes the very scenario, or set of scenarios, highlighted and discussed in the present chapter. In particular, we examine and interpret specific discourse-based examples that speak to the pragmatic competence and pragmatic engagement of people who live with a disorder called *aphasia*. Aphasia is an acquired impairment of language typically associated with sudden-onset neurological damage, such as stroke, to the networks of the brain that support language, which are typically localized to the left cerebral hemisphere. Importantly, aphasia is varied in its manifestation. This variation is associated in part with the location and extent of damage within the neurologically refined networks of the language-dominant cerebral hemisphere, which are sensitive to even the slightest disruption. The classical model of aphasia typology identifies symptom groupings or syndromes of aphasia, each characterized to include an associated location of neurological damage within the language-dominant hemisphere (Tesak and Code 2008: 83–84). Foundations of this classical model were laid in the last third of the nineteenth century, and the model experienced a neoclassical resurgence in the 1960s that emerged as the Boston classification, which became internationally known and remains influential to this day (Tesak and Code 2008: 165–170). Two common and well-known typological pillars in the Boston classification are Broca’s aphasia and Wernicke’s aphasia. Broca’s aphasia is characterized by non-fluent, halting, and grammatically and lexically restricted oral expression with relatively preserved auditory comprehension of language; it is associated with neurological damage in anterior portions of the left cerebral hemisphere. In contrast, Wernicke’s aphasia is characterized by fluent oral expression exhibiting erroneous phonemic substitutions, lexical substitutions, and idiosyncratic jargon with relatively impaired auditory comprehension of language; it is associated with neurological damage in posterior portions of the left cerebral hemisphere. Ultimately, as we contemplate the pragmatic competence of people with aphasia, our consideration of aggregate patterns of aphasia types and their neurological localization is complemented by an acknowledgement that the profile of language deficits and language preservations of any given individual may defy traditional classification (Tesak and Code 2008: 160–165). In the end, it is the unique profile of language deficits and language preservations possessed by a given individual with aphasia that forms the immediate linguistic reality for that person when engaged in pragmatic action.

The present chapter seeks to develop an enhanced understanding of the nuanced role that language may play in pragmatic action, by following the communicative paths carved out by people who have aphasia as they navigate pragmatic territory. We invite an academic readership well versed in the field of pragmatics who may have little or no prior knowledge of aphasia to join us in the journey.

2. A discourse-based approach to assessing the pragmatic competence of the person with aphasia

2.1. Discourse analytic framework

A discourse analytic approach is employed in the present chapter as a means of characterizing the pragmatic competence of people who have aphasia. Samples of spontaneously produced discourse provide insights on how people with aphasia accomplish pragmatic action jointly with their interlocutors, to make meaning and achieve communicative purpose, even in the face of their language impairment. Even single-word or word-minimal utterances, including utterances that are linguistically flawed, may be situated meaningfully and purposefully in context to constitute discourse that achieves its pragmatic ends. In other contexts, multiple utterances may be woven into a unitary and coherent whole to achieve an intended communicative purpose, despite pervasive difficulty in language expression, taxing the very limits of the linguistic abilities of someone who has aphasia.

Reflections of the pragmatic competence of individuals with aphasia, within and through their discourse, will be framed in the discourse-pragmatic tradition of the Prague School. Under this framework, discourse is characterized relative to communicative function. The functional triad of language use originally developed by Karl Bühler ([1934] 1990: 34–37), *Ausdruck* (expression), *Appell* (appeal), and *Darstellung* (representation), was later expanded by Roman Jakobson ([1960] 1981: 21–29) as referential, emotive, conative, poetic, phatic, and metalingual functions, as outlined by Mey (2001: 10–11) and Esser (2014: 445–450). Under this functional-communicative approach, more than one function may be represented in any one discourse, and differential pragmatic weight of any one function may predominate over the others within a given discourse.

Some readers who may be familiar with historically influential models of aphasia typology (Benson and Ardila 1996: 111–120; Kertesz 1979: 1–15; Poeck 1983 *inter alia*) as bolstered by models of their neurological underpinnings (e. g. Yourganov et al. 2015) may wonder why these models were not adopted as a framework for assessing pragmatic competence of people with aphasia. The reason is that models of aphasia typology are heavily biased toward referential linguistic functions, to the relative exclusion of other functions. They focus on referential accuracy, defined relative to artificial, pre-determined standards, and assessed in a clinical context with tasks such as picture-naming and repetition. Moreover, typological models of aphasia operationalize discourse as clinically elicited monologues, such as picture descriptions, which are restricted in their ecological validity and analyzed as simple concatenations of referential words, phrases, and sentences. Thus, the functional, discourse-analytic approach of the current chapter, which samples naturally occurring discourse representing a variety of pragmatic functions, affords us interpretive power to assess the pragmatic competence of the

person with aphasia that extends beyond the constraints of traditional models of aphasia typology.

Yet, there are other portions of the aphasiology literature that offer preliminary clues regarding the pragmatic competence of the person with aphasia. Nespoulous et al. (1998) suggest that linguistic expression of the emotive function may be better preserved than linguistic expression of the referential function in aphasia. They analyzed patterns of “referential” and “modalising” verbal behavior across samples of communication from a variety of people with aphasia. Their data suggested that in most cases, modalising (emotive) expression was relatively preserved while referential expression was relatively impaired. Furthermore, Nespoulous et al. proposed that patterns of linguistic preservation and deficit in aphasia correlated with patterns of neurological preservation and damage in aphasia. Specifically, they suggested that relatively preserved emotive expression may be associated with areas of the brain that are not damaged in aphasia, such as the right cerebral hemisphere and deep brain structures. In contrast, they proposed that relatively impaired referential expression may be associated with the areas of the brain that are damaged in aphasia, typically the left cerebral hemisphere. The authors argued that this relative preservation of modalising language over referential language in aphasia warrants further investigation. The variety of pragmatic functions represented in the discourse data of the present chapter, including the emotive and referential functions, offers the opportunity to do so.

Furthermore, the discourse analytic approach of the present chapter focuses on communication-in-context and the role that language may play in it, rather than focusing on language exclusively. As noted by Audrey Holland, people with aphasia may communicate better than they talk (Holland 1977: 173). For each communicative context sampled in the present chapter, we are wise to consider the specific constraints (limitations) and affordances (possibilities) for how language may be adapted and used within that context (Mey 2001: 206–229). Pragmatic competence of the person with aphasia entails navigation of the constraints and affordance of each context; with the pragmatic goal firmly in mind, the person adapts and adjusts remaining vestiges of linguistic tools accordingly, for the “dynamic generation of meaning” (Verschuereen 1999: 147). Ultimately, the crucible of communication-with-aphasia may offer a refined understanding of the role that language fills as a communicative resource in fulfilling pragmatic purpose.

Finally, the present chapter adopts a functionalist approach to pragmatics (Mey 2001: 10–11). Pragmatic competence is reflected in the coherence of the discourse relative to its primary function and in interlocutor responses during the interaction that are consistent with the targeted function.

2.2. Nature of the discourse samples of people with aphasia, as a reflection of their pragmatic competence

Discussions of a series of discourse samples produced by people who have aphasia (Section 3 and Section 4) serve as multiple converging lenses focused on the nature of pragmatic competence in this population and on potential limitations to pragmatic action associated with their language impairment. Discussion of these discourse samples also provides an entrée to a broader literature that addresses the topic.

These discourse samples are strategically selected to be homogeneous in their personal salience for the person with aphasia. Each is drawn from an everyday context of communication in which the person is engaged in pragmatic action. In communicative contexts that are spontaneous and organic, the person with aphasia is driven by strong personal motivation to make pragmatic points through discourse, despite the aphasic deficit. Thus, each scenario reflects the maximal communicative abilities of the person with aphasia in that moment.

These discourse samples are also strategically selected to be heterogeneous in the range of functions they represent; in the contexts from which they are drawn, with their associated contextual constraints and affordances; and in the nature of the aphasic impairments that they display. This heterogeneity is in keeping with the discourse analytic framework of the present chapter, as described in Section 2.1.

3. **Introductory illustrations: Assessing the foundations of pragmatic competence in the presence of aphasia**

The goal of the present section of the chapter is to assess evidence for the potential linguistic, contextual, semiotic, and cognitive resources that may support the pragmatic competence of the person with aphasia. This evidence is revealed through discussion of short discourse samples of people who have aphasia. These illustrations also introduce the uninitiated readership to the basic nature of aphasia as revealed through discourse.

3.1. Navigating communication of the referential function in discourse: A person with aphasia who is aware of her linguistic errors

Discourse sample (1) was purposefully selected to represent discourse production of a person with aphasia that is heavily weighted for the referential function. As already noted, the referential function may be relatively more difficult for people with aphasia to fulfill linguistically, as compared to the emotive function (Nespoulos et al. 1998). Thus, sample (1) provides a potential window into the speaker's linguistic impairment, as well as vestiges of preserved language as they may be

combined with non-linguistic semiotic resources to coherently achieve communicative purpose.

A woman with aphasia has been asked to talk about her children. In response, she is describing her son's line of work. In this context, the interlocutor presumably knows little to nothing about the woman's children, so pragmatically, the speaker needs to maximize clarity. Ellipsis punctuation indicates pauses between elements in a concatenated string of linguistic attempts and circumlocutions. Vague lexical reference (*thing, stuff*) and difficulty expressing the name of her son's profession are also apparent. These referential word retrieval difficulties are typical of aphasic impairment.

- (1) *My son...Paul, he works in a...he works at...in the...that thing...but not TV. At the...I don't know...I know but...At the Register...the Register. It's a paper...a news...newspaper. Paul is a...he goes out and he talks to people. He does...he does...I guess you'd say he does interviews. People, you know. On the street and wherever...* (Brookshire 2015: 199).

One indication of the underlying pragmatic competence of this speaker is coherence of the discourse as a whole; by the end of the discourse unit, one is able to infer that the woman's son is a reporter, even though she does not express the word *reporter* specifically. Moreover, this woman's response is pragmatically informative, truthful, and relevant as related to the original query, in keeping with Gricean maxims (Grice 1975).

Qualitative analysis of this sample provides clues to the resources tapped by this woman to coherently refer to her son's profession, despite her aphasia. What is immediately apparent is her awareness of the expressive linguistic errors and gaps that block her achievement of referential coherence. She stays focused on the pragmatic goal, and when she is not referentially clear, she tries alternative linguistic paths to achieve that clarity. What is typical of people with this aphasic profile is that they are able to monitor the linguistic accuracy of their verbalizations, and thus their pragmatic sufficiency, in real time. This preserved self-monitoring ability is also associated with a relatively preserved ability to understand the verbalizations of others (Brookshire 2015: 199–200), thus further augmenting interactional pragmatic competence.

As another indicator of her pragmatic competence, this woman appears to possess a metalinguistic awareness of her *performance variability*; even if she is not initially successful in producing a word, she may be successful eventually. For example, the re-phrasing and circumlocutions across multiple attempts to express the word *newspaper* finally result in success (*he works at...in the...that thing...but not TV. At the...I don't know...I know but...At the Register...the Register. It's a paper...a news...newspaper*). The same holds true for her ultimately successful production of the word *interviews*. The aphasic characteristic of performance vari-

ability may be familiar to the person with aphasia, especially if one has lived with aphasia for some time. Moreover, performance variability may be an indicator of one's potential to decrease the severity of one's aphasia over time with therapeutic intervention (Duncan, Schmah and Small 2016).

People who have all but the most severe forms of aphasia exhibit certain linguistic preservations, even in the face of their linguistic impairments. This supports discourse coherence, and thus reveals pragmatic competence, as seen in example (1). As one possible source of linguistic preservation, words and collocations that occur more frequently in a language and culture may be relatively more preserved than those that occur less frequently (e. g. Wiegel-Crump and Koenigsnecht 1973). In sample (1), the common collocations *I know*, *I don't know*, *I guess you'd say*, and the familiar English collocation *people...on the street* support discourse coherence.

What is pragmatically unavoidable for most speakers with aphasia is linguistic inefficiency of expression (Nicholas and Brookshire 1993). For instance, in discourse sample (1), a long sequence of concatenated linguistic attempts finally converges on the concept of 'reporter', which would have been more efficiently expressed with a single word. While time may not have been of the essence in the context of sample (1), one may imagine the negative pragmatic impact of linguistic inefficiency of expression in certain contexts, for example in high involvement cultures or emergency situations. At the same time, the speaker's awareness of these inefficiencies and her efforts to circumvent them remain, as an indication of her underlying pragmatic competence.

Example (1) also provides evidence that this woman has preserved *theory of mind*, which further bolsters the argument for her pragmatic competence. Having established that her son works for a newspaper, but unable to say the word *reporter* in that moment, she describes the profession, thus drawing on the interlocutor's shared world knowledge of what reporters do to convey the concept of 'reporter' (*he goes out and he talks to people. He does...he does...I guess you'd say he does interviews. People, you know. On the street and wherever...*). Another indication of preserved theory of mind is the speaker's meta-commentary about what her interlocutor may be wondering: that the speaker does not know the word (*I don't know...*) but that she does indeed know the sense she is trying to convey through language (*I know but...*), which is different from not knowing the word itself.

Moreover, the coherence of discourse sample (1) would also suggest that *executive function*, undergirded by *sustained attention* to the pragmatic goal and *short-term memory* of the preceding text, are also relatively preserved in this speaker, in support of her pragmatic competence. These cognitive substrates are necessary to formulate a coherent discourse. A review of the intersection of cognitive pragmatics and aphasia is beyond the discourse analytic scope of the current chapter. However, there is literature to suggest that theory of mind may be preserved in aphasia

(Siegal and Varley 2006). It is also important to note that even though executive function appears to be intact for the speaker in example (1), there is some literature to suggest that executive function may be only partially preserved in aphasia (Fridriksson et al. 2006). Thus, in some people with aphasia, the ability to orchestrate multiple semiotic resources to build discourse coherence may be compromised.

3.2. Navigating communication of the referential function in discourse: A person with aphasia unaware of some linguistic errors

Like discourse sample (1), discourse sample (2) was purposefully selected to represent discourse production of a person with aphasia that is heavily weighted for the referential function. A man with aphasia has been asked about the layout of his home. In this context, the interlocutor presumably knows little to nothing about the man's home. The man responds with an answer that is relevant to the question as he describes his *place*, demonstrating pragmatic competence associated with engagement in question-response sequences.

(2) *Well, it's a meender place and it has two...two of them. For dreaming and pinding after supper. And up and down. Four of down and three of up...* (Brookshire 2015: 195).

The man's aphasia is manifested in vague reference (*two of them*) and ellipsis (*four of down and three of up*), as was also observed in discourse sample (1). What is different about sample (2) is his use of meaningless neologisms (*meender, pinder*) in the discourse. Yet, the speaker does not adjust his language or re-phrase following production of the neologisms, despite their negative impact on referential coherence. Moreover, his speech is fluent; pauses and struggles are minimal. Taken together, the evidence suggests that he is not aware of the neologistic errors. This has a negative impact on discourse coherence.

For people with this communicative profile, this lack of awareness of one's linguistic errors is often also associated with impaired comprehension of others' verbalizations (Brookshire 2015: 195), as well as reduced awareness of these comprehension impairments. This further diminishes success of pragmatic action. Reduced awareness of one's deficits has been considered as a type of executive function deficit (Dean et al. 2017), which in turn may diminish pragmatic functionality.

Yet, an underlying pragmatic competence is suggested by the apparent maintenance of topic. As the man with aphasia describes his *place*, the interlocutor is able to infer referential content; preserved language in the discourse, even when it is referentially vague, can be combined with shared world knowledge about how residences are designed and described, in support of discourse coherence. Shared world knowledge of residences serves as a contextual affordance. For example,

using knowledge that descriptions of residences often begin with mention of the number of bedrooms, and that bedrooms are places for *dreaming*, one may infer that the residence has two bedrooms (*it has two...two of them. For dreaming and pinding after supper*). Likewise, using knowledge that some homes have two stories, and that each story may have more than one room, one may infer that the home has two floors, with four rooms downstairs and three rooms upstairs (*And up and down. Four of down and three of up...*).

Paralanguage may also support discourse coherence of people who have aphasia. Although prosody is not represented in sample (2), we can predict with some confidence that the speaker is using normal intonation and stress patterns in synchrony with his language. People with aphasia who have an expressive profile similar to this speaker typically display natural patterns of prosody (Brookshire 2015: 195). Thus, given the referential pragmatic focus of the sample, one would fully expect the use of referential prosodic contours tempered by elements that receive selective prosodic emphasis to add prominence to referential points. Natural use of prosody provides additional evidence revealing the pragmatic competence of the person with aphasia.

Importantly, discourse sample (2) highlights the contribution of both speaker and interlocutor, as they jointly carve the path toward the referential pragmatic goal: the former through expressive contributions to referential coherence and the latter through inferential contributions to referential coherence. Pragmatic success is a collaborative venture, and the person with aphasia is pragmatically engaged in that collaboration, even in the face of aphasic impairment. This attests yet again to the underlying pragmatic competence of the person with aphasia.

3.3. Personal narrative embedded in conversation by a person with aphasia: collaborative meaning-making

Example (3) introduces the phenomenon of conversational personal narration (Norrick 2000; Quasthoff and Becker 2005) as a joint accomplishment of narrator and interlocutor. Personal narration in conversation provides another window into the pragmatic competence of the person with aphasia.

Personal narration-in-conversation fulfills a phatic function, which prolongs communication and reinforces interpersonal bonds. Pragmatically appropriate stories are *tellable* within the immediate and cultural context (Ochs and Capps 2001: 33–36), thus supporting the phatic function. Narrative-in-conversation also fulfills an emotive function. Narrators selectively add prominence to key content in the narrative, to convey their attitude, opinion, emotion, or the *point* regarding the narrated event. The evaluated point of the story also reinforces the phatic function when it is consistent with the conversational topic. While the weight of the phatic and emotive functions may be prominent during personal narration-in-conversation, both of these functions are also supported by basic referential clarity. (Exam-

ple (3) is also discussed in Olness and Ulatowska (2017: 236) but here contains extra paralinguistic detail.)

The context is a conversational group composed of a several people with aphasia and a smaller number of student clinicians from a university training program in speech-language pathology. They meet weekly to converse casually on topics of their choice. The conversational topic surrounding Example (3) is the extreme heat during summers in Texas; the group's shared understanding of Texas weather is a contextual affordance. One of the conversationalists has just explicitly mentioned a bit of shared cultural lore: Weather is sometimes so hot in Texas that, presumably, one can fry an egg on the sidewalk. One group member with aphasia then initiates a topic-relevant personal story. Her pseudonym is Pat. The pauses within and at the end of her first conversational turn are associated with her aphasia.

(3) Pat: *I tried to do that with my...with an egg when I was little* <laughing while talking>. *'Cause it was so hot so I took it outside and threw it down there* <gestures throwing the egg down> *to see if it would...*

Student clinician: *Did it work?*

Pat: *No* <expressed with a resigned, matter-of-fact prosody that intimates a self-effacing humor>.

<group laughter>

The phatic function is fulfilled by the narrator as she initiates a story closely related to the conversational topic; she highlights hot weather in the story (*so hot*), and the story relates her attempt to test the Texas lore of frying eggs on sidewalks. Under a functionalist pragmatic model (Mey 2001: 10–11), her ultimate pragmatic success is evidenced by the laughter of the group following completion of her story.

The narrator uses both language and paralinguistic resources as complementary semiotic resources to accomplish pragmatic action; this documents her pragmatic competence. She enhances the humorous emotive content through vocal quality and prosody. People with aphasia have been observed to synchronize evaluative prosody with evaluative language (Olness, Matteson and Stewart 2010). The emotive information at the peak of the story (*threw it down there*) is also emphasized through her use of gesture. Gesture has been documented to support successful communication by and with people with aphasia (Goodwin 2000; Lanyon and Rose 2009). Moreover, spontaneous use of gesture by people with relatively mild aphasia may be associated with facilitation of linguistic word-finding (Lanyon and Rose 2009).

The pragmatic competence of this narrator with aphasia is also reflected in her collaborative engagement in fulfilling pragmatic purpose (Hengst 2010; Goodwin 2003). Pat springboards off the interlocutor's query about the story's resolution (*Did it work?*). Her linguistically simple response (*No*, pronounced with a humor-inducing prosody) serves as a fitting Second Pair Part to the interlocu-

tor's conversational contribution (Sacks, Schegloff and Jefferson 1974). This is a communicative strategy documented elsewhere in one person with severe aphasia (Goodwin 2010: 375). Moreover, the negative in the response to the query represents irrealis mood, an iconic form of socioemotional evaluation of narrated events (Labov 1997: 402–403).

Even though Pat's narrative includes vague linguistic reference (*I tried to do that...*) and ellipsis (*...to see if it would...*), which are reflections of her aphasia, it is notable that both are expressed with irrealis verb forms, to highlight their significance within the story. Also, even though these propositions may not be totally clear linguistically, they are still sufficiently clear to make the story coherent; interlocutors can infer the full propositions from shared world knowledge, e. g. 'cook the egg' can be inferred following the elliptical linguistic element, *to see if it would*. This orchestration of vestiges of language with shared world knowledge to yield a coherent story is yet another manifestation of the narrator's pragmatic competence.

3.4. Evidence of pragmatic competence of a person with aphasia in writing to a familiar person

Aphasia impacts language as it is used for all channels of communication: speaking and understanding what is spoken, writing and understanding what is written. We now consider a discourse sample written by a woman with aphasia, as it reflects her pragmatic competence.

Written discourse is originated and guided by the writer, even as it is oriented to and activated by the reader (Mey 2001: 237). Writing and reading form a literary channel of communication in which the interlocutors are separated from each other in space and time. Thus, the writer with aphasia works under the constraint that written language, written textual context, and shared knowledge between writer and reader are the primary sources available for building discourse coherence. Regardless of pragmatic purpose, the language in the writing must be sufficiently clear to carry a heavy share of the semiotic load. The writer with aphasia who composes discourse sample (4) explicitly acknowledges these constraints, which reflects her pragmatic competence.

This discourse sample is extracted from the introductory passage of a personal letter written by a highly educated Polish woman with aphasia. She is writing the letter to a fellow Pole, who is also highly educated and who is familiar with the writer and with the nature of the writer's aphasia.

(4) *Teraz, kiedy siadam do pisania do Ciebie lekko pióro pracuje, Ty mnie znasz i zrozumiesz co „przeleje” na papier. Znasz moje błędy i jesteś z nimi na „Ty”.*

‘Now I am sitting down to writing to you. The pen is moving swiftly, you know me and you will understand what I will pour on the paper. You know my errors, and you are with them on you personally.’

In this passage, we find evidence of the writer’s metalinguistic awareness of her aphasic impairment, relative to what the written channel of communication affords her. Metalingual pragmatic function is reflected in the phrase, *moje błędy* (‘my errors’). The writer acknowledges that her aphasia will result in linguistic inaccuracies in her writing. Moreover, she further informs the reader that ‘the pen is moving swiftly’ (*lekko pióro pracuje*) and that she will ‘pour’ (*przeleje*) the content onto the paper. Thus, she is informing the reader that she will not take advantage of the unlimited time for linguistic processing, re-reading, and re-formulation that the written channel of communication would normally afford her, as in some vain attempt to make the language reach the standard associated with her high level of education. Rather, her communication will be efficient and sufficient, allowing for aphasic errors.

This explicit written acknowledgement of linguistic inaccuracy but pragmatic sufficiency in written communication is all the more reasonable given the writer’s awareness of additional affordances of the context: the reader’s intimate knowledge of her and her aphasia. This is reflected in the writer’s meta-pragmatic commentary: ‘you know me’ (*Ty mnie znasz*); ‘you will understand’ (*zrozumiesz*, which would be correctly spelled as *zrozumiesz*); and ‘You know my errors, and you are with them on you personally’ (*Znasz moje błędy i jesteś z nimi na „Ty”*).

Another pattern of pragmatic preservation in this writer is her use of metaphor to guide the reader toward an understanding of the mental models of the writer: the fluidity of her writing (*„przeleje”* ‘pour’) and her understanding of the reader’s intimate understanding of the writer’s aphasia (*Znasz moje błędy i jesteś z nimi na „Ty”* ‘You know my errors, and you are with them on you personally’). Her written use of Polish quotation marks surrounding the metaphoric elements highlights her metacognitive awareness of their metaphoricity, while also alerting the reader to their metaphoric status. As noted by Mey (2001: 305), metaphors are a pragmatically effective means of conveying one’s mental model of the world and one’s experience in it, in a way that representative language cannot. While the intended function of this discourse may not necessarily have been a poetic one, metaphoric forms commonly used to express the poetic function were used to fulfill a meta-pragmatic function, invoking the collaboration of the reader in meaning-making. This is yet another manifestation of the pragmatic competence of the writer.

3.5. Summary: Taking stock of patterns discerned through the introductory illustrations

Across the four discourse samples in Section 3, we encountered evidence to suggest that the person with aphasia maintains focus on pragmatic intention during the production of discourse and engagement in conversation, while simultaneously taking into consideration the constraints and affordances associated with the context. Examples of the referential, emotive, phatic, and metalingual functions expressed through discourse were provided, across both spoken and written discourse production channels. Vestiges of preserved language, elements of shared world knowledge, paralinguistic semiotic resources, and input of interlocutors contributed in synchrony toward ultimate discourse coherence. It was suggested that both the initiator of the discourse and the recipient or interlocutor collaborate in this meaning-making process, supported by theory of mind, executive function, and inferencing. Ultimately, the pragmatic success of the person with aphasia is indexed through coherence of the discourse and through the reactions and responses of interlocutors.

Yet, despite the pragmatic competence of the person with aphasia, engagement in pragmatic action is not without its challenges. Linguistic expression of the referential function may be relatively difficult, at least as compared to the emotive function. Discourse production may also be less efficient, which may pose a pragmatic challenge in some contexts. However, meta-linguistic awareness of the person with aphasia guides the search for solutions, as long as the speaker with aphasia has sufficient awareness of linguistic errors in the moment of production. In the end, regardless of the linguistic and metalinguistic resources that may be available, the person with aphasia exhibits a preserved meta-pragmatic awareness of the collaborative goals of unity and coherence of communication-in-context across a variety of functional intentions, which is the *prima facie* evidence of an overarching pragmatic competence.

4. Delving deeper into discourse-based evidence of pragmatic competence of the person with aphasia

In this portion of the chapter, we expand our exploration of the pragmatic competence of the person with aphasia, through continuation and extension of a discourse analytic approach. Consideration of context is central to these observations. We will examine in turn the intrapersonal, interpersonal, and societal realities that form the typical life context of the person with aphasia. This is the very context within and through which people with aphasia seek to express themselves coherently: in writing, in personal narration, and in interactive exchange.

4.1. Coherence in the communication of traumatic experience: Patterns in written discourse

Aphasia varies in its etiology; aphasia can result from stroke, certain types of traumatic injury to the head, tumor, and some dementing and degenerative processes. Aphasia also knows no age boundaries; both children and adults can acquire aphasia.

For the present chapter, however, we focus on the most common scenario resulting in aphasia: An adult sustains a stroke that damages neurological networks in the brain that support language. The stroke and the accompanying onset of aphasia occur abruptly and without warning.

Thus, as we consider the onset of aphasia under this scenario, we realize that the intrapersonal reality of the person with aphasia is, in part, a post-traumatic one. In one moment, the adult possesses a fully developed linguistic system that has been used and vetted over a lifetime in support of pragmatic functionality, within and across a variety of contexts. In the next moment, the linguistic system of this same adult is abruptly and permanently disrupted, irrevocably changed in its capacity to contribute to pragmatic action. Following a trauma, discourse may reflect themes of one's internal experience (Frank 1997): *Chaos* following the traumatic event (97–114), *Restitution* as one seeks out normalcy (75–96), and *Quest* in which the trauma is accepted and used to build toward goals (115–136). Frank suggests that most published accounts reflect the internal experience of *Quest* (115).

An optimal context for assessment of the discourse-based pragmatic competence of people with aphasia may be found in written accounts of their experience with the traumatic onset of aphasia, the nature of aphasia as they experience it, and their life and recovery following the onset of aphasia. The high personal salience and relevance of the discourse content may foster the maximal linguistic abilities of the person with aphasia (Raymer et al. 2008: S266–S267). Also, the written channel of communication allows more time for linguistic re-processing and re-formulation, as compared to the oral channel. Moreover, written discourse may be more strongly associated with linguistic integration, as compared to spoken discourse, which may be more strongly associated with linguistic fragmentation (Redeker 1984).

In a line of work that seeks a deeper understanding of the process of building meaning out of the traumatic experience of stroke and aphasia, Ulatowska (2014) explores discourse written by multiple people with aphasia about their experience. Two of these are of particular interest for the present chapter, as they are written by men of letters who have aphasia. Their high premorbid levels of facility with written language may offer a unique window into the pragmatic competence of the person with aphasia as achieved through language.

One of these is Tomas Tranströmer, a Swedish laureate of the Nobel Prize in Literature in 2011, who had limited spoken language following his stroke in 1990

but who continued to write and compose poetry. Tranströmer writes in his 2006 translated poetic work, *The Great Enigma*, about the experience of aphasia:

(5) *I am carried in my shadow*

Like a violin

In its black case (199; as cited in Ulatowska 2014: 106)

A related example comes from Paul West, an Oxford-educated author of numerous novels, books of poems, and works of non-fiction. He describes his experience of rehabilitation and the experience of having aphasia:

(6) *I formed the habit of forcing language back on itself...to see what was there. Language, at least as we know it, had ended, and I was left on countless occasions with something like a white sheet of dental floss or a carnivorous absence. There was nothing beyond.* (West 2008: 98)

The pragmatic competence of each of these accomplished writers with aphasia is manifested in his use of metaphoric language, as seen in examples (5) and (6). As noted earlier in the present chapter, the pragmatic value of metaphor in these examples rests in its effectiveness in conveying each writer's mental model of the world to the reader, a mental model otherwise inexpressible through use of representative language (Mey 2001: 305). Metaphor invites the reader to conceive of the inner world that the writer experiences (Levin 1979: 134). Thus, the poetic function expressed through language allows the reader to also experience the emotive intention of the authors.

Use of metaphor to convey the experience of living with aphasia is also evidenced in other literary works, demonstrating expressive pragmatic competence of the person with aphasia. Apostolou (2016: xi–xii) provides an account of the playwright, Susan Yankowitz, who was charged by her director-friend, Joseph Chaikin, who lived with aphasia, to write a play that could convey his inner experience of living with aphasia. In consultation with Chaikin, she wrote the play *Night Sky*, which likened aphasia to astronomical black holes, in which light is trapped and cannot escape.

Retired journalist, war veteran, and former prisoner of war, Don McGregor, wrote metaphorically about his aphasia: *I had a new war. I was a prisoner of aphasia* (McGregor 1999: 1). McGregor's metaphor also resonates with the metaphoric theme of BATTLE, one of three metaphors (JOURNEY, BATTLE, PRODUCT) that emerge out of interviews with people about their experience with aphasia rehabilitation (Ferguson et al. 2010).

The pragmatic competence of the person with aphasia is seen also in personal, introspective writings. Example (7) is excerpted from a personal autobiography written by a farmer from East Texas. He sought to make sense of his life and life

experiences through writing. The autobiography was completed just before his death.

(7) *I know I was gonna be sick some day, I know it. Maybe it was for dreams I did have...Anyway I did do cripple. Yeah I did sick it was my head. Ha. I guess I had it for sixty years but I had some fun...It is to laugh. I have I am still for fun...It is to laugh. I have I am still for fun because I am still alive...* (Armstrong and Ulatowska 2007: 204).

Obvious aphasic impairments of lexicogrammar permeate this passage. Yet, through the use of evaluative lexicon and repetition, this man coherently reflects on themes consistent with the emotive function: his pursuit of dreams and the fun of life regardless of the trauma and disability he had experienced along the way. This coherent written evaluation reveals pragmatic competence.

4.2. Coherence in the expression of identity through evaluative language: Patterns in personal narration

Oliver Sacks (2005) asks, “When patients suffer a loss of language, must they also lose their sense of self?” Aphasia has been characterized as a form of identity theft (Shadden 2005), an attack to one’s selfhood through impairment of the language used to express that selfhood. This may indeed be the personal and interpersonal reality of some people with aphasia, especially in the days of shock immediately following their stroke and the onset of aphasia.

Yet, as illustrated in example (7) above, people who have aphasia are not content to allow aphasia to define who they are. An important and ubiquitous discourse genre through which one expresses one’s identity is personal narration (Johnstone 1990; Ochs and Capps 2001). Identity is reflected in the personal stories a person chooses to tell and in the strategic assignment of prominence to selected story content within the narrative, to reflect one’s attitude, opinion, and emotion regarding the narrated event. It is the personal narration of people with aphasia as an expression of their individuation that we now consider, as yet another window into their pragmatic competence.

Polanyi (1989) has suggested that the communicative aim of personal narration is to make a point within the context of the telling (20). To this pragmatic end, the task of the narrator is two-fold: to provide sufficient referential detail for those narrated states and events that are the most relevant to inferring the point, and to selectively highlight the content that is the most relevant to making the point (22). In the literature on personal narration of people with aphasia, accomplishment of these two tasks is conceptualized as building referential coherence and evaluative coherence respectively (Olness and Ulatowska 2011). Within a discourse analytic framework, these correspond to the referential and emotive functions.

As noted in Section 2.1 of the present chapter, Nespoulous et al. (1998) suggest that linguistic expression of evaluation, which corresponds to the emotive function, may be more preserved for the person with aphasia than linguistic expression of reference. Thus, preserved evaluative expression may very well constitute a preserved mechanism for the person with aphasia to express identity through narration. Also, as seen in Section 3 of the present chapter, sufficiently clear expression of referential intention may be achieved by the person with aphasia through the orchestration of a variety of semiotic resources in combination with vestiges of preserved language, thus also supporting the ability to narrate.

Personal narration by a person with aphasia places relative strength of the emotive function and the referential function on display. Again, as noted by Polanyi (1989), one's evaluative expression, or point, is accompanied and undergirded by key elements of referential expression during narration. For example, in discourse sample (3) in the present chapter, evaluative use of irrealis pervades the narration of the woman who recounts trying to fry an egg on the sidewalk. At the same time, she manages to convey pragmatically essential referential elements, by combining vestiges of preserved language with contextual knowledge shared among the interlocutors. Together these result in success of pragmatic action.

The functional contrast between pragmatic expression of emotive intention and referential intention is all the more highlighted and poignant within personal stories of stroke. Their high personal salience typically results in a permeation of evaluative expressions stemming from personal identity, throughout the story (Armstrong and Ulatowska 2007). In contrast, full referential clarity may be seemingly left by the wayside for all but the most pragmatically essential referential elements.

For example, an African-American pastor, the spiritual leader in a community centered on church and faith, tells the story of his stroke in discourse sample (8). The pragmatic context of the telling is an interview, in which the interviewer, also an African American, asks for the story of a frightening experience and serves as an interested listener, following the sociolinguistic narrative sampling methodology of Labov (1972). An XXX indicates unintelligibility.

- (8) (Interviewer: *Tell me again the frightening experience that you had or something that you were afraid of.*) *The worst XXX when I was at church.* (Interviewer: *Oh, then you, okay. When you were in church.*) *It was in church. I was in church.* (Interviewer: *So now...tell me the entire story about when you were in church and something frightened you.*) *Yeah, it was in church while in XXX I was preaching. And I, I had a young, I had a a ma, a master, not a master, but he was a man who was a member of, of there where I preached when I was preaching. Because and while I was preaching, the condition happened to me. My stroke hit right here in church. Then I had to allow this, the doctor*

*I mean with the the s- stroke what cause me to have the pol-, not the police. But the the phone. And they had to come get me way of um **while I was here in the church**. I was brought me here from to, in Blair- Baylor <referring to Baylor hospital in Dallas>. (Olness and Ulatowska 2017: 227)*

In a pragmatic fashion, the pastor uses evaluative repetition (bolded within the excerpt) to emphasize his point: that his stroke occurred while he was preaching in church. The choice of the point is his alone, expressing his values as part of his identity; a virtually limitless set of alternative points that he could have evaluated, such as emotive reactions of others, or the fear he may have been feeling, are not selected for highlighting. In functional contrast, clarity of reference to the people on the scene (*master* vs. *member*; *doctor* or *police* for ‘paramedic’) is poor. However, this referential content may be secondary to making the point or can be predicted from shared world knowledge of making emergency calls for hospital transport. The one key referential element that he does include, despite his aphasia, is the one with the strongest impact on the point he is making: It was a stroke, and moreover, a stroke that happened in the very context most salient to his life and identity. In alignment with extensive evaluative repetition used in this example, the literature suggests that repetition is a common form of evaluation used by narrators with aphasia to selectively emphasize content, a pragmatically impactful type of repetition functionally separate from the repetition associated with word-finding difficulty (Ulatowska, Olness et al. 2000).

Content in narratives told by people with aphasia can be evaluated and highlighted in ways more subtle than sheer repetition. Consider discourse sample (9), which is excerpted from the stroke story of an African-American woman with aphasia. At the very peak of action, at the juncture in the story right after the stroke occurs, she uses reported speech to quote her pastor’s assessment of the situation.

(9) *And then my pastor, and he came down there and he said, “It kinda look like she done had a stroke.” (Ulatowska and Olness 2001: 23)*

Reported speech can serve as a powerful form of evaluation in personal narratives of people who have aphasia (Ulatowska et al. 2011). Multiple narrative voices build coherence, a more informal register enhances engagement, and shifts in prosody and vocal quality reflect the speaker’s evaluation and emotional involvement. What is particularly nuanced in example (9) is how this African-American woman with aphasia pragmatically switches dialect when she quotes her African-American pastor. Up to and including the verb of saying, she uses Standard American dialectal verbs. However, she code-switches into morphology of African-American dialect in the reported speech of the pastor, as evidenced in the zero-marking of the third-person singular and in the morpheme *done* that marks completive aspect on the verb in this dialect.

Narrators with aphasia have been observed to use a wide range of linguistic evaluative devices, including external commentary, direct speech, direct address to the listener, repetition, attributives, predicate modifiers, negation, and modals; these are also combined with evaluative prosody (Armstrong and Ulatowska 2007; Olness, Matteson and Stewart 2010). These evaluative devices cross a range of linguistic and paralinguistic evaluative resources described in the seminal work of Labov (1972). Moreover, the use of evaluative devices by narrators with aphasia appears to be effective in supporting discourse coherence (Olness and Englebretson 2011).

Notably, narrators with aphasia use multiple evaluative devices not only individually, but also in synchrony. In fact, these patterns of synchrony may be similar to those of narrators who do not have aphasia, as they cluster evaluative devices at the narrative climax and coda; exceptions to this differential clustering pattern may be observed only in narrators with the most severe aphasic impairment (Olness, Matteson and Stewart 2010).

Clustering of evaluative devices for expression of emotive intention is illustrated in discourse sample (10). This is a story told by a man with aphasia, a former radio announcer, who is participating in a line of research assessing potential patterns of synchrony of linguistic and paralinguistic evaluative devices during personal narration of people with aphasia, as one window into their pragmatic competence (Olness, Stark and Millican 2018). This man has mobility challenges associated with a hemiparesis (weakness on one side of the body) that had resulted from his stroke. He is spontaneously narrating a personal story set in the context of a community holiday market. A long set of poorly designed steps provides the only access to the public WC, and as a result of their poor design, he falls when trying to climb them. The story excerpt in (10) follows his background description of the market. It begins with the discourse marker *And*, which forms the transition between background and complicating action, the point in the story where he has decided to access the WC but then encounters the impossible steps. Bolded words are those measured objectively as containing a peak word pitch a half octave or more above the surrounding self-normalized pitch average, based on a methodology designed for assessment of relative paralinguistic pitch height in running narrative (Matteson, Olness and Caplow 2013). Words marked with <vcls> are voiceless.

(10) *And I was uh going to the toilet. And uhm **up up** uh **stepping tiny steps**. “Jesus <vcls>. **Huge!** I can’t. **Oh** Jesus <vcls>. Alright. Breathe.”*

The evaluative devices are clustered specifically at the complicating action in this sample and not in the portions of the narrative preceding and following the complicating action. Repetition evaluates the careful initiation of the climb (*up up; stepping...steps*). Evaluative modifiers emphasize the poor design of the steps (*tiny, Huge*). Reported speech displays the narrator’s internal reactions and self-talk,

and he synchronizes this reported speech with other evaluative devices: repetition (*Jesus...Jesus*), an evaluative modifier (*Huge*), irrealis in the form of negation (*I can't*), and an interjection (*Oh*). Moreover, both the discourse marker and multiple evaluative devices are layered with evaluative pitch. Notably, the referential language at the climax is impaired, yet it is sufficient for the making of the point, in concert with the aggregated evaluative devices. This demonstrates pragmatic competence of this man, even in the presence of his aphasia.

4.3. Coherence in collaborative discourse engagement: Patterns of interactive exchange in a societal context

The pragmatic competence of the person with aphasia is defined not only intra-personally in terms of identity, but also extra-personally, within the social and societal context of communication. Consider discourse sample (11), excerpted from correspondence of the Polish woman with aphasia who was introduced in example (4), as she again writes to her very close friend, fulfilling an emotive function.

(11) *Kochana Hanuśka!*

Moja „praca“ – – wyjazdy, czasami, mają piękne drogi lub po drodze zjawia się „muzeum” oryginalne, że serce wali – mocno – piękna jest ta nasze Polska...

‘Dearest Hanushka!

My work – – trips, sometimes, beautiful roads or on the roads appears a museum original, that my heart is thumping – hard – beautiful is our Poland...’

The intimacy of her connection to the recipient of the letter infuses the writing, past any barriers of her aphasic impairment. The most special form of diminutive, reserved only for children and people one loves, marks the form of address with emphatic punctuation. She alludes metaphorically to deep understanding shared between them as close friends: her new line of ‘work’ (*„praca“*) that has replaced the professional life abruptly ended by her stroke; and her correspondent’s enjoyment of museums, but here the original ‘museum’ (*„muzeum”*) of nature, the heartfelt natural beauty of their common homeland, Poland.

Evidence of discourse-based pragmatic competence of the person with aphasia within the societal context is also reflected in the processing of fables and proverbs, which fill a conative, didactic function within a culture. For example, in one structured clinical study of fable and proverb interpretation (Ulatowska et al. 2001), a group of African Americans with aphasia may have had difficulty with the verbal demands of spontaneously interpreting proverbs or providing the lesson of a fable, yet they still demonstrated the ability to process proverbs and fables in less linguistically demanding conditions, such as multiple choice tasks. They also infused their spontaneous definitions of didactic texts with autobiographically

contextualized responses that used familial and religious themes central to their culture. Similarly, combined ethnographic and clinical studies of speakers of Polish with aphasia also suggest relatively preserved ability to comprehend didactic meaning: both meaning of proverbs (Ulatowska and Olness 1998; Ulatowska, Sadowska et al. 2000) and meaning of fables (Ulatowska et al. 1993).

Additional evidence of the pragmatic competence of people with aphasia emerges out of conversational exchange. From a traditional componential pragmatic perspective (Mey 2001: 8–10), there are certain fixed phatic language forms that often survive in aphasia. Even those individuals with the most severe forms of aphasia may be able to understand and produce common phrases and prosodic patterns associated with phatic communication or closure sequences and will respond using appropriate adjacency pairs, e. g. *Thank you very much. I appreciate it.* Also, expression of stance in the forms of common expletives is also remarkably preserved even for those with the most severe linguistic impairments, albeit perhaps to the pragmatic extreme of increased use (Van Lancker and Cummings 1999).

From an alternative, qualitative, functionalist pragmatic perspective (Mey 2001: 10–11), we are reminded that meaning-making across a range of pragmatic functions is a collaborative process among interlocutors; conversational participation by and with people with aphasia is no exception to this natural process. Collaborative narration in conversation (Hengst 2010), pragmatically and communicatively effective use of reported speech during conversation (Hengst et al. 2005), collaborative referencing (Hengst 2003), and verbal play (Hengst 2006) may be representative of the natural interactive communication of many people who have aphasia.

Indeed, everyday contexts of communication of some people with the most severe aphasic impairment suggest that language may not be the *sine qua non* of pragmatic functionality. For example, a man with severe aphasia whose only words were *yes*, *no*, and *and* (Goodwin 2003) used the affirmative and negative as second pair parts in response to the statements of interlocutors; thus his communication emerged from and was situated in the talk of others (91). This communicative strategy was combined with multiple non-linguistic semiotic sources, such as prosody, expressive timing, gestural deixis, and familiar physical context, to form a coherent communicative gestalt. Similarly, Laakso and Klippi (1999) and Wilkinson, Beeke and Maxim (2010) describe how people with relatively severe linguistic impairment may draw on alternate semiotic sources such as interlocutors' comments and enactment during conversation to communicate. One man with severe aphasia familiar to the first author uses photography to narrate, sometimes without any verbalization. Sacks (2010) provides a rich description of a woman with chronic severe aphasia who developed the ability to express herself through a variety of non-verbal means, including use of a personally tailored communication book (32–52). From one conversation Sacks held with her eight years after her stroke through her use of these non-verbal communication methods, Sacks

paraphrases what they discussed: "...she had been to half a dozen art galleries in the past few months, and that, now that it was summer, she would visit Lari [her daughter] on Long Island on the weekends and, among other things, swim" (47).

Certainly, the path to everyday pragmatic functionality for a person with aphasia following a stroke is not necessarily always a smooth one, and it may take time. The highly social woman with severe aphasia mentioned above (Sacks 2010) was initially very limited in her communication abilities and developed these abilities over the course of years. Olness and Ulatowska (2017: 237) describe how one man with a moderate to severe aphasia was able to pragmatically situate only a few words of a story abstract within a conversation to convey a humorous point, bringing the whole group to laughter. Yet, when this same man would attempt to convey humorous points through longer narratives in other conversational contexts, the end of the story would sometimes be met with silence and a change of topic.

Pragmatically effective communication may entail re-purposing and non-standard use of both linguistic and non-linguistic resources by people with aphasia, as well as pragmatic development of contextual affordances within and across their contexts of communication. For example, communicative enactment by people with aphasia may be associated as a means to express assertiveness (Groenewold and Armstrong 2018), and code-switching in bilinguals with aphasia may be re-purposed to circumvent word-finding difficulties during conversation (Muñoz, Marquardt and Copeland 1999). Also, switching to an alternate but stronger communication channel may facilitate expression. The diary writer illustrated in example (7) in the present chapter reportedly was better able to communicate his thoughts in writing, as compared to speaking. Likewise, conversational engagement of one person with aphasia was enhanced when written turns, as opposed to spoken turns, were introduced into the conversational dynamic (Beeke et al. 2014). Some people with aphasia carry business cards that explain their aphasia when they meet strangers, to guide the interlocutor in how to communicate, or they may embed explanations of their aphasia as part of their email signatures. Aphasia is often invisible, unknown, and misunderstood by society at large (Simmons-Mackie et al. 2002), which may be a contextual constraint to pragmatic competence for all, and not just for the person with aphasia. Spouses may be trained to make their pragmatic goals and means of communication during conversation mutually compatible with those of their spouse with aphasia, thus increasing pragmatic success overall within situated discourse (Beeke et al. 2015). One couple, whose preferred interpersonal dynamic was disrupted when one spouse acquired aphasia, was successfully re-trained on how to resume the types of conversations that engaged them as a couple (Fox, Armstrong and Boles 2009). Thus, *Pragmatic Competence in Aphasia*, the title of the present chapter, may be ecologically defined best within a systems-social model of pragmatic competence.

5. Possible future directions for research

The present chapter has raised more questions than it has provided answers regarding the multifactorial nature of pragmatic competence in aphasia and its underpinnings. Yet, this reflects the very strength of a discourse analytic approach to science as it complements positivist scientific approaches. A grounded approach enriches and challenges our understanding of potential interactions and synchrony among language and other resonant semiotic resources in discourse, the cognitive resources that may underpin their orchestration, and the delicate communicative dynamic that emerges among interlocutors in context, toward mutual achievement of pragmatic purpose. These are realized within and through the typical life context of people who have aphasia: the trauma they have experienced, their expressed identity in re-emergence, and their interactive engagement in society. This is indeed a very fertile chaos, as characterized by Mey at the beginning of the present chapter. We come to realize, though, that the impact of the Word may not be as a simple tool for carving meaning, as first suggested, but rather as a powerful catalyst for the creative and complex process of pragmatic action that bursts from it, defying even the challenge of aphasic impairment.

Possible future directions for research are guided by the goals and purpose of that research, and the goals and priorities of the field are many. However, we offer here some sample ideas that may serve to pique the curiosity of others, and we remain receptive to learning of other research initiatives of the readership who may have found the ideas of the present chapter to be of some value to their own lines of research.

As one idea, those who study pragmatics within a componential tradition may creatively combine that traditional literature with the modern analytic tools of corpus linguistics, to explore the differences in pragmatic functionality-in-context of frequently occurring collocations as compared to less frequently occurring collocations within a corpus. This builds on the evidence that automatic and frequently occurring phrases may be relatively preserved in aphasia, as compared to less frequently occurring expressions of novel propositions, and thus may differentially affect pragmatic functionality.

As another idea, those who study pragmatics from a functionalist orientation may springboard from patterns of inefficiency in communication of people with aphasia to explore cross-cultural pragmatic differences in shared assumptions about the communicative value of silence (cf. Ephratt 2014) or at the other extreme, cultural tolerance for conversational overlap. One imagines a thought experiment of a hypothetical man with aphasia who finds himself in a cultural context that is not his own and who seeks to act pragmatically given contextual affordances and limitations with which he may not be familiar, in light of a diminished ability to tap into language as a pragmatic resource.

Little is known about how a person with aphasia may change in the ability

to orchestrate pragmatic action over time. Within-subject, longitudinal studies of communication, extending from acute to chronic stages post-onset of aphasia, would enhance the field's understanding of the role of language in pragmatics as well as our clinical applications of that enhanced understanding in support of the life engagement of people with aphasia.

Researchers who value the ecological validity afforded the field through empirical exploration of naturally occurring data may find quantitative ways to capture and characterize the qualitative synchrony of semiotic resources as they ebb and flow over the course of running discourse. This approach may be particularly valuable for examining the synchrony of use of linguistic and paralinguistic evaluative devices, including such intriguing evaluative devices as reported speech, as they support the expression of emotive intention in discourse by people who have aphasia.

Those with an interest in the pragmatics of various discourse genres may seek examples of naturally occurring instances of genre-in-conversation that have been traditionally under-represented in aphasiology. These may include procedural discourse and expository discourse, as well as naturally occurring samples of hortatory discourse surrounding the use of culturally salient proverbs and other forms of non-literal language. This would expand our understanding of pragmatic competence and aphasia.

Finally, the field of aphasiology at large exhibits some degree of awareness that communicative and pragmatic functionality of people who have aphasia goes well beyond the referential impairments associated with their aphasia. Yet, traditional models of aphasia typology were not incorporated as a framework in the present chapter on pragmatics, because those traditional models focus almost exclusively on referential impairments to the exclusion of other categories of pragmatic intention. A logical goal would be to revisit traditional models of aphasia typology; the field should seek to integrate both relative deficits of referential pragmatics and relative preservations of emotive pragmatics, conceptualized broadly as stance (Keisanen and Kärkkäinen 2014), into a single picture of overall communicative discourse functionality of people with aphasia.

Using the power of converging evidence from multiple perspectives, our understanding of the nature of aphasia and the nature of pragmatic competence may be mutually enhanced, in ultimate empowerment of the individual with aphasia in society.

Acknowledgements

This chapter was supported in part by funding from the National Institutes of Health, National Institute on Deafness and Other Communication Disorders (grant number R03-DC005151). The authors express their appreciation to an anonymous

reviewer for valuable and insightful comments on an earlier version of the chapter. Human research participation was approved by the University of North Texas Institutional Review Board. Sincere thanks to Bailey McCawley and Benjamin Olness for their assistance with editorial formatting.

References

- Apostolou, Nicole
 2016 Foreword. In: Mona Greenfield and Ellayne S. Ganzfried (eds.), *The Word Escapes Me: Voices of Aphasia*, xi–xiii. Bloomington: Balboa Press.
- Armstrong, Elizabeth and Hanna K. Ulatowska
 2007 Stroke stories: Conveying emotive experiences in aphasia. In: Martin J. Ball and Jack S. Damico (eds.), *Clinical Aphasiology: Future Directions*, 195–210. Hove/New York: Psychology Press.
- Beeke, Suzanne, Firl Beckley, Fiona Johnson, Claudia Heilemann, Susan Edwards, Jane Maxim and Wendy Best
 2014 Enabling better conversations between a man with aphasia and his conversation partner: Incorporating writing into turn taking. *Research on Language and Social Interaction* 47(3): 292–305.
- Beeke, Suzanne, Firl Beckley, Fiona Johnson, Claudia Heilemann, Susan Edwards, Jane Maxim and Wendy Best
 2015 Conversation focused aphasia therapy: Investigating the adoption of strategies by people with agrammatism. *Aphasiology* 29(3): 355–377.
- Benson, D. Frank and Alfredo Ardila
 1996 *Aphasia: A Clinical Perspective*. New York/Oxford: Oxford University Press.
- Brookshire, Robert H.
 2015 *Introduction to Neurogenic Communication Disorders*. (8th edition.) St. Louis: Mosby Elsevier.
- Bühler, Karl
 1934 *Sprachtheorie: Die Darstellungsfunktion der Sprache*. Jena: Fischer Verlag.
- Bühler, Karl
 1990 *Sprachtheorie: Die Darstellungsfunktion der Sprache/Theory of Language: The Representational Function of Language*. Translated by Donald Fraser Goodwin. (Foundations of Semiotics 25.) Amsterdam/Philadelphia: Benjamins.
- Dean, Michael P., Sergio Della Sala, Nicoletta Beschini and Gianna Cocchini
 2017 Anosognosia and self-correction of naming errors in aphasia. *Aphasiology* 31(7): 725–740.
- Duncan, E. Susan, Tanya Schmah and Steven L. Small
 2016 Performance variability as a predictor of response to aphasia treatment. *Neurorehabilitation and Neural Repair* 30(9): 876–882.
- Ephratt, Michal
 2014 Silence. In: Klaus P. Schneider and Anne Barron (eds.), *Pragmatics of Discourse*, 407–439. (Handbooks of Pragmatics 3.) Berlin/Boston: De Gruyter Mouton.

Esser, Jürgen

- 2014 Taxonomies of discourse types. In: Klaus P. Schneider and Anne Barron (eds.), *Pragmatics of Discourse*, 443–462. (Handbooks of Pragmatics 3.) Berlin/Boston: De Gruyter Mouton.

Ferguson, Alison, Linda Worrall, Bronwyn Davidson, Deborah Hersh, Tami Howe and Sue Sherratt

- 2010 Describing the experience of aphasia rehabilitation through metaphor. *Aphasiology* 24(6–8): 685–696.

Fox, Sarah, Elizabeth Armstrong and Larry Boles

- 2009 Conversational treatment in mild aphasia: A case study. *Aphasiology* 23(7–8): 951–964.

Frank, Arthur W.

- 1997 [1995] *The Wounded Storyteller: Body, Illness, and Ethics*. Chicago/London: The University of Chicago Press.

Fridriksson, Julius, Caroline Nettles, Mary Davis, Leigh Morrow and Allen Montgomery

- 2006 Functional communication and executive function in aphasia. *Clinical Linguistics and Phonetics* 20(6): 401–410.

Goodwin, Charles

- 2000 Gesture, aphasia, and interaction. In: David McNeill (ed.), *Language and Gesture*, 84–98. (Language, Culture and Cognition 2.) Cambridge/New York/Melbourne/Madrid: Cambridge University Press.

Goodwin, Charles

- 2003 Conversational frameworks for the accomplishment of meaning in aphasia. In: Charles Goodwin (ed.), *Conversation and Brain Damage*, 90–116. Oxford/New York: Oxford University Press.

Goodwin, Charles

- 2010 Constructing meaning through prosody in aphasia. In: Dagmar Barth-Weingarten, Elisabeth Reber and Margaret Selting (eds.), *Prosody in Interaction*, 373–394. Amsterdam: John Benjamins.

Grice, Herbert Paul

- 1975 Logic and conversation. In: Peter Cole and Jerry L. Morgan (eds.), *Speech Acts*, 41–58. (Syntax and Semantics 3.) New York: Academic Press.

Groenewold, Rimke and Elizabeth Armstrong

- 2018 The effects of enactment on communicative competence in aphasic casual conversation: A functional linguistic perspective. *International Journal of Language and Communication Disorders* 53(4): 836–851.

Hengst, Julie A.

- 2003 Collaborative referencing between individuals with aphasia and routine communication partners. *Journal of Speech, Language and Hearing Research* 46(4): 831–848.

Hengst, Julie A.

- 2006 “That mea::n dog” – Linguistic mischief and verbal play as a communicative resource in aphasia. *Aphasiology* 20(2–4): 312–326.

Hengst, Julie A.

- 2010 Semiotic remediation, conversational narratives and aphasia. In: Paul A. Prior and Julie A. Hengst (eds.), *Exploring Semiotic Remediation as Discourse Practice*, 107–138. London: Palgrave Macmillan.

- Hengst, Julie A., Simone R. Frame, Tiffany Neuman-Stritzel and Rachel Gannaway
2005 Using others' words: Conversational use of reported speech by individuals with aphasia and their communication partners. *Journal of Speech, Language, and Hearing Research* 48: 137–156.
- Holland, Audrey
1977 Some practical considerations in aphasia rehabilitation. In: Marsha D. Sullivan and Mary S. Kommers (eds.), *Rationale for Adult Aphasia Therapy*, 167–180. Lincoln: University of Nebraska Medical Center Print Shop.
- Jakobson, Roman
1960 Closing statement: Linguistics and poetics. In: Thomas A. Sebeok (ed.), *Style in Language*, 350–377. Cambridge: MIT.
- Jakobson, Roman
1981 Linguistics and poetics. In: Stephen Rudy (ed.), *Roman Jakobson Selected Writings*, Volume 3: *Poetry of Grammar and Grammar of Poetry*, 18–51. The Hague/Paris/New York: Mouton.
- Johnstone, Barbara
1990 *Stories, Community, and Place: Narratives from Middle America*. Bloomington: Indiana University Press.
- Keisanen, Tiina and Elise Kärkkäinen
2014 Stance. In: Klaus P. Schneider and Anne Barron (eds.), *Pragmatics of Discourse*, 295–322. (Handbooks of Pragmatics 3.) Berlin/Boston: De Gruyter Mouton.
- Kertesz, Andrew
1979 *Aphasia and Associated Disorders: Taxonomy, Localization, and Recovery*. New York: Grune and Stratton.
- Laakso, Minna and Anu Klippi
1999 A closer look at the 'hint and guess' sequences in aphasic conversations. *Aphasiology* 13(4–5): 345–364.
- Labov, William
1972 *Language in the Inner City: Studies in the Black English Vernacular*. Philadelphia: University of Pennsylvania Press.
- Labov, William
1997 Some further steps in narrative analysis. *Journal of Narrative and Life History* 7(1–4): 395–415.
- Levin, Samuel R.
1979 Standard approaches to metaphor and a proposal for literary metaphor. In: Andrew Ortony (ed.), *Metaphor and Thought*, 124–135. Cambridge: Cambridge University Press.
- Lanyon, Lucette and Miranda L. Rose
2009 Do the hands have it? The facilitation effects of arm and hand gesture on word retrieval in aphasia. *Aphasiology* 23(7–8): 809–822.
- Matteson, Samuel E., Gloria Streit Olness and Nancy J. Caplow
2013 Toward a quantitative account of pitch distribution in spontaneous narrative: Method and validation. *Journal of the Acoustical Society of America* 133: 2952–2971.
- McGregor, Don
1999 *One Man's Journey*. Dallas: University of Texas at Dallas Callier Center.

- Mey, Jacob L.
 2001 *Pragmatics: An Introduction*. (2nd edition.) Oxford: Blackwell.
- Muñoz, Maria. L., Thomas P. Marquardt and Gary Copeland
 1999 A comparison of the code-switching patterns of speakers with aphasia and neurologically normal bilingual speakers of English and Spanish. *Brain and Language* 66(2): 249–274.
- Nespoulous, Jean-Luc, Chris Code, Jacques Virbel and André R. Lecours
 1998 Hypotheses on the dissociation between “referential” and “modalising” verbal behaviour in aphasia. *Applied Psycholinguistics* 19(2): 311–331.
- Nicholas, Linda E. and Robert H. Brookshire
 1993 A system for quantifying the informativeness and efficiency of the connected speech of adults with aphasia. *Journal of Speech and Hearing Research* 36(2): 338–350.
- Norrick, Neal R.
 2000 *Conversational Narrative: Storytelling in Everyday Talk*. Amsterdam: John Benjamins.
- Ochs, Elinor and Lisa Capps
 2001 *Living Narrative: Creating Lives in Everyday Storytelling*. Cambridge/London: Harvard University Press.
- Olness, Gloria S. and Elise F. Englebretson
 2011 On the coherence of information highlighted by narrators with aphasia. *Aphasiology* 25(6–7): 713–726.
- Olness, Gloria S., Samuel E. Matteson and Craig T. Stewart
 2010 “Let me tell you the point”: How speakers with aphasia assign prominence to information in narratives. *Aphasiology* 24(6–8): 697–708.
- Olness, Gloria S., Jacqueline A. Stark and Mahaley Millican
 2018 Empirical validation of a novel operationalization of the expression of emotion: A case of synchronization of relative pitch height and evaluative language across elements of discourse structure in a narrator with Broca’s aphasia. *Frontiers in Human Neuroscience Conference Abstract: Academy of Aphasia 56th Annual Meeting*. doi: 10.3389/conf.fnhum.2018.228.00086 (accessed 30 April 2019).
- Olness, Gloria Streit and Hanna K. Ulatowska
 2011 Personal narrative in aphasia: Coherence in the context of use. *Aphasiology* 25(11): 1393–1413.
- Olness, Gloria Streit and Hanna K. Ulatowska
 2017 Aphasias. In Louise Cummings (ed.), *Research in Clinical Pragmatics*, 211–242. (Perspectives in Pragmatics Philosophy and Psychology 11.) Cham: Springer.
- Poeck, Klaus
 1983 What do we mean by “aphasic syndromes?” A neurologist’s view. *Brain and Language* 20(1): 79–89.
- Polanyi, Livia
 1989 *Telling the American Story: A Structural and Cultural Analysis of Conversational Storytelling*. Cambridge/London: The MIT Press.
- Quasthoff, Uta M. and Tabea Becker (eds.)
 2005 *Narrative Interaction*. (Studies in Narrative 5.) Amsterdam/Philadelphia: John Benjamins.

- Raymer, Anastasia M., Pélagie Beeson, Audrey Holland, Diane Kendall, Lynn M. Maher, Nadine Martin, Laura Murray, Miranda Rose, Cynthia K. Thompson, Lyn Turkstra, Lori Altmann, Mary Boyle, Tim Conway, William Hula, Kevin Kearns, Brenda Rapp, Nina Simmons-Mackie and Leslie J. Gonzalez Rothi
2008 Translational research in aphasia: From neuroscience to neurorehabilitation. *Journal of Speech, Language, and Hearing Research* 51: S259–S275.
- Redeker, Gisela
1984 On differences between spoken and written language. *Discourse Processes* 7: 43–55.
- Sacks, Harvey, Emanuel A. Schegloff and Gail Jefferson
1974 A simplest systematics for the organization of turn-taking for conversation. *Language* 50: 696–735.
- Sacks, Oliver
2005 A neurologist's notebook: Recalled to life. *The New Yorker* October 31: 46–47.
- Sacks, Oliver
2010 *The Mind's Eye*. New York: Alfred A. Knopf.
- Shadden, Barbara
2005 Aphasia as identity theft: Theory and practice. *Aphasiology* 19(3–5): 211–223.
- Siegal, Michael and Rosemary Varley
2006 Aphasia, language, and theory of mind. *Social Neuroscience* 1(3–4): 167–174.
- Simmons-Mackie, Nina, Chris Code, Elizabeth Armstrong, Lillian Stiegler and Roberta J. Elman
2002 What is aphasia? Results of an international survey. *Aphasiology* 16(8): 1132–1152.
- Tesak, Juergen and Chris Code
2008 *Milestones in the History of Aphasia: Theories and Protagonists*. Hove/New York: Psychology Press.
- Tranströmer, Tomas
2006/2011 *The Great Enigma: New Collected Poems*. (trans. Robin Fulton.) New York: New Directions.
- Ulatowska, Hanna K.
2014 Narracje transformacyjne: Wizerunki afazji [Quest narratives: Images of aphasia]. In: Emilia Łojek, Anna Bolewska and Hanna Okuniewska (eds.), *Studia w neuropsychologii klinicznej: Na 45-lecie pracy aawodowej Profesor Danuty Kądziaławy* [Studies in Clinical Neuropsychology: In Honor of 45 Years of Professional Work of Professor Danuta Kądziaława], 97–100. Warsaw: Uniwersytet Warszawski.
- Ulatowska, Hanna K. and Gloria Streit Olness
1998 Reflections on the nature of proverbs: Evidence from aphasia. *Proverbium* 15: 329–346.
- Ulatowska, Hanna K. and Gloria Streit Olness
2001 Dialectal variants of verbs in narratives of African Americans with aphasia: Some methodological considerations. In: Michel Paradis (ed.), *Manifestations of Aphasia Symptoms in Different Languages*, 9–26. Amsterdam: Pergamon.

- Ulatowska, Hanna K., Gloria Streit Olness, CaSaundra L. Hill, Julie A. Roberts and Molly W. Keebler
 2000 Repetition in narratives of African Americans: The effects of aphasia. *Discourse Processes* 30(3): 265–283.
- Ulatowska, Hanna K., Belinda A. Reyes, Tricia Olea Santos and Christina Worle
 2011 Stroke narratives in aphasia: The role of reported speech. *Aphasiology* 25(1): 93–1105.
- Ulatowska, Hanna K., Maria Sadowska, Danuta Kadzielawa, Jan Kordys and Krystyna Rymarczyk
 2000 Linguistic and cognitive aspects of proverb processing in aphasia. *Aphasiology* 14(3): 227–250.
- Ulatowska, Hanna K., Maria Sadowska, Jan Kordys and Danuta Kadzielawa
 1993 Selected aspects of narratives in Polish-speaking aphasics as illustrated by Aesop's fables. In: Hiram H. Brownell and Yves Joannette (eds.), *Narrative Discourse in Neurologically Impaired and Normal Aging Adults*, 171–190. San Diego: Singular Publishing Group.
- Ulatowska, Hanna K., Robert T. Wertz, Sandra B. Chapman, CaSaundra L. Hill, Jennifer L. Thompson, Molly W. Keebler, Gloria Streit Olness, Sharon D. Parsons, Teya Miller and Linda L. Auther
 2001 Interpretation of fables and proverbs by African Americans with and without aphasia. *American Journal of Speech-Language Pathology* 10: 40–50.
- Van Lancker, Diana and Jeffrey L. Cummings
 1999 Expletives: Neurolinguistic and neurobehavioral perspectives on swearing. *Brain Research Reviews* 31(1): 83–104.
- Verschueren, Jef
 1999 *Understanding Pragmatics*. (Understanding Language series.) London/New York/Sydney/Auckland: Arnold.
- West, Paul
 2008 *The Shadow Factory*. Santa Fe: Lumen Books.
- Wiegel-Crump, Carole and Roy A. Koenigsknecht
 1973 Tapping the lexical store of the adult aphasic: Analysis of the improvement made in word retrieval skills. *Cortex* 9(4): 411–418.
- Wilkinson, Ray, Suzanne Beeke and Jane Maxim
 2010 Formulating actions and events with limited linguistic resources: Enactment and iconicity in agrammatic aphasic talk. *Research of Language and Social Interaction* 43(1): 57–84.
- Yourganov, Grigori, Kimberly G. Smith, Julius Fridriksson and Chris Rorden
 2015 Predicting aphasia type from brain damage measured with structural MRI. *Cortex* 73: 203–215.

21. Pragmatics and dementia

Heidi E. Hamilton

Abstract: The goal of understanding how pragmatics and dementia are related to each other challenges us to understand how language is used by large numbers of individuals with dementia in many and varied contexts, both experimental and natural. This chapter characterizes this scholarship dating back to the earliest energetic forays by linguists four decades ago and considers contributions in neighboring fields, including anthropology, sociology, psychology, and philosophy, that have provided rich contexts for fine-grained discourse analyses relating pragmatic details to aspects of the interactional context or providing insights into emergent discourse. Following engagement with public discourses that frame issues in this domain from sociocultural perspectives, contextual dimensions of various types of interactions in society are discussed, including examinations of aspects of the type of activity in which participants are involved, as well as shaping influences of the physical environment. The chapter then focuses in on ways in which pragmatic phenomena play themselves out in naturally-occurring discourse involving individuals with dementia, highlighting selected findings related to both verbal and nonverbal communication, before closing with considerations of implications for future research.

1. Introduction

Consider Elsie Post, Max Greenwald, and Robert Shonka. Dr. Post is a widowed 82-year-old retired minister and world traveler whose current joy comes from looking through old personal papers and photographs and talking with the smiling faces of friends and family members she seems not to place. Mr. Greenwald, a 78-year-old businessman, reluctantly gave up his driver's license last month and now depends on a somewhat unreliable public van service to transport him from his apartment to the highlight of his week: an early memory loss support group that meets at the local community center. Mr. Shonka, a 90-year-old retired farmer, struggles with intense frustration at the impediments that dementia throws in his way. He has been known to smash his walker in rage against the wall of his room in the memory care unit, but also enjoys reading a photocopied collection of his favorite poems in quiet moments.

Now consider the scholar caught up in the endless fascination of exploring the interrelationships between pragmatics and dementia: Might Dr. Post benefit from specially designed activities that deemphasize her increasing word-find-

<https://doi.org/10.1515/9783110431056-021>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 611–646. Berlin/Boston: De Gruyter Mouton.

ing difficulties? How has Mr. Greenwald's wife figured out how to balance his need for support without making him feel overly dependent on her? What do the repeated retellings of Mr. Shonka's successes in his community's planning and zoning committee divulge about his sense-of-self? Back in 1980 when the Alzheimer's Disease and Related Disorders Association (now the Alzheimer's Association) was founded in the United States, that scholar's bookshelves devoted to this juxtaposition of interests would have been nearly empty: an edited volume entitled *Language and Communication in the Elderly: Clinical, Therapeutic, and Experimental Aspects* by Obler and Albert (1980) would have taken its place next to Irigaray's (1973) study of dementia in France (*Le langage des dements*) and Bayles' (1979) University of Arizona doctoral dissertation, *Communication profiles in a geriatric population*. File folders containing the published reports of an eight-month ethnographic study of a 150-bed convalescent home in California by Smithers (1977) and a case study on language function in dementia by Schwartz, Marin and Saffran (1979) would have constituted the literature that was readily available at that time.

In the year 2020, however, that same researcher's bookshelves, file drawers, and cloud storage overflow with studies. The years since 1980 have been filled with scholarly activities that have extended and deepened the understanding based on the small amount of early groundbreaking work. A quick glance displays a dizzying array of topics and approaches. Some scholars describe the language and/or communicative abilities that accompany the progression of dementia. Others assume that individuals' language choices help to construct their range of social identities and relate these choices to issues of interactional goals, discourse type, and cognitive health. Still others recognize the critical importance of social relationships and investigate talk among friends, family members, and in interactions with institutional representatives at home, during leisure activities, in assisted living and nursing facilities, and in visits to physicians' offices. And, finally, others examine public discourses about dementia and consider the effects these discourses may have on individuals of all ages.

Given the wide range of studies, I have decided to structure this chapter from the global to the local levels; that is, I begin with literature that frames the study of pragmatics and dementia from the societal or cultural perspective, focusing on public discourse surrounding dementia and Alzheimer's disease (section 3). I then focus in on contextual dimensions of specific interactions in society (section 4), first examining the influences of the type of activity in which participants are engaging (section 4.1) and then turning to the shaping influences of the physical environment (section 4.2). Section 5 then zeroes in on the way pragmatic phenomena play themselves out in naturally-occurring discourse involving individuals with dementia, discussing selected findings related to verbal communication (section 5.1) before turning to those related to nonverbal communication (section 5.2). The chapter closes with implications for future research (section

6). Before moving on to these discussions, however, I first provide a brief characterization of the history of work in the area of language, communication and dementia¹.

2. A brief history of investigations of language, communication and dementia

One manifestation of dementia is a progressive and apparently irreversible deterioration of individuals' abilities to communicate with others (see Hamilton 2019, Wray 2011, and Wray 2014 for excellent overviews). They may struggle to find the appropriate words in a conversation. They may have trouble tracking and using pronouns appropriately or in understanding indirectness as another speaker intended. They may ask repetitive questions. On the other hand, they may continue to be able to carry out some of the more mechanical tasks in interaction, such as taking a turn-at-talk or gaining another's attention. They may even perform more effectively if they are dealing with a topic of personal importance than with a more banal one.

Researchers agreed early on in investigations of language, communication and dementia that problems in these areas seemed to be due less to phonological and morphosyntactic disorders than to difficulties on the semantic and pragmatic levels (Appell, Kertesz and Fisman 1982, Bayles 1979, Baynes and Kaszniak 1987, Kempler 1984, Obler 1981, and Schwartz, Marin and Saffran 1979). Because of their basically well-formed syntactic structure, many of the inappropriate or irrelevant utterances characteristic of the language used by Alzheimer's patients – at least until severe stages of the disease – would not appear out-of-the-ordinary in isolation, but only when heard within the larger discourse context in pursuit of some interactional goal as displayed in example 1 by the discursively marked but syntactically unremarkable utterances (“You can do that. That's a good idea”) spoken by an individual with dementia, Elsie, in line c:

- (1) a. Elsie: And where did you say your home was?
 b. Heidi: I'm on Walter Road.
 → c. Elsie: You can do that. That's a good idea.

(Hamilton 1994a: 185)

¹ In this review I include literature that refers specifically to individuals with Alzheimer's disease, the most prevalent form of dementia, in addition to literature that refers to the general category of dementia.

Thirty years ago, when work on the intersection of language and dementia was in its relative infancy, Bayles and Kaszniak (1987: 175) recommended that systematic study of the conversational abilities of dementia patients supplement more typical research within the experimental paradigm because the loss of such abilities was thought to be an early marker of dementia. They cited a number of anecdotal reports by researchers and clinicians of such individuals having difficulty maintaining conversational topics, being insensitive to others in the conversation, saying either too much or too little, and failing to repair misunderstandings. Bayles and Kaszniak (1987) argued that the study of conversation in particular would help researchers find out how patients behave in everyday life because these interactions are “the most naturally-occurring linguistic activities” (see also Cummings 2012: 293 for a discussion of this recommendation in the examination of pragmatic disorders more generally).

The past three decades have seen an energetic and creative response to that call although, given its importance, perhaps to a lesser degree than one might expect. The majority of work on language and dementia has continued to be carried out from a neurolinguistic or psycholinguistic perspective (see review by Kempler and Goral 2008). To my knowledge, the publication of my revised doctoral dissertation, *Conversations with an Alzheimer's patient: An interactional sociolinguistic study* (Hamilton 1994a), was the first in the wave of sociolinguistic studies to depart from the dominant clinical paradigm with its experimentally-elicited language data and to focus on social interaction. In that study, I analyzed the language of open-ended, naturally-occurring and meaningful conversations I had with one individual with Alzheimer's disease, “Elsie”, over four-and-one-half years in her nursing home. That work was an attempt to understand not only how communicative abilities and disabilities were related to each other and how they changed over time, but, importantly, how these were influenced by both preemptive and reactive communicative behaviors on the part of the conversational partner. Ramanathan-Abbott (1995a, 1995b, and 1997) then extended this focus on interactional effects to examine how narratives told by speakers with Alzheimer's disease were shaped according to differences in audience and setting. (See Guendouzi and Davis 2013: 21, Kindell et al. 2017: 393 and Lopez 2016: 66 for characterizations of seminal work in the early years of this approach.)

In my early work, I found it useful to discuss changes in discourse-level communication that accompanied the progression of the disease in their relationship to two concepts: 1) taking the role of the other in interaction (Mead 1934) and 2) automatization of language (Whitaker 1982), using Schiffrin's (1987) 5-component model of discourse coherence and Halliday's (1978) systemic-functional grammar to organize specific discourse phenomena. For example, Elsie's decreasing ability to take the perspective of her conversational partner was most apparent in the initial stages of our time together in terms of ideational content construction, such as in the selection of pronouns, lexical items, and topics. Problems relating to the

management of interpersonal positions, roles, and faces, such as the use of politeness strategies, or the more procedural demands of discourse, such as turn-taking, became apparent later in our conversations. She was generally able until late in our interactions to use relatively more routinized language, such as linguistic formulas, more successfully than utterances she had to create anew in the situation.

Subsequent work incorporated notions of face (Goffman 1967), linguistic politeness (Brown and Levinson 1987) and positioning theory (Davies and Harré 1990) to investigate the social construction of identities in oral (Sabat and Harré 1992, Sabat 2001, Sabat 2006, Hamilton 1996 and 2008a) and written (Hamilton 2000) communication by individuals with dementia, linking this work to studies that discuss the health consequences of communicative practices involving older adults (see Davis 2005, Giles, Coupland and Wiemann 1990, and Ryan et al. 1986). Even more recently, scholars (Hamilton 2019, and Schrauf and Müller 2014) are connecting studies of language in dementia to the burgeoning area of epistemic discourse analysis (Raymond and Heritage 2006, Stivers, Mondada and Steensig 2011, van Dijk 2013, 2014) in an effort to complement the prevailing individualistic view of human cognition with an alternative discursive paradigm that “assumes that cognition is in fact something that takes place between people” (Schrauf and Müller 2014: 22). In all of this work, dementia is approached as a human issue within multiple linguistic and social contexts (see also Davis and Guendouzi 2013, and Schrauf and Müller 2014), rather than exclusively as a slowly progressive disease of the brain.

Much scholarship on pragmatics and dementia finds its motivation in what Leibing (2006: 242) calls the “personhood movement” in Alzheimer’s studies (cf. Kitwood 1997) in which “personhood” refers to “the person within – the reflexive, immaterial, communicable essence of a person that is located deep within the body, but that is sometimes veiled by symptoms” (Leibing 2006: 243). This shift away from the medical model of dementia is reflected in its emphasis on the “capacities of the feeling person and not only on his or her losses” as well as on a redefinition of memory as “interactive and not individualized” (Leibing 2006: 255). Major initiatives within this area involve innovative programming in the arts for individuals with dementia and their companions. Scholarly societies, journals, and conferences facilitate investigations into the effectiveness of creative expression therapy in a variety of artistic domains, including music, visual arts, theater, and the writing of poetry and short stories. Proponents claim that these multi-sensory experiences are especially good at promoting the social and creative wellbeing of persons with dementia (see esp. Basting 2009, and Ryan, Bannister and Anas 2009).

Not surprisingly, this shift toward a focus on personhood has been accompanied by a heightened interest in applying the findings of basic research to help individuals with dementia and those who care for them, for example, by enhancing communication and lifting self-esteem. In fact, it could be argued that most studies reviewed here were motivated by the observation that “relatively little can be done

to arrest the underlying brain disease, [but] much can be done to promote health and wellbeing” (Downs, Clare and Mackenzie 2006: 248), resulting in a focus on the identification of active coping strategies and the enhancement of social environments for the individual with dementia.

3. Public discourse: Framing of dementia and consequences for interaction

Snyder (2006: 267) reports the following exchange within a support group meeting for individuals with Alzheimer’s disease.

(2) L: Once you have that label [Alzheimer’s], it changes the way people communicate with you. Everyone treats you with ...uh... you know, they don’t want to...

K: Upset you.

L: Yeah, upset you or anything like that. You’re just treated differently.

Why would it be the case that people communicate differently with individuals who have “that label” of Alzheimer’s disease? Johnstone (2002: 227) proposes an answer when she highlights the relationship between what speakers perceive to be “real, natural or true about the world” and their discourse practices, exploring how elements of ideology “shape what people do with talk, what they do not do, how they interpret discourse.”

What kinds of ideologies may be at work here? I have already mentioned several key differences in perspective across scholars researching questions at the intersection of language and dementia. In this sense, Cohen (2006: 7–8) juxtaposes what he terms the “total biologization of senility” (where internal disease processes inform all discussions of changes in late life) with the “personhood” movement in clinical practice and social science research mentioned above. But clearly this distinction is not limited to scholarly debates; the general public is immersed in public discourse that shapes its views of people with dementia – and this public discourse can indeed vary over time and across cultures, societies, and institutions.

Downs, Clare and Mackenzie (2006) outline four explanatory models or belief systems about the cause of dementia that circulate in the public sphere, each of which has implications for the individual with dementia as well as for an understanding of the therapeutic efforts required to provide support. Of these belief systems, Downs, Claire and Mackenzie (2006: 244) claim that the “neuropsychiatric” model, in which the focus is the underlying brain disease, dominates Western discussions. In this model, psychosocial aspects of dementia are neglected since “intellect and reasoning are valued above relational and aesthetic aspects.” This

connects very clearly to Post's (1998: 72) notion of the "hypercognitive culture" (cited in Sabat 2001: 320) which values cognition over other dimensions of life. Post maintains that hypercognitive cultures diminish individuals with dementia by "reducing their moral status or by neglecting the emotional, relational, aesthetic, and spiritual aspects of well being that are open to [these individuals], even in the advanced stages of the disease."

In their useful, multi-faceted textbook *Approaches to discourse analysis in dementia*, Guendouzi and Müller (2006: 146–148) highlight the importance of Critical Discourse Analysis (cf. Fairclough 1989, 1995) in examining the linguistic choices made within media discourse related to dementia. They claim that such analyses of Western cultural texts reveal "hegemonic discourse practices" that represent dementia as "loss of self" and the individual with dementia as an "empty shell" (see also Kontos 2006: 195). Guendouzi and Müller state that these public discourses frequently find their way into language used by individuals in Alzheimer's support groups (and more generally as well).

Snyder (2006: 268) makes the explicit connection between negative media images and effects on person-to-person communication, stating that "socially constructed fictions such as 'the loss of the self,' 'empty shell,' and the prospect of 'a long goodbye'" can affect communication in both subtle and dramatic ways. She introduces Vaihinger's (1924) "as if" philosophy into her argument that conversational partners can choose between communicating with people with dementia "as if" their self is diminished or "as if" there is still a "self trying to be recognized". In the former case, it is less likely that interlocutors will be able to "hear the intact messages that are expressions of personal identity".

Sabat (2006: 297) makes a similar point from the perspective of positioning theory (Davies and Harré 1990). In what Sabat terms "malignant positioning", an individual's actions are attributed to dementia and not seen as possible *intentional* acts on the part of the person (e. g., when the source of an unwillingness to participate in an assisted living center's bingo game is not understood as possibly being related to an individual's lifelong dislike of bingo). Sabat argues that such malignant positioning can be counteracted when conversational partners see the person with dementia as "much more than a patient – as a person who can have a variety of valued social identities". The linguistic details of such moment-to-moment shifts in positioning can be found in Hamilton (1996) and is explored by McEvoy and Plant (2014) in their thought-provoking discussion of "empathic curiosity" that "help[s] to foster greater engagement and insight by opening up conversational spaces in which people can share their phenomenological experiences" (McEvoy and Plant 2014: 478).

In fact, it is this critical two-way relationship between interlocutors' conversational actions (e. g., positioning, communicating "as if", etc.) and communicative behaviors and levels of self-esteem of the individual with dementia that is at the heart of the pragmatic perspective that I explore in this chapter. When the expe-

rience of living with dementia is understood as the result of dialectical interplay between brain disease and psychosocial factors (cf. Kitwood 1990 in Downs, Clare and Mackenzie 2006), it becomes important to extend outward beyond specific analyses of individuals' linguistic production and comprehension to encompass relevant aspects of the social context of this language use. In the following two sections I borrow the term "talk-in-interaction" from the field of conversation analysis (cf. ten Have 1999) to focus our attention on the fact that communication can best be understood in relation to its surrounding interactional contexts. I begin by highlighting the "interaction" portion of the term, first discussing the activity of which the talk is a part followed by aspects of the physical environment of such talk. I then turn to the "talk" portion of the term, discussing verbal aspects of communication followed by nonverbal aspects.

4. Talk-in-interaction: Focus on interactional contexts

Over the years, studies of language and dementia have typically examined language elicited by standardized testing within a clinical setting or as part of interviews or conversations with a researcher. Since differences inherent in interactional contexts have been shown to result in differences in language produced and comprehended, some researchers have identified different contextual features as being at least partially responsible for contradictory findings across studies (see Light 1993, and Melvold et al. 1994). McLean (2006: 167–168), for example, suggests that some discouraging assessments may result from the artificial experimental conditions under which language was produced as well as from the power differential this creates between subject and researcher. In addition to these contextual differences related to activity and purpose, Ramanathan (1997) has identified the relationship (especially in connection with the type and amount of shared knowledge) between conversational partners as an influential factor on language used by individuals with dementia.

In an attempt to provide interested linguists with sufficient opportunities to study similarities and differences in language used by individuals with dementia across different contexts, I have recommended (Hamilton 2005: 237–238) the systematic recording of interactions that go beyond the typical extended conversations and interviews to include those with a wider range of purposes and interlocutors. In the design of studies, I have urged researchers to consider the following inter-related facets of the interactional context(s) to be examined: 1) the degree of symmetry in the relationship between interlocutors; 2) the speakers' perceptions of the level of formality in the communicative situation; and 3) the speakers' perceptions of the particular tasks to be performed in the interaction, as well as their attitudes towards these tasks and their motivation to carry them out (see also Hamilton 1994a: 3–4 for more detailed discussion).

To that end, recent work has focused on activities in which individuals with dementia are engaged with interlocutors other than researchers or clinicians. Additional work has problematized aspects of the physical environment of the communication, including both the built environment and the function of inanimate objects. These two areas of the interactional context are reviewed in turn.

4.1. Focus on activity

In their longitudinal study of elderly in Taiwan, Gleib et al. (2005) found that voluntary participation in social activities (such as playing games, doing volunteer work, and participating in religious groups, business associations, or political groups) has a greater impact on the maintenance of cognitive function than do regular interactions with family members and friends. In a response to this study, Gallagher, Bayer and Ben-Shlomo (2005: 872) called for more detailed investigations that would “unpack the social engagement ‘black box’” and identify the relative importance of various characteristics of these social activities. Although a great deal more work needs to be done in this area, several studies suggest relevant dimensions.

Not surprisingly perhaps, activities examined in studies of dementia frequently relate in some way to memory. Some activities for individuals in the relatively early stages of dementia are designed with an *explicit* focus on memory, either through conversations encouraging personal reminiscence or in the form of memory games. Basting (2006: 193) suggests that this encouragement to remember the past may be triggered by assumptions on the part of carers that people with dementia have “no meaningful present”. In her study of a day care center for Swedish speakers in Finland, Lindholm (2008) discusses face-threatening aspects of the moment-to-moment management of what she calls the “interactional noncompetence” displayed within the context of a memory game based on Swedish proverbs. During the game, a nurse read the first part of a proverb aloud, creating a slot that the individual with dementia was supposed to fill by producing the second part of the proverb. The transcript excerpts of these interactions suggest that the individuals viewed this activity as less of a game than a memory test. In a subsequent study, Lindholm (2011: 620) urged carers to “assess whether a participant has realized that a game is being played and what that entails pragmatically” since, as gatekeepers of such activities, the carers need to remain attentive to the self-esteem and confidence of the participants.

In contrast, Snyder (2006), Basting (2006, 2009) and Kontos (2006) all discuss activities that downplay the focus on memory, since “individuals’ own self esteem can be battered within therapies that focus on reminiscence or reality orientation, or even in personal interactions with family members and friends who insist on memory work” (Kontos 2006). For example, in relatively early stages of dementia, when individuals affected can recognize a gap between what they can remember

and what they *should* be able to remember, support groups can be an important activity to counteract attempts by personal or professional carers to “maintain positions grounded in ‘reality’” (Snyder 2006: 266). Support groups that focus on coping strategies, finding meaningful activities, and struggling with change and autonomy allow “affirming, engaged discourse that is rarely afforded people with dementia as they attempt to navigate mainstream life.” Within this activity, speakers are free from judgmental responses by conversational partners who may be frustrated with what they view as fictional or repetitious talk coming from those with dementia (see also Hamilton and Baffy 2014).

For individuals in the moderate stages of dementia, the language and memory challenges associated with reminiscence, proverb games and support groups may be too great, leading to frustration and shame. Basting (2006) describes her response to this dilemma, the TimeSlips Project. This project, which shifts focus from memories of the past to creativity in the here-and-now, can “open up channels of communication with people with ADRD [Alzheimer’s Disease and Related Disorders] and offer both client and caregiver the potential for growth” (Basting 2006: 194). Rather than expecting individuals to come up with stories from their past, facilitators hand out a visual image to each member of a small group and ask many open-ended questions of group members, with the resulting creative story being based on all members’ responses. This process provides an “avenue for self-expression that frees [individuals with dementia] from the demands of memory and rational language” (Basting 2006: 193).

Finally, when the stage of dementia is even more advanced, Kontos (2006) emphasizes the importance of routine activities in helping to maintain a sense of normalcy in life. In her ethnographic study of an Alzheimer’s support unit of an Orthodox Jewish home for the aged in Canada, Kontos explores the notion of selfhood in the face of what she calls “severe cognitive impairment”. She beautifully illustrates “the body’s concrete, spatial, and prereflective directedness toward the lived world” (Kontos 2006: 203) in a series of powerful and poignant vignettes that understand automatically performed activities in the nursing home (e. g., Jewish rituals) as “active presence of the past in the body itself” (Kontos 2006: 209). From this perspective, the construction of self need not be reliant on language *per se*, but can be “enacted in the actual movements of the body.” Kontos argues, furthermore, that this embodied selfhood goes beyond historical rituals to include residents’ mastery of their social world through “the rhythm of ongoing interactions of daily life”.

4.2. Focus on physical environment

In addition to the focus on the shaping contextual influences of the activity type, other scholars have pointed to the relevance of the physical environment, including the built environment of, for example, nursing homes and assisted

living centers (e. g., Edgerton and Ritchie 2010, and Brush, Fleder and Calkins 2012), as well as inanimate objects in the physical surroundings (e. g., Alm et al. 2013). In an intriguing study of seven Alzheimer's special care units, Zeisel et al. (2003) found associations between behavioral health measures and particular environmental design features of those units; for example, as reported by nurse observers, individuals with Alzheimer's disease displayed less anxiety and aggression in special care units that appeared more residential and less institutional and allowed for more privacy and personalization of rooms. Importantly, the amount of variability among common spaces in a facility was negatively correlated with social withdrawal, the variable that is centered most on communication; that is, residents with Alzheimer's disease were observed to initiate more interactions, respond more to social contacts, pay more attention to things around them, and be more helpful to other residents when the common spaces of the facility did not all look the same and, crucially, when residents had a choice of different spaces to go (Edgerton and Ritchie 2010). From an ethnographic approach, Chatterji (2006: 227) concurs with Zeisel et al. (2003) about the importance of the lived environment, although given her ethnographic perspective, she understands decisions regarding public and private spaces as being related to cultural values (such as autonomy and independence) that are central to the constitution of self and to participation in social life. As far as I know, no pragmatic studies *per se* focus on the interrelationship of physical environment and language (but see Scollon and Scollon 2003 for a useful theoretical framework) used by individuals with dementia, although studies from neighboring fields make the case that issues of place and space are important areas for future linguistic analyses.

Other motivation for such studies comes from early examinations of individuals with dementia that identified their proclivity for talk in the here-and-now – what some scholars term “context-boundedness” (Obler 1981; Appell, Kertesz and Fisman 1982), an individual's reduced ability to free him- or herself cognitively from the immediate temporal and spatial context. More recently, Savundranayagam et al. (2011: 421) have claimed that “[e]xperiences can be fleeting for people with memory loss; thus, the impact of shared activities can only be ‘measured’ by being present in that moment since it is uncertain what might be remembered at a later time.” Those who care for individuals with dementia sometimes notice this phenomenon when their loved ones enter into a stream-of-consciousness discourse as they focus on what is immediately around them, commenting on anything and everything they see, hear, taste, smell or touch (for example, saying *So I'm starting now to get it off...there now it's going off...yes, there it goes down over there, I'm pretty sure* while cleaning one's eyeglasses – see Hamilton 2003: 71). This focus on the present time and space may be disconcerting to some conversation partners who find that this talk seems empty when compared with reminiscing about the past or planning for and dreaming about the future (see Chafe 1994: 195–211 for

a helpful characterization of what he calls “immediacy” and “displacement” in conversational language).

The occupation with the here-and-now can be “normalized”, however, and built upon in specially designed art gallery programs for those with dementia and their companions (see Zeisel 2009, Hamilton 2011, and Isaac and Hamilton 2019). During these special tours, a viewed object of art can evoke any of a number of responses (e. g., description of shapes or colors, comparison, judgment, personal narrative, etc.), allowing individuals at different stages of dementia to continue to participate successfully at their ability and interest level. Findings from these art programs can be extended to inform ways in which physical objects in homes – most commonly photographs, paintings, and figurines – can be drawn upon to spark discourse topics. Depending on the skillfulness of the interlocutor to accommodate and manage potentially face-threatening memory challenges, these cherished objects can serve as gateways to valuable turn-by-turn explorations of personal history (see Hamilton 2019: 172–181).

Following Kitwood’s argument that memory should not be understood as inhering solely in individuals, Leibling (2006) raises the possibility of external extensions to memory, both in other persons, where family members and friends can become part of an extended or interpersonal memory (see also Ramanathan 1997 and Hyden 2011 on scaffolding) and in inanimate objects that become humanized in their integration into personhood. The importance of greeting cards, photographs, and other such personal holders of memory cannot be overestimated in their role as conversational triggers (see also McLean 2006: 163, and Howarth 2013). Speech and language pathologists (Bourgeois et al. 2001) found success since the early 1990s using low-tech augmentative and alternative communication (AAC), such as personalized talking photo albums, to support communication participation of persons with dementia (see also Kelson 2006 for information on her “Visual Life Stories” project). Such objects can also assist in constructions of self-identity, as observed by Oppenheimer (2006: 202): “When a person can no longer describe to the visiting psychiatrist who they are or have been, their home – its atmosphere and the objects in it – can help to do so.” Ryan and Martin (2011: 201) reinforce this critical function of memory boxes, emphasizing that they do much more than present the individual with familiar objects, but provide “a process whereby elements of the self are introduced to reinforce personhood.”

Exciting and highly innovative work is being carried out by researchers (e.g. Alm et al. 2013, Fried-Oken et al. 2012) at the intersection of computing, psychology, and design to create computer-based conversation support systems that include touchscreen access to reminiscence materials drawn from public or personal archives. Although some challenges may remain for individuals with dementia who are unfamiliar with computer technology, early studies have indicated that communication between individuals with dementia and their companions may be enhanced by joint attention to a “third element in the interaction” that is itself

interactive and engaging, especially if the healthy companions receive explicit instruction as to how to use the devices effectively.

5. Talk-in-interaction: Focus on communication

This section focuses on communication – both verbal and nonverbal – that occurs within particular interactional contexts (section 4) and that is potentially shaped by public discourses surrounding dementia (section 3). In Hamilton (2005), I used the metaphors of the *prism*, the *soliloquy*, the *couch* and the *dance* to highlight four prevalent approaches to the analysis of communication as it relates to dementia. To summarize, the *prism* symbolizes the focus of some researchers on the disembodied display of a variety of linguistic and communicative phenomena that characterize the breakdown that typically occurs as the dementia progresses. From this perspective, selected linguistic or discursive phenomena are analyzed apart from other linguistic or social phenomena, with no specification of a relationship to the speaker or the context of talk beyond possible subsequent straightforward correlations. The *soliloquy* represents work that focuses its analytical attention on the investigation of how individuals with dementia integrate the individual linguistic and communicative phenomena identified by the *prism* approach into a whole discourse. In this approach, linguistic phenomena are analyzed not as separate phonological, morphological, syntactic, semantic, pragmatic, and lexical phenomena, but instead are examined in light of the larger discourse in which they occur – and which they help to construct.

The *couch* – referring to the stereotypical couch found in a psychiatrist's office – represents researchers' explorations of personal meaning-making, sense-making and identity construction carried out by individuals with dementia. This approach examines ways in which language is used to display the (potentially) changing identity of the person with dementia or, alternatively, ways in which breakdowns in language over time are responded to by the individual in terms of meaning and self. And, finally, the *dance* represents work that focuses its attention on the interaction between language users and the ways in which interlocutors influence each other – both socially and linguistically. In this approach that highlights the interactions as process rather than as product, researchers examine moment-to-moment turns or moves that display interlocutors' meaning-making and relationship-building as these emerge across the interaction. This is crucially different from the discourse approach characterized by the *soliloquy* above that focuses exclusively on the language produced by the individual with dementia. In the dance, the interdependence between or among partners is accentuated.

5.1. Focus on verbal communication

5.1.1. *The prism*

A great deal of attention has been directed at the word-finding difficulties that characterize much of the communicative decline that accompanies dementia (e. g., Shelley-Tremblay 2011). This situation is arguably due in large part to the fact that such difficulties occur early and frequently in the progression of the disease and are relatively easy to identify. Whatever its underlying cause may be, the manifestations of this phenomenon in the individual's production of discourse vary and include (see Hamilton 1994a: 12–17 and 44–50, Hamilton 2003: 39–45): metatalk (i. e., naming the communicative problem: *I forgot the word*); use of fillers (e. g., *the uh- uh*); paraphasia (e. g., *stee* for *street*); use of an imprecise substitute (e. g., *thing*); a semantically-related word (e. g., *husband* for *brother*); a circumlocution (e. g., *thing you light cigarettes with* for *match*); a seemingly unrelated word (e. g., *dress* for *painting*); a neologism (or nonsense) word (e. g., *ringlim* for *circle drive*). This difficulty in finding words has real-life implications regardless of its discursive shape: it may detract (sometimes significantly) from an individual's ability to communicate and, consequently, from his or her capacity to interact socially and to function independently – with the potential for major face consequences.

Maclagan and Mason (2005) analyze the ways in which this word-finding difficulty intersects with word class, lexical richness, and conversational cohesion within fifty spontaneous conversations involving one institutionalized individual over four years with four different interviewers. The researchers expected that word class and lexical richness would decline over time, but that many features of cohesion would not. Counter to expectations, both the word class analysis (nouns, pronouns, verbs, and adjectives) and the lexical richness showed “fairly wide swings between interviews” indicating that communicatively the speaker appeared to have “good days and bad ones” rather than a “downhill slide through time” (Maclagan and Mason 2005: 158). The authors argue that the large day-to-day variability within the language of a single person “highlights the difficulties involved in obtaining valid analyses of the language of subjects with Alzheimer's disease” (Maclagan and Mason 2005: 163) and should cause researchers to interpret results with great caution.

The “empty” speech identified above was examined in very different ways by March, Wales and Pattison (2006) and Davis and Bernstein (2005). March, Wales and Pattison postulated that speakers with Alzheimer's disease would rely on the communicative context more often (i. e., producing fewer nouns but higher rates of deixis) than the healthy elderly in their attempts to compensate for specific difficulties in naming based on their experimental investigation of spatial deixis (e. g., *here, this*) and person deixis (e. g., *I, he*) and noun use by twenty-six speakers with mild to moderate Alzheimer's disease and twenty-six demographically matched healthy elderly in response to four discourse tasks

(description of a single picture, narrative description of sequential pictures, cartoon, and route-description in shared vs. unshared contexts). They found that the Alzheimer's speakers produced significantly fewer nouns only in the single picture task, used significantly more inappropriate spatial deixis when the context was not shared between speakers (unshared map task), and showed a reduced person deictic use in the unshared map task and in the narrative description of sequential pictures. As a result of these findings, March, Wales and Pattison call for the inclusion of multiple tasks in any future study of discourse production related to dementia, future examinations of the relationship between the severity of Alzheimer's disease and the use of nouns and deixis within less structured discourse types, such as conversation, and future examinations that focus on the perspective-taking ability in deictic use.

Davis and Bernstein (2005), on the other hand, argue for the importance of context in any analysis of "empty" language by investigating the multiple uses of lexical items *thing* and *that* within spontaneous conversations over the course of two years with a single speaker at the moderate to moderately severe stage of dementia. Their instructive fine-grained analysis shows that the word *thing* was used either to substitute for a discrete, countable and currently visible object or in a colloquial and formulaic phrase (e. g., *There ain't no such thing*) used for emphasis or humor. Their analysis of *that* indicates that, while the speaker continued to use that deictically (to refer to a visible object), anaphorically (to refer to something the interlocutor just said), and as part of formulaic phrases (e. g., *That's the way it goes!*), comprehension of later uses was problematic because the referents appeared to be "only in the speaker's mind" (Davis and Bernstein 2005: 72). Functional analyses indicated that these lexical items were useful on the social level as well as on the more expected informational level (reference); indeed social, rapport-sustaining functions took on heightened importance as communicative abilities on the information level declined. These observations, in addition to those of Hamilton (1994a, 2003, and 2008b), Maclagan and Mason (2005), March, Wales and Pattison (2006), and Wray (2011) argue that coding of "empty speech" or the overuse of formulaic language (see Wray 2011; Bridges and Van Lancker Sidtis 2013; Van Lancker et al. 2015) as part of a semantic richness analysis may well be too simplistic and needs to be carried out with an understanding of the discursive, social and physical environments.

5.1.2. *The soliloquy*

The *soliloquy* is represented in a study by Hamilton (2008b) that examined the intersection of narrative, identity and memory in five tape-recorded conversations over 4½ years involving an individual with moderate to severe dementia. In this work, I focused first on a set of 204 clauses that referred to the past, differentiating clauses that were part of conversational narratives (56 or 27%) from independ-

ent clauses I termed “narrative traces” (148 or 73%)². Example 3 illustrates one instance of a “narrative trace” within its larger discourse context (line j). In this interaction, Elsie and I were sitting in a sun-filled lounge at the end of her residential floor that overlooked the front entrance to the building. She was polishing her eyeglasses.

- (3) a. Elsie: So I’ll have to get some off I think [blows on
 b. eyeglasses]. I’ll see if I’m getting of it off.
 c. Cause sometimes they’ll go all right]
 d. Heidi: [Yeah.
 e. Elsie: and other times they won’t be.
 f. Heidi: Uhhuh.
 g. Elsie: And then let’s see.
 h. Now how this is doing.
 i. It looks like it’s not doing it very () greasy things.
 → j. One of the young men wanted to have...lots of fun
 k. [laughs]. Yes, so ... so on that one now I’ll take a little
 l. more on this... I’ll ask this one ... here.
 m. [blows on glasses]

We observe not only that, as an instance of a narrative trace, the clause in line j (*One of the young men wanted to have...lots of fun*) contains a verb inflected for the past tense (*wanted*), but also that it is preceded and followed by clauses that do not contain verbs inflected for the past tense. This narrative trace seems to come up “out of the blue.” What accounts for this perception? In Chafe’s (1994: 202) terms, as Elsie spoke (lines a-c, e, g-i) while polishing her glasses, she provided linguistic evidence of the workings of her “extroverted consciousness” as she *perceived, evaluated, and acted* upon her physical environment³. When she uttered the narrative trace in line j, she shifted to voice her “introverted consciousness” that appeared to *remember* something that was not part of the here-and-now just char-

² A narrative trace is defined here as a clause that references the past but that is not part of a narrative; it is identified as such by its sequential placement within the discourse. The trace contains a verb inflected for the past tense but is preceded and followed by clauses that do not contain verbs inflected for the past tense (and which are not orientation clauses for a narrative). In contrast, a narrative clause is a clause that references the past but is part of a narrative; in addition to the restricted plot-advancing clauses that fall under Labov’s (1972) definition, I also include free clauses that provide orientation or evaluation (see Hamilton 2008b for more details).

³ Chafe (1994:202) notes that the discourse associated with an “extroverted consciousness” has the quality of a “continuous, uninterrupted flow” – a phenomenon captured well by the metaphor of “stream-of-consciousness.”

acterized. This conscious activity yielded, in Chafe's terms, "isolated segments of experience whose antecedents and consequences are inaccessible" to the conversational partner. This memory of one of a group of young men wanting to have *lots of fun* is what Chafe calls an "experiential island" that is disconnected from its surroundings. Typically when such disconnects occur between what is said and what can be observed in the immediate surroundings, speakers bridge the divide by providing information regarding the displaced surroundings, mentioning space, time, social setting, and/or ongoing events and states, but Elsie did not do so in this case.

Subsequent to the identification of narrative traces, I examined the linguistic construction of the storyworlds in fifteen short conversational narratives comprising the 56 narrative clauses, including reference to people, objects, activities and states, time and space. Frequency lists (see Hamilton 2008b: 74 for detailed information) of lexical items and phrases provided clear evidence that Elsie's abilities to use these linguistic building blocks to construct vivid, meaningful storyworlds were highly diminished. In order to comprehend the cumulative effect of these individual challenges, we now view these pieces in action at the discourse level. Prior to the talk in example 4⁴, I had asked Elsie *Do you have pictures...photographs from other countries?* as I knew that she had lived abroad much of her adult life. Elsie asked a clarification question and we negotiated the meaning of my question. In response, she abruptly shifted her gaze from me to a group of paintings on the wall of the lounge in which we were sitting and provided in line a what seemed to be the first move toward her storytelling: possibly in connection to my use of the lexical items "pictures" and "photographs" in my question—possibly a general comment about the paintings that the residents and/or staff of the center have been *kind of just enjoying having some of these things*. As was frequently the case in our conversations, it was difficult to know.

A more definitive move into a storyworld occurred then, when Elsie shifted from speaking more generally about an ongoing activity to focusing on a particular instance (*one of the times*) in line d.

- (4) a. So **they have** uh **been** kind of just **enjoying having** some of these things
 b. cause people **were looking around** and **wondering** what they're going.
 c. And then the first parts
 d. One of the times oh quite a (yong) time ago over across *those two houses over there way over there*

⁴ In excerpt 4 I have highlighted each kind of reference in a different way: nominal references are represented with a larger than usual font size, verbal references are represented with bold font, spatial references are represented with italicized font, and temporal references are underlined.

- e. And then then that uh whe ... was the time
- f. when **WE were** here to **going ... down** *this way*.
- g. And so **he was ...** quite spoiled ... for **trying to get** those that other part to **use**.
- h. But **I think** they've **done** most of it.
- i. So **I'm** not sure.

As the narrative unfolded, I faced challenge upon challenge in meaning making. How could I create in my mind a mental image that would come close to matching that in Elsie's mind or, more difficult still, how could I imagine the "real-life" events that underlay the narrative clauses themselves? Semantic imprecision⁵ could be found within almost every reference – nominal (e. g., *people, some of these things*), temporal (e. g., *that was the time when we were here to going*), spatial (e. g., *down this way*), and verbal (*they've done*). As observed from the excerpt, Elsie's use of verbs to describe actions within the storyworld was relatively well preserved in contrast to the other areas, as evidenced by semantically rich verbs such as *looking around* and *wondering*. Overall, however, the deficiencies overwhelmed what appeared to be spared, with the net result being a flat, confused storyworld in my mind as listener.

And it was this flat, confused storyworld that could be seen as problematic in terms of Elsie's discursive construction of her identity. Because of her insufficient referential specificity at all levels, the 15 storyworlds that she painted with the words she chose did not display important aspects of herself at earlier times. The deficient narrative accounts blocked anything approaching full understanding of Elsie's agency, interests, competencies, and values that would have arguably been so vital to the construction of her identity in interaction⁶.

5.1.3. *The couch*

The couch metaphor is represented by scholars who identify patterns and strategies in discourse by and with interlocutors with dementia and relate these to the ongo-

⁵ Provocative work by El Haj et al. (2013) reports that autobiographical narratives told by individuals with dementia after hearing two minutes of music of their own selection contained fewer empty words and showed better grammatical complexity and propositional density than those told following a two minute period of silence.

⁶ Space constraints preclude an examination of clues to Elsie's identity that were identified in her short narratives by focusing on what Bakhtin (1981) calls the "flavors" of the words (rather than their specific meanings or functions) and what Agha (2005) calls the "social characterization" of identified voicing contrasts within a single speaker's discourse. See Hamilton (2008b:75–77) for further discussion.

ing construction of a range of identities for the speakers as the discourse emerges. Most findings are based on the language used (especially in narrative discourse) by small numbers of individuals due to the highly nuanced analysis required in this work. Some scholars examine how identity is “negotiated at the intersection of private and public domains” (Coupland 2009a: 860) by connecting patterns within private discursive interactions to findings of investigations of public discourse.

Virtually all researchers working in this area assume that their subjects display a range of identities (following Davies and Harré 1990, and Bucholtz and Hall 2005) as they speak (e. g., mother/father, wife/husband, child, adult, professional, friend, or patient), some of which have nothing at all to do with their dementia. Of course the notion of turn-by-turn construction of identities in discourse – of self-positioning and positioning of others – is nothing new in the analysis of naturally-occurring discourse. What *is* somewhat different about this issue with regard to dementia is how this negotiation of identities – both past and current – plays out within intergenerational interactions, especially in institutional settings such as home healthcare (Heinemann 2011, Olaison and Cedersund 2006), nursing homes (Backhaus 2017, Lenchuk and Swain 2010) or doctors’ offices (Coupland and Coupland 1998, and Coupland, Robinson and Coupland 1994) where any overt or subliminal ageism or stereotyping (Coupland and Coupland 1999, and Scholl and Sabat 2008) may be exacerbated by the individual’s dementia (Hamilton 1996, 2008b, and Sabat and Harré 1992). It is in this way, then, that interactions between individuals with dementia and their personal and professional carers may become sites where these individuals (despite displaying a wider range of identities in their discourse) come to see themselves primarily as patients or frail old people (Norrick 2009).

Decades-long research on “elderspeak” in institutional care for older adults (see, for example, Caporeal 1981; Kemper and Harden 1999; Ryan et al. 1986, and Williams 2011) argues that deindividuating language by younger nursing staff to nursing home residents based on stereotypic notions of the communicative needs of these residents (e. g., *Let’s get you into bed, Shall we get our pants on?*⁷) may not only “induce momentary feelings of worthlessness in elderly people but may also lead to reduced life satisfaction and mental and physical decline in the long run” (Ryan et al. 1986: 14). Lubinski’s (1988, 2011) extensive study of the quality of the communication environment in nursing homes speaks of the gradual process of

⁷ An anonymous reviewer of this chapter correctly noted that this kind of language used by carers may well be characteristic of language use by nursing staff more generally; i. e., nurses may occasionally speak in this way even with younger hospitalized individuals. A key difference in relation to potential consequences for care receivers’ well-being centers on the relative amount of time a given individual is part of such interactions. In the case of hospitalized individuals, these interactions are typically limited to a few days; in the case of nursing home residents, these interactions are tightly woven into activities of daily life that extend across months or even years.

“institutionalization” of patients to an unreinforcing communicative environment. According to this view, communication attempts on the part of individuals with dementia with staff members or even with other more communicatively competent residents can be “extinguished through lack of response or curt, condescending replies” (Lubinski 1988: 295); through this process, these residents may gradually come to expect little communication.

Baltes and colleagues (Baltes and Wahl 1992; Baltes, Neumann and Zank 1994) argue that behavior that is consistent with what they term the “dependency-support script”, such as dressing a nursing home resident or washing his or her face, is based both on negative stereotypes of aging and on a desire on the part of nursing home staff to enact an ideal “helper role” and that, of all behaviors by older adults in institutions, dependent behavior is the “most likely to result in social contact and attention” from their carers (Baltes, Neumann and Zank 1994: 179). Encouraging applied work by Davis and Smith (2011), Lubinski (2011), Savundranayagam et al. (2007), and Williams (2011) indicates that discourse-based communication training of nurses’ aides and other staff members can result in positive changes within such institutional environments.

5.1.4. *The dance*

With reference to the metaphors above, the *dance* is represented by Ryan et al. (2005) and Pope and Ripich (2005). Ryan et al. examined fifty audio-recorded and transcribed conversations held over four years with a single individual with dementia who lived in nursing home special care unit. Because these conversations were all held with experienced communicators whose sole purpose was to have a conversation and not, for example, to carry out other nursing home related tasks, Ryan et al. aimed to characterize “conversation as care” by identifying transcript examples that promoted personhood in Kitwood’s sense, where the conversational partner continued to show interest in the person and his life story, preferences, emotions, and needs. Ryan and her colleagues reveal strategies that can be used by healthy conversational partners to facilitate conversations with individuals affected by dementia, such as providing proper nouns (rather than pronouns) and longer pauses to allow formulation of responses. The importance of being able to participate in successful conversations is emphasized by the term used by Ryan and her colleagues for such activities –the “warmth of reciprocity” that emerges when the healthy conversation partner goes beyond *initiating* interactions with an individual with dementia to providing *responses* that affirm the conversational contributions initiated by the individual with dementia (Ryan et al. 2005: 29–33).

Working in the underexplored area at the intersection of race, gender, and dementia, Pope and Ripich (2005) provide provocative observations regarding topic introduction and maintenance as well as the impact of institutional speaking practices that may limit the potential for social interaction or response to cues

based on common gender or ethnicity. Although they were able to examine only same and differing gender pairs (individual with dementia and carer or interviewer) within monoracial African-American and European-American encounters, contrasts in permissible topics and speaking strategies strongly suggest the importance of further investigations in this area, including expansion into interracial communication – both within groups of individuals with dementia and between carers and those receiving their care.

In a series of highly nuanced and important studies of narrative, Hyden and his colleagues (Hyden and Örvulv 2010; Hyden 2011, and Hyden et al. 2013), go beyond the linguistic and discursive details of stories told by individuals with dementia (see section 5.1.2 above) to explore how these individuals are supported in their storytelling by their partners. Their work characterizes the associated interactional division of labor and narrative scaffolding that illustrates the notion of joint remembering in action. Hyden (2011: 346) writes: “To fall out of conversations and joint storytelling events for most persons means re-defining relations with others, becoming someone standing on the side, not being able to participate anymore.” This dire situation can be alleviated, at least in part, by a willing and skillful narrative partner.

Moving beyond residential interactions, work in support groups (Hamilton and Baffy 2014) and physicians’ offices (Karnieli-Miller et al. 2012, Sakai and Carpenter 2011 and Saunders et al. 2011) identifies aspects of interactions within institutional contexts that encourage or deter agentic moves on the part of individuals with dementia. For example, Hamilton and Baffy (2014) show how the relaxed discourse space co-constructed by the facilitators and members of an early memory loss support group nurtures energetic recounting of five group members’ personal experiences with a local public transportation service for the elderly (“Access-a-Ride”), fostering group rapport, ratifying group membership, and displaying shared values. This specific shared experience in the “Access-a-Ride” narratives is one of overcoming adversity in the form of incompetence, in which the individual with memory loss positions him- or herself as exercising better judgment and knowledge than the (healthy) service provider does. This display of agency and epistemic rights in the storyworld becomes equally important in the ongoing interaction with others – for those who share this experience and delight in its narrative co-construction, as well as for outsiders to the experience who use it to gain some sense of the teller’s positive sense of self – despite dementia – in the world.

5.2. Focus on nonverbal communication

Turning now to aspects of communication that contain no propositional or verbal content, such as gesture, intonation contours and laughter, recent work shows fascinating new connections to the role of automaticity discussed in Hamilton (1994a) and to procedural memory (Eichenbaum 2011), where the more automatic a language feature or task has become over the experiences of a lifetime, the greater the likelihood an individual with dementia will be able to (continue to) use it appropriately. Since verbal communication tends to decline over time in dementia, building on automatic behaviors and acquired habits is a promising interactional strategy (see also Wray 2011), both in terms of carer response and of speaker resources for communication and identity construction.

Even when speech is incoherent and void of linguistic meaning, automaticity is displayed in the smooth and appropriate exchanges of turns-at-talk that consist of intonation contours that can (apparently) be recognized, repeated and/or responded to. Kontos (2006: 206–207) describes the following interaction as two individuals with dementia were about to eat breakfast at two different tables in a long-term care facility's dining room.

- (5) Abe: [sat down] Bupalupah! [shouting]
 Anna: [twisted around in her chair to be able to look at Abe]
 Abe: [eyes wider, smiling] Brrrrrr! [shouting with rising to falling pitch]
 Anna: Brrrrrrr! [imitating volume and intonation contour]
 Abe: Bah! [shouting, then pausing while looking at Anna]
 Anna: Shah!
 Abe: Bah!
 Anna: Shah! [turned back around in her chair with her back to Abe]
 Abe: Bupalupah! [shouting]
 Anna: [raised one arm about her head, lowered it in a swift motion; both then began to eat breakfast]

Kontos claims that this exchange illustrates Merleau-Ponty's (1964: 7) argument that "communication dwells in corporeality or, more specifically, in the body's capacity to gesture". Importantly, the speakers continued to exhibit intersubjectivity and displayed aspects of self-identity through their bodily posture and the repetition of syllables, volume, pitch and intonation contours.

Following studies in aphasiology that have focused attention on the employment of nonverbal behaviors to supplement verbalization (Simmons-Mackie and Damico 1997) and based on her observations of elderly Swedish speakers in a Finnish day care center, Lindholm (2008) investigated how individuals with dementia used laughter in sequences that appeared to be problematic. By carefully analyzing the placement of laughter within the proverb games described above,

as well as the nurses' responses to this laughter, Lindholm was able to show the importance of laughter in managing face threats linked to language and memory problems. In her study, individuals with dementia used laughter in sequences that appear to be problematic, either in terms of production or comprehension. In some cases, this nonverbal behavior supplemented verbalization in the form of explicit comments on difficulties or initiation of repair; in other cases, the laughter stood alone. Because the nurses did not usually laugh in response (and therefore seemed to understand that the laughter was managing face problems and not signaling joy or humor), Lindholm claims that laughter was used successfully by these speakers to demonstrate their inability to carry out the task requested of them.

Moving from vocal to nonvocal communication, a number of scholars point to the importance of gesture and other types of body language, for individuals with dementia as well as for healthy conversational partners (e. g., see Bolly and Thomas 2015 for intriguing illustrations from the CorpAGEst corpus). In the former case, nonverbal and nonvocal behaviors acquired and used over a lifetime are intimately connected to the display of the individual's identity or sense of self. In the latter case, these behaviors can be important and comforting resources in the relative absence of verbal communication (see also Hyden 2013 for a discussion of the use of gestures and bodily movements to supplement, repair, or even substitute for spoken words in a narrative). To illustrate, Ignatieff (1999 in Leibing 2006: 254) wrote the following about his mother: "It [my mother's disease] changed my view of what a person is. ... It taught me, for example, to be less sentimental about memory as a carrier of human continuity. My mother had no memory whatever, but she was the same person. There were continuities." Some of these continuities can be discovered by a "heightened awareness of body language" (Chatterji 2006: 218) that may include a focus on tone of voice, facial gestures, mime (Snyder 2006: 260), and even muscle memory (Kontos 2006). Importantly, this focus on the nonverbal allows individuals with dementia to communicate emotions such as anger, joy and empathy in response to interpersonal interactions even when they are unable to communicate propositional content.

In her moving descriptions of individuals in a long-term care facility, Kontos (2006) highlights the fact that muscle memory enables certain actions or gestures by these individuals to "give off" (cf. Goffman 1959 for the distinction between information "given" and information "given off") social meaning even in the very latest stages of dementia. Kontos (2006: 197–198) describes a woman who was unable to feed herself but who still attempted to take care of her physical appearance:

As a health care aid was feeding her, cereal dribbled from Molly's mouth and coursed down her chin. When the aide tried to give her another spoonful, Molly wrinkled her forehead and gently pushed the woman's hand away. Molly then lifted her bib to her mouth to wipe away the cereal. It was only after her chin was clean that she accepted another spoonful...[later] Reaching her wavering hand to the back of her neck, she

struggled to pull something from underneath her bib. Extending her arm appeared to cause her pain and discomfort, yet she persisted. She eventually revealed a string of pearls that she was wearing and that had been covered by her bib. She allowed the pearls to pass through her long, slender, perfectly manicured fingers, placing the necklace ever so delicately atop her bib.

Kontos (2006: 206) maintains that each of these movements was “inextricably movement and embodied selfhood”, that is, that these muscle movements to clean off her chin and to display her pearl necklace worked to construct Molly’s self identity. These movements allowed Molly to highlight a more positive aspect of herself as she attempted to manage her identity in the fact of incontinence, helplessness, and dementia. Observations of this sort are available to attentive and attuned conversational partners and may serve as meaningful evidence of the “continuities” of self described by Ignatieff above.

6. Next steps: Implications for future research

The goal of understanding how pragmatics and dementia are related to each other challenges us to understand how language is used by large numbers of individuals with dementia in many and varied contexts, both experimental and natural. Much progress has been made since the earliest energetic forays by linguists within the area of dementia and exciting contributions in neighboring fields, including anthropology, sociology, psychology, and philosophy, have provided rich contexts for fine-grained discourse analyses that relate pragmatic details to aspects of the interactional context or provide insights into emergent discourse. Creative solutions can be found if one ventures across disciplinary boundaries.⁸ To this end, we would do well to stay informed about developments within fields related to dementia that may affect discourse, such as memory, studies of social relationships, and ethnographies of nursing homes, hospitals, and hospices. Such awareness may

⁸ For example, when I began my investigations of natural conversations with an elderly woman (“Elsie”) who had been diagnosed with Alzheimer’s disease in the early 1980s (as written up in Hamilton 1994a, 1994b, 1996, 2008a, 2008b), most scholars I talked with indicated to me that I should be conducting my research within the paradigms recognized by psycholinguistics or neurolinguistics. The existing theoretical frameworks and methodologies in those literatures did not, however, allow me to capture what I sensed was potentially most significant about Elsie’s communicative abilities and how they were interrelated with my own communicative behavior in our conversations. In the face of these comments and recommendations I had to continually ask myself what an interactional sociolinguistic approach to this problem would look like and, indeed, whether it was possible. I found as time went on that such a crossing of the boundaries was not only possible but fruitful and important.

open our eyes to areas of possible collaboration across disciplines and facilitate subsequent cross-disciplinary discussion.

Obvious gaps call out for further investigation of pragmatics related to dementia within other languages and cultures (but see Backhaus 2011; de Bot and Makoni 2005; Duszak and Okulska 2011; Gjengedal et al. 2014; Lai 2014, and Lai and Lin 2012) with a focus on both public and private spheres, in order to facilitate an understanding of the role of cultural values and health beliefs in this area. Recordings and transcripts should be made of a greater variety of activities and physical environments in which individuals with dementia participate to enable fine-grained pragmatic investigations. Studies should be systematically designed with greater attention to variation among individuals so that we can begin to learn more about potential linguistic influences due to sex, first and second languages, professions, education levels, race, ethnicity, and so on. Because of the pragmatic changes over time that accompany dementia and claims of high levels of day-to-day variability, it is imperative that increased numbers of longitudinal studies be designed and carried out, with an awareness of the heightened role of nonverbal communication to compensate for declining verbal abilities, as well as of communicative actions by other participants in the interaction.

Finally, we need to take care *not* to lose sight of the human beings who are at the center of our research. Since scholarly literature typically reports findings regarding fairly narrowly defined discourse produced by *different* individuals in *different* contexts, it is easy to forget that each participant in each study is a more complete human being than can be made apparent in any given context of language use. The Elsie Post who cannot remember whether her husband is alive or not is the same Elsie Post who can flawlessly recite a poem she learned in the seventh grade – 70 years ago. The Max Greenwald whose ability to name objects was judged to be quite impaired by a standardized test is the same Max Greenwald who argues passionately in his support group about the inherent problems in his city's transportation system for the elderly. The Robert Shonka who barely uttered a word in his recent visit to his neurologist is the same Robert Shonka who opens up his special brown leather notebook almost every day to work on what he has titled "My final poem of thanks".

In closing, the future of research into the interrelationships between pragmatics and dementia looks bright if scholars continue to reach out to collaborators within linguistics, within other disciplines, and to those whose lives are shaped by dementia. Mounting evidence from multiple well-defined studies of particular groups of individuals with dementia will help us reach our goal: understanding how the biological, psychological and social changes that individuals identify as contributing to the experience of dementia influence the way these individuals use language and, conversely, how individuals' use of language can shape the biological, and psychological and social changes that they and others perceive and identify as dementia.

Acknowledgments

My sincere gratitude goes to my research assistant, Adrienne Isaac, doctoral student in Georgetown University's Department of Linguistics, for her proactive nature, diligence, sense of responsibility, and joyful attention to detail. I am also grateful to Klaus P. Schneider and an anonymous reviewer for their insightful and helpful comments on an earlier version of this chapter.

References

- Agha, Asif
 2005 Voice, footing, enregisterment. *Journal of Linguistic Anthropology* 15: 38–59.
- Alm, Norman, Arlene Astell, Gary Gowans, Maggie Ellis, Phillip Vaughan and Richard Dye
 2013 Supporting conversation for people with dementia by introducing a computer-based third element in the interaction. In: Vincent G. Duffy (ed.), *Digital Human Modeling and Applications in Health, Safety, Ergonomics, and Risk Management*, 143–149. Berlin: Springer-Verlag.
- Appell, Julian, Andrew Kertesz and Michael Fisman
 1982 A study of language functioning in Alzheimer patients. *Brain and Language* 17: 73–91.
- Backhaus, Peter
 2011 “Me nurse, you resident”: Institutional role-play in a Japanese caring facility. In: Peter Backhaus (ed.), *Communication in Elderly Care: Cross-Cultural Perspectives*, 129–144. London: Continuum.
- Backhaus, Peter
 2017 *Care Communication: Making a Home in a Japanese Eldercare Facility*. New York: Routledge.
- Bakhtin, Mikhail
 1981 Discourse in the novel. In: Michael Holquist (ed.), *The Dialogic Imagination: Four Essays*. Austin: University of Texas Press.
- Baltes, Margret M. and Hans-Werner Wahl
 1992 The dependency–support script in institutions: Generalization to community settings. *Psychology and Aging* 7: 409–18.
- Baltes, Margret M., Eva Maria Neumann and Susanne Zank
 1994 Maintenance and rehabilitation of independence in old age: An intervention program for staff. *Psychology and Aging* 9: 179–188.
- Basting, Anne D.
 2006 Creative storytelling and self-expression among people with dementia. In: Annette Leibing and Lawrence Cohen (eds.), *Thinking about Dementia: Culture, Loss, and the Anthropology of Senility*, 180–194. New Brunswick, NJ: Rutgers University Press.
- Basting, Anne D.
 2009 *Forget Memory: Creating Better Lives for People with Dementia*. Baltimore: Johns Hopkins University Press.

- Bayles, Kathryn
1979 Communication profiles in a geriatric population. Unpublished Ph.D. dissertation, University of Arizona.
- Bayles, Kathryn and Alfred W. Kaszniak
1987 *Communication and Cognition in Normal Aging and Dementia*. Boston: Little, Brown and Company.
- Bolly, Catherine and Anaïs Thomas
2015 Facing Nadine's speech: Multimodal annotation of emotion in later life. In: Kristiina Jokinen and Martin Vels (eds.), *Proceedings of the 2nd European and the 5th Nordic Symposium on Multimodal Communication August 6–8, Tartu, Estonia*, 23–32. Linköping: Linköping Electronic Conference Proceedings 110 http://www.ep.liu.se/ecp_home/index.en.aspx?issue=110.
- Bourgeois, Michelle, Katinka Dijkstra, Louis Burgio and Rebecca Allen-Burge
2001 Memory aids as an AAC strategy for nursing home residents with dementia. *Augmentative and Alternative Communication* 17: 196–210.
- Bridges, Kelly Ann and Diana Van Lancker Sidtis
2013 Formulaic language in Alzheimer's disease. *Aphasiology* 27(7): 799–810.
- Brown, Penelope and Stephen C. Levinson
1987 *Politeness: Some Universals in Language Usage*. Cambridge: Cambridge University Press.
- Brush, Jennifer, Hannah Fleder and Margaret Calkins
2012 *Using the Environment to Support Communication and Foster Independence in People with Dementia: A Review of Case Studies in Long Term Care Settings*. Kirtland, OH: I.D.E.A.S.
- Bucholtz, Mary and Kira Hall
2005 Identity and interaction: A sociocultural linguistic approach. *Discourse Studies* 7: 585–614.
- Caporeal, Linnda
1981 The paralanguage of caregiving: Baby talk to the institutionalized aged. *Journal of Personality and Social Psychology* 40: 876–884.
- Chafe, Wallace
1994 *Discourse, Consciousness, and Time*. Chicago: University of Chicago Press.
- Chatterji, Roma
2006 Normality and difference: Institutional classification and the constitution of subjectivity in a Dutch nursing home. In: Annette Leibing and Lawrence Cohen (eds.), *Thinking about Dementia: Culture, Loss, and the Anthropology of Senility*, 218–239. New Brunswick, NJ: Rutgers University Press.
- Cohen, Lawrence
2006 Introduction: Thinking about dementia. In: Annette Leibing and Lawrence Cohen (eds.), *Thinking about Dementia: Culture, Loss, and the Anthropology of Senility*, 1–19. New Brunswick, NJ: Rutgers University Press.
- Coupland, Justine, Jeffrey D. Robinson and Nikolas Coupland
1994 Frame negotiation in doctor–elderly patient consultations. *Discourse and Society* 5: 89–124.
- Coupland, Nikolas and Justine Coupland
1998 Reshaping lives: Constitutive identity work in geriatric medical consultations. *Text* 18: 159–189.

- Coupland, Nikolas and Justine Coupland
 1999 Ageing, ageism, and anti-ageism: Moral stance in geriatric medical discourse. In: Heidi E. Hamilton (ed.), *Language and Communication in Old Age: Multi-disciplinary Perspectives*, 177–208. New York: Garland.
- Cummings, Louise
 2012 Pragmatic disorders. In: Hans-Jörg Schmid (ed.), *Cognitive Pragmatics*, 291–315. Berlin/Boston: De Gruyter Mouton.
- Davies, Bronwyn and Rom Harré
 1990 Positioning: The discursive production of selves. *Journal for the Theory of Social Behaviour* 20: 43–63.
- Davis, Boyd H. (ed.)
 2005 *Alzheimer Talk, Text and Context: Enhancing Communication*. New York: Palgrave Macmillan.
- Davis, Boyd H. and Cynthia Bernstein
 2005 Talking in the here and now: Reference and politeness in Alzheimer conversation. In: Boyd H. Davis (ed.), *Alzheimer Talk, Text and Context: Enhancing Communication*, 60–86. New York: Palgrave Macmillan.
- Davis, Boyd H. and Jacqueline Guendouzi
 2013 *Pragmatics in Dementia Discourse*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Davis, Boyd H. and Mary K. Smith
 2011 Care communication in residential facilities: Intersections of training and research. In: Peter Backhaus (ed.), *Communication in Elderly Care: Cross-Cultural Perspectives*, 20–39. London: Continuum.
- De Bot, Kees and Sinfree Makoni
 2005 *Language and Aging in Multilingual Contexts*. Tonawanda, NY: Multilingual Matters.
- Downs, Murna, Linda Clare and Jenny Mackenzie
 2006 Understandings of dementia: Exploratory models and their implications for the person with dementia and therapeutic effort. In: Julian C. Hughes, Stephen J. Louw and Steven R. Sabat (eds.), *Dementia: Mind, Meaning and the Person*, 235–258. Oxford: Oxford University Press.
- Duszak, Anna and Urszula Okulska (eds.)
 2011 *Language, Culture and the Dynamics of Age*. Berlin/New York: Mouton de Gruyter.
- Edgerton, Edward and Louise Ritchie
 2010 Improving physical environments for dementia care: Making minimal changes for maximum effect. *Annals of Long-Term Care* 18(5): 43–45.
- Eichenbaum, Howard
 2011 *The Cognitive Neuroscience of Memory*, 2nd edition. Oxford: Oxford University Press.
- El Haj, Mohamad, Sylvain Clement, Luciano Fasotti and Philippe Allain
 2013 Effects of music on autobiographical verbal narration in Alzheimer's disease. *Journal of Neurolinguistics* 26: 691–700.
- Fairclough, Norman
 1989 *Language and Power*. London: Longman.

- Fairclough, Norman
1995 *Media Discourse*. London: Edward Arnold.
- Fried-Oken, Melanie, Charity Rowland, Darlene Daniels, Mayling Dixon, Bret Fuller, Carolyn Mills, Glory Noethe, Jeon Small, Kevin Still and Barry Oken
2012 AAC to support conversation in persons with moderate Alzheimer's disease. *Augmentative and Alternative Communication* 28(4): 219–231.
- Gallacher, John, Antony Bayer and Y. Ben-Shlomo
2005 Commentary: Activity each day keeps dementia away – Does social interaction really preserve cognitive function? *International Journal of Epidemiology* 34(4): 872–873.
- Giles, Howard, Nikolas Coupland and John M. Wiemann (eds.)
1990 *Communication, Health and the Elderly*. Manchester: Manchester University Press.
- Gjengedal, Eva, Elsie Lykkeslet, Jan I. Sorbo and Wigdis Helene Saether
2014 'Brightness in dark places': Theatre as an arena for communicating life with dementia. *Dementia* 13: 598–612.
- Glei, Dana A., David A. Landa, Noreen Goldman, Yi-Li Chuang, Germán Rodríguez and Maxine Weinstein
2005 Participating in social activities helps preserve cognitive function: An analysis of a longitudinal, population-based study of the elderly. *International Journal of Epidemiology* 34(4): 864–871.
- Goffman, Ervin
1959 *The Presentation of Self in Everyday Life*. Garden City, NY: Doubleday.
- Goffman, Ervin
1967 *Interaction Ritual: Essays on Face-to-Face Behavior*. New York: Anchor Books.
- Guendouzi, Jacqueline and Boyd H. Davis
2013 Dementia discourse and pragmatics. In: Boyd H. Davis and Jacqueline Guendouzi (eds.), *Pragmatics in Dementia Discourse*, 1–28. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Guendouzi, Jacqueline and Nicole Müller
2006 *Approaches to Discourse in Dementia*. Mahwah, NJ: Lawrence Erlbaum.
- Halliday, Michael A. K.
1978 *Language as Social Semiotic*. London: Edward Arnold.
- Hamilton, Heidi E.
1994a *Conversations with an Alzheimer's Patient: An Interactional Sociolinguistic Study*. Cambridge: Cambridge University Press.
- Hamilton, Heidi E.
1994b Requests for clarification as evidence of pragmatic comprehension difficulty: The case of Alzheimer's disease. In: Ronald L. Bloom, Loraine K. Obler, Susan De Santi and Jonathan S. Ehrlich (eds.), *Discourse Analysis and Applications: Studies in Adult Clinical Populations*, 185–199. New York: Erlbaum.
- Hamilton, Heidi E.
1996 Intratextuality, intertextuality, and the construction of identity as patient in Alzheimer's disease. *Text* 16(1): 61–90.
- Hamilton, Heidi E.
2000 Dealing with declining health in old age: Identity construction in the Oppen

- Family letter exchange. In: Joy Peyton, Peg Griffin, Walt Wolfram and Ralph Fasold (eds.), *Language in Action: New Studies of Language in Society*, 599–610. Cresskill, NJ: Hampton Press.
- Hamilton, Heidi E.
 2003 *Glimmers: A Journey into Alzheimer's Disease*. Ashland, OR: RiverWood Books.
- Hamilton, Heidi E.
 2005 Epilogue: The prism, the soliloquy, the couch, and the dance: The evolving study of language and Alzheimer's disease. In Boyd H. Davis (ed.), *Alzheimer Talk, Text and Context: Enhancing Communication*, 224–246. New York: Palgrave Macmillan.
- Hamilton, Heidi E.
 2008a Language and dementia: Sociolinguistic aspects. *Annual Review of Applied Linguistics* 28: 91–110.
- Hamilton, Heidi E.
 2008b Narrative as snapshot: Glimpses into the past in Alzheimer's disease. *Narrative Inquiry* 18: 53–82.
- Hamilton, Heidi E.
 2011 At the intersection of art, Alzheimer's disease, and discourse: Talk in the surround of paintings. In: Peter Backhaus (ed.), *Communication in Elderly Care: Cross-Cultural Perspectives*, 166–192. London: Continuum.
- Hamilton, Heidi E.
 2019 *Language, Dementia, and Meaning Making: Navigating Challenges of Cognition and Face in Everyday Life*. London: Palgrave Macmillan.
- Hamilton, Heidi E. and Marta Baffy
 2014 Preparing for performance: Identity shaping through script editing in an early memory loss support group. In: Robert W. Schrauf and Nicole Müller (eds.), *Dialogue and Dementia: Cognitive and Communicative Resources for Engagement*, 213–244. New York: Psychology Press.
- Heinemann, Trine
 2011 Roles, relations and the loss of autonomy in caretaking of the elderly in Denmark. In: Peter Backhaus (ed.), *Communication in Elderly Care: Cross-Cultural Perspectives*, 90–111. London: Continuum.
- Howarth, Lynne C.
 2013 The case study of surrogate memory cues, self-narrative, and recall. Paper presented at *ASIST 2013*, Montreal, Quebec, Canada, 1–6 November 2013.
- Hyden, Lars-Christer
 2011 Narrative collaboration and scaffolding in dementia. *Journal of Aging Studies* 25: 339–347.
- Hyden, Lars-Christer
 2013 Storytelling in dementia: Embodiment as resource. *Dementia* 12(3): 359–367.
- Hyden, Lars-Christer and Linda Örvulv
 2010 Interaction and narrative structure in dementia. In: Deborah Schiffrin, Anna De Fina and Anastasia Nylund (eds.), *Telling Stories: Language, Narrative, and Social Life*, 149–160. Washington, D.C.: Georgetown University Press.
- Hyden, Lars-Christer, Charlotta Plejert, Christina Samuelsson and Linda Örvulv
 2013 Feedback and common ground in conversational storytelling involving people

- with Alzheimer's disease. *Journal of Interactional Research in Communication Disorders* 4(2): 211–247.
- Ignatieff, Michael
1999 *Berlin in Autumn: The Philosopher in Old Age*. (Occasional Papers Series.) Berkeley, CA: University of California, Berkeley.
- Irigaray, Luce
1973 *Le Langage des Déments*. The Hague: Mouton.
- Isaac, Adrienne and Heidi E. Hamilton
2019 Access and epistemic authority in question-answer sequences between museum guides and visitors diagnosed with dementia in an art museum. *Linguistics Vanguard* 5(s2).
- Johnstone, Barbara
2002 *Discourse Analysis*. Malden, MA: Blackwell.
- Karnieli-Miller, Orit, Perla Werner, Galit Neufeld-Kroszynski and Shmuel Eidelman
2012 Are you talking to me?! An exploration of the triadic physician-patient companion communication within memory clinic encounters. *Patient Education and Counseling* 88: 381–390.
- Kelson, Elizabeth
2006 Supporting personhood within dementia care: The therapeutic potential of personal photographs. Unpublished master's thesis, Simon Fraser University, Vancouver, British Columbia, Canada.
- Kemper, Susan and Tamara Harden
1999 Experimentally disentangling what's beneficial about elderspeak from what's not. *Psychology and Aging* 14: 656–670.
- Kempler, Daniel
1984 Syntactic and symbolic abilities in Alzheimer's disease. Unpublished Ph.D. dissertation, University of California, Los Angeles.
- Kempler, Daniel and Mira Goral
2008 Language and dementia: Neuropsychological aspects. *Annual Review of Applied Linguistics* 28: 73–90.
- Kindell, Jaqueline, John Keady, Karen Sage and Ray Wilkinson
2017 Everyday conversation in dementia: A review of the literature to inform research and practice. *International Journal of Language and Communication Disorders* 52(4): 392–406.
- Kitwood, Tom
1990 The dialectics of dementia: With particular reference to Alzheimer's disease. *Ageing and Society* 10: 177–196.
- Kitwood, Tom
1997 *Dementia Reconsidered: The Person Comes First*. Philadelphia: Open University Press.
- Kontos, Pia C.
2006 Embodied selfhood: An ethnographic exploration of Alzheimer's disease. In: Annette Leibling and Lawrence Cohen (eds.), *Thinking about Dementia: Culture, Loss, and the Anthropology of Senility*, 195–217. New Brunswick, NJ: Rutgers University Press.
- Labov, William
1972 *Sociolinguistic Patterns*. Philadelphia: University of Pennsylvania Press.

- Lai, Yi-hsiu
 2014 Discourse features of Chinese-speaking seniors with and without Alzheimer's disease. *Language and Linguistics* 15(3): 411–434.
- Lai, Yi-hsiu and Yu-te Lin
 2012 Discourse markers produced by Chinese-speaking seniors with and without Alzheimer's disease. *Journal of Pragmatics* 44: 1982–2003.
- Leibing, Annette
 2006 Divided gazes: Alzheimer's disease, the person within, and death in life. In: Annette Leibing and Lawrence Cohen (eds.), *Thinking about Dementia: Culture, Loss, and the Anthropology of Senility*, 240–268. New Brunswick, NJ: Rutgers University Press.
- Lenchuk, Iryna and Merrill Swain
 2010 Alise's small stories: Indices of identity construction and of resistance to the discourse of cognitive impairment. *Language Policy* 9(1): 9–28.
- Light, Leah L.
 1993 Language changes in old age. In: Gerhard Blanken, Jürgen Dittmann, Hannelore Grimm, John C. Marshall and Claus-W. Wallesch (eds.), *Linguistic Disorders and Pathologies: An International Handbook*, 900–918. Berlin/New York: Walter de Gruyter.
- Lindholm, Camilla
 2008 Laughter, communication problems, and dementia. *Communication and Medicine* 5: 3–14.
- Lindholm, Camilla
 2011 Proverbs and formulaic sequences in the language of elderly people with dementia. *Dementia* 10(4): 603–623.
- Lopez de Victoria Rodriguez, Patria C.
 2016 Narratives of self in older bilingual adults diagnosed with Alzheimer's disease. Unpublished Ph.D. dissertation, Pennsylvania State University.
- Lubinski, Rosemary
 1988 A model for intervention: Communication skills, effectiveness, and opportunity. In: Barbara Shadden (ed.), *Communication Behavior and Aging*, 294–308. Baltimore: Williams and Wilkins.
- Lubinski, Rosemary
 2011 Creating a positive communication environment in long term care settings. In: Peter Backhaus (ed.), *Communication in Elderly Care: Cross-Cultural Perspectives*, 40–61. London: Continuum.
- Maclagan, Margaret and Peyton Mason
 2005 Bad times and good times: Lexical variation over time in Robbie Walters' speech. In: Boyd. H. Davis (ed.), *Alzheimer Talk, Text and Context: Enhancing Communication*, 146–166. New York: Palgrave Macmillan.
- March, Evrim G., Roger Wales and Pip Pattison
 2006 The uses of nouns and deixis in discourse production in Alzheimer's disease. *Journal of Neurolinguistics* 19: 311–340.
- McEvoy, Phil and Roger Plant
 2014 Dementia care: Using empathic curiosity to establish the common ground that is necessary for meaningful communication. *Journal of Psychiatric and Mental Health Nursing* 21: 477–482.

- McLean, Athena H.
2006 Coherence without facticity in dementia: The case of Mrs. Fine. In: Annette Leibing and Lawrence Cohen (eds.), *Thinking about Dementia: Culture, Loss, and the Anthropology of Senility*, 157–179. New Brunswick, NJ: Rutgers University Press.
- Mead, George H.
1934 *Mind, Self and Society*. Chicago: University of Chicago Press.
- Melvold, Janis L., Rhoda Au, Loraine K. Obler and Martin L. Albert
1994 Language during aging and dementia. In: Martin L. Albert and Janice Knoefel (eds.), *Clinical Neurology of Aging*, 2nd edition, 329–346. New York: Oxford University Press.
- Merleau-Ponty, Maurice
1964 An unpublished text by Maurice Merleau-Ponty: A prospectus of his work. In: James Edie (ed.), *The Primacy of Perception*. Evanston: Northwestern University Press.
- Norrick, Neal
2009 The construction of multiple identities in elderly narrators' stories. *Aging and Society* 29: 903–27.
- Obler, Loraine
1981 Review of *Le langage des déments* by Luce Irigaray. *Brain and Language* 12: 375–386.
- Obler, Loraine K. and Martin L. Albert (eds.)
1980 *Language and Communication in the Elderly: Clinical, Therapeutic, and Experimental Aspects*. Lexington, MA: D. C. Heath.
- Olaisson, Anna and Elisabet Cedersund
2006 Assessment for home care: Negotiating solutions for individual needs. *Journal of Aging Studies* 41: 367–380.
- Oppenheimer, Catherine
2006 I am, thou art: Personal identity in dementia. In: Julian C. Hughes, Stephen J. Louw and Steven R. Sabat (eds.), *Dementia: Mind, Meaning and the Person*, 193–204. Oxford: Oxford University Press.
- Pope, Charlene and Danielle N. Ripich
2005 Speak to me, listen to me: Ethnic and gender variations in talk and potential consequences in interactions for people with Alzheimer's disease. In: Boyd H. Davis (ed.), *Alzheimer Talk, Text and Context: Enhancing Communication*, 37–59. New York: Palgrave Macmillan.
- Post, Stephen G.
1998 The fear of forgetfulness: A grassroots approach to an ethics of Alzheimer's disease. *Journal of Clinical Ethics* 9: 71–90.
- Ramanathan-Abbott, Vai
1995a Interactional differences in Alzheimer discourse. *Language in Society* 23(1): 31–58.
- Ramanathan, Vai
1995b Narrative wellformedness in Alzheimer discourse: An interactional examination across settings. *Journal of Pragmatics* 23: 395–419.
- Ramanathan, Vai
1997 *Alzheimer Discourse: Some Sociolinguistic Dimensions*. Mahwah, NJ: Erlbaum.

- Raymond, Geoffrey and John Heritage
 2006 The epistemics of social relationships: Owning grandchildren. *Language in Society* 35: 677–705.
- Ryan, Ellen B. and Lori Schindel Martin
 2011 Using narrative arts to foster personhood in dementia. In: Peter Backhaus (ed.), *Communication in Elderly Care: Cross-Cultural Perspectives*, 193–217. London: Continuum.
- Ryan, Ellen B., Karen A. Bannister and Ann P. Anas
 2009 The dementia narrative: Writing to reclaim social identity. *Journal of Aging Studies* 23(3): 145–157.
- Ryan, Ellen B., Kerry Byrne, Hendrika Spykerman and Joseph B. Orange
 2005 Evidencing Kitwood’s personhood strategies: Conversation as care in dementia. In: Boyd H. Davis (ed.), *Alzheimer Talk, Text and Context: Enhancing Communication*, 18–36. New York: Palgrave Macmillan.
- Ryan, Ellen B., Howard Giles, Giampiero Bartolucci and Karen Henwood
 1986 Psycholinguistic and social psychological components of communication by and with the elderly. *Language and Communication* 6: 1–24.
- Sabat, Steven R.
 2001 *The Experience of Alzheimer’s Disease: Life through a Tangled Veil*. Oxford: Blackwell.
- Sabat, Steven R.
 2006 Mind, meaning, and personhood in dementia: The effects of positioning. In: Julian C. Hughes, Stephen J. Louw and Steven R. Sabat (eds.), *Dementia: Mind, Meaning and the Person*, 287–302. Oxford: Oxford University Press.
- Sabat, Steven and Rom Harré
 1992 The construction and deconstruction of self in Alzheimer’s disease. *Ageing and Society* 12: 443–461.
- Sakai, Erin Y. and Brian D. Carpenter
 2011 Linguistic features of power dynamics in triadic dementia diagnostic conversations. *Patient Education and Counseling* 85: 295–298.
- Saunders, Pamela, Kate de Medeiros and Ashley Bartell
 2011 ‘Oh he was forgettable’: Construction of self identity through use of communicative coping behaviors in the discourse of persons with cognitive impairment. *Dementia* 10: 341–359.
- Savundranayagam, Marie Y., Ellen B. Ryan, Ann P. Anas and Joseph B. Orange
 2007 Communication and dementia: Staff perceptions of conversational strategies. *Clinical Gerontologist* 31(2): 47–63.
- Savundranayagam, Marie Y., Lorna J. Dilley and Anne Basting
 2011 StoryCorps’ memory loss initiative: Enhancing personhood for storytellers with memory loss. *Dementia* 10(3): 415–433.
- Schiffrin, Deborah
 1987 *Discourse Markers*. Cambridge: Cambridge University Press.
- Schiffrin, Deborah
 1994 *Approaches to Discourse Analysis*. Oxford: Blackwell.
- Scholl, Jane M. and Steven R. Sabat
 2008 Stereotypes, stereotype threat and ageing: Implications for the understanding and treatment of people with Alzheimer’s Disease. *Ageing and Society* 28: 103–30.

- Schrauf, Robert W. and Nicole Müller (eds.)
2014 *Dialogue and Dementia: Cognitive and Communicative Resources for Engagement*. New York: Psychology Press.
- Schwartz, Myrna F., Oscar Marin and Eleanor Saffran
1979 Dissociations of language function in dementia: A case study. *Brain and Language* 7: 277–306.
- Scollon, Ron and Suzie Wong Scollon
2003 *Discourses in Place: Language in the Material World*. London: Routledge.
- Shelley-Tremblay, John
2011 Breakdown of semantics in aphasia and dementia: A role for attention? In: Jackie Guendouzi, Filip Loncke and Mandy J. Williams (eds.), *The Handbook of Psycholinguistics and Cognitive Processes: Perspectives in Communication Disorders*, 625–645. New York: Psychology Press.
- Simmons-Mackie, Nina N. and Jack S. Damico
1997 Reformulating the definition of compensatory strategies in aphasia. *Aphasiology* 11(8): 761–781.
- Smithers, Janice
1977 Dimensions of senility. *Urban Life* 6: 251–276.
- Snyder, Lisa
2006 Personhood and interpersonal communication in dementia. In: Julian C. Hughes, Stephen J. Louw and Steven R. Sabat (eds.), *Dementia: Mind, Meaning and the Person*, 259–276. Oxford: Oxford University Press.
- Stivers, Tanya, Lorenza Mondada and Jakob Steensig (eds.)
2011 *The Morality of Knowledge in Conversation*. Cambridge: Cambridge University Press.
- ten Have, Paul
1999 *Doing Conversation Analysis: A Practical Guide*. London: Sage.
- Vaihinger, Hans
1924 *The Philosophy of "As If"*. Translated by C. K. Ogden. New York: Harcourt, Brace and Co.
- van Dijk, Teun
2013 The field of epistemic discourse analysis. *Discourse Studies* 15: 497–500.
- van Dijk, Teun
2014 *Discourse and Knowledge: A Sociocultural Approach*. Cambridge: Cambridge University Press.
- Van Lancker Sidtis, Diana, JiHee Choi, Amy Alken and John J. Sidtis
2015 Formulaic language in Parkinson's disease and Alzheimer's disease: Complementary effects of subcortical and cortical dysfunction. *Journal of Speech, Language, and Hearing Research* 58: 1493–1507.
- Whitaker, Harry
1982 Automaticity. Paper presented at the *Conference on Formulaicity*. University of Maryland, Linguistic Institute.
- Wilkinson, Ray
2013 Conversation analysis and communication disorders. In: Carol A. Chapelle (ed.), *The Encyclopedia of Applied Linguistics*, 962–967. Malden, MA: Wiley-Blackwell.

Williams, Kristine N.

- 2011 Elderspeak in institutional care for older adults. In: Peter Backhaus (ed.), *Communication in Elderly Care: Cross-Cultural Perspectives*, 1–19. London: Continuum.

Wray, Alison

- 2011 Formulaic language as a barrier to effective communication with people with Alzheimer's disease. *The Canadian Modern Language Review* 67(4): 429–458.

Wray, Alison

- 2014 Dementia and language. In: Carol A. Chappelle (ed.), *The Encyclopedia of Applied Linguistics*, 1–6. Malden, MA: Wiley-Blackwell.

Zeisel, John

- 2009 *I'm Still Here: A Breakthrough Approach to Understanding Someone Living with Alzheimer's*. New York: Penguin.

Zeisel, John, Nina M. Silverstein, Joan Hyde, Sue Levkoff, M. Powell Lawton and William Holmes

- 2003 Environmental correlates to behavioral health outcomes in Alzheimer's special care units. *The Gerontologist* 43(5): 697–711.

22. Assessing pragmatic competence in developmental disorders

Jenny Louise Gibson and Michelle C. St Clair

Abstract: This chapter reviews approaches to the clinical assessment of pragmatic competence in childhood developmental disorders. It provides an overview of the types of pragmatic difficulties commonly observed in children with developmental disorders and critically explores various rationales for assessing pragmatic competence. A brief outline of some theoretical frameworks that inform clinical assessment practices is provided, including perspectives from health studies, psychology and linguistics. The features of a comprehensive clinical assessment of pragmatic competence are then described and discussed in relation to research-based approaches. The chapter concludes with a discussion of future directions for research and highlights the opportunities for researcher-clinician collaboration.

1. Introduction

In this chapter we consider approaches to the assessment of pragmatic competence in childhood developmental disorders. Pragmatic impairments in childhood have been associated with increased risk of social, behavioural and academic difficulties (Ketelaars et al. 2010; Parsons et al. 2017; Whitehouse et al. 2009), therefore timely identification, appropriate assessment and effective intervention are priorities for clinical practice in this area. Our main focus in the present chapter is on clinical assessments carried out by qualified practitioners such as Speech and Language Therapists (SLTs), Clinical or Educational Psychologists, Psychiatrists, Paediatricians or Specialist Teachers. However, we also hope that the material here will be accessible to those carrying out research in the field of developmental pragmatics and will serve to build a bridge between research and clinical practice in this area.

Pragmatic difficulties can be observed in children with conditions or disorders stemming from diverse aetiologies. For example, pragmatic challenges have been reported in children with acquired difficulties such as traumatic brain injury, genetic disorders such as Fragile X, social difficulties stemming from early maltreatment and neglect, and, complex neurodevelopmental conditions like autism. Further, it is possible that a child may have more than one of these conditions or risk factors. In the present chapter we largely focus on pragmatic challenges in the context of neurodevelopmental disorders, as these conditions are more frequently referred for speech and language therapy assessment, and tend to be the conditions more typically researched with respect to pragmatic functioning.

<https://doi.org/10.1515/9783110431056-022>

In: K. P. Schneider and E. Ifantidou (eds.). (2020). *Developmental and Clinical Pragmatics*, 647–679. Berlin/Boston: De Gruyter Mouton.

We begin by considering the presentation of pragmatic difficulties in developmental disorders before going on to discuss some of the different theoretical frameworks which have informed clinical assessment practices. We then go on to describe the features of a comprehensive clinical assessment of pragmatic competence before discussing research-based approaches. We conclude by reflecting on future opportunities for research-based and clinical-based approaches to be mutually informative.

1.1. An overview of developmental difficulties with pragmatics

In clinical settings it is common to adopt a broad definition of pragmatics as the branch of linguistics concerned with successful, contextually appropriate use of language (Bishop 2000; O'Neill 2014; Smith and Leinonen 1992). The acquisition of pragmatic competence represents one of the most sophisticated aspects of language development and its development continues to be refined throughout childhood and adolescence (Adams 2002). Pragmatic competence is not rule-based in the strict sense that syntax is. For example, it requires a degree of flexibility and appreciation of the contextual factors which are most relevant to the communicative situation (Sperber and Wilson 1995) and it is therefore often referred to as a "higher-level" linguistic skill (McTear and Conti-Ramsden 1992). The use of the term "pragmatics" in the clinical literature usually encompasses linguistic, paralinguistic, and social interactional competence (Perkins 2007). It is therefore unsurprising that clinical descriptions of manifestations of developmental impairments in pragmatics are highly variable and although lists of typical features can be written, no single item from such a list can be considered essential to the detection of clinically significant pragmatic impairments (Adams 2002). However, it is worth describing some of the typical features which raise clinical concerns in order to present an idea of the types of difficulties that affected children face. This provides a starting point for appreciating the challenges involved in measuring pragmatic difficulties for clinical purposes, which is discussed in detail in section 2 below. Note that our summary here draws on descriptions of atypical development from a range of clinical disorders, we address the issue of whether or not it is useful to profile typical patterns of pragmatic competence by developmental disorder in section 1.2.

Everyday conversational interactions are often one of the main situations where problems with pragmatic competence become evident. Clinical reports and research into conversational skills of children with known pragmatic impairments have shown that they can be verbose (Rapin 2006; Shriberg et al. 2001), find it hard to adopt the appropriate register for the social situation (Paul et al. 2009; Paul and Wilson 2009; Volden et al. 2007), have poor conversational turn-taking skills (Bishop and Adams 1989; Capps, Kehres and Sigman 1998), make tangential remarks (Adams et al. 2002), perseverate on preferred topics (Baltaxe and

D'Angiola 1992), and have a poor idea of the information held or needed by their conversation partner (Adams 2001; Bishop and Adams 1992). As conversational competence is one of the main drivers of early socialisation in young children (De Rosnay and Hughes 2006), such difficulties have implications for concurrent well-being as well as later social development.

Regarding the linguistic features of pragmatic impairments, it is common to observe increased use of idiosyncratic language and neologisms (Volden and Lord 1991), difficulty producing coherent and cohesive discourse (Baltaxe and D'Angiola 1992), problems sequencing and structuring narrative (Capps, Losh and Thurber 2000; Diehl, Bennetto and Young 2006), decreased range of types of speech act (Ziatas, Durkin and Pratt 2003) and difficulty with deixis (Baltaxe 1977; Bartak and Rutter 1974; Lee, Hobson and Chiat 1994). As well as difficulties in production, comprehension problems are also commonly observed in children with developmental disorders. When related to pragmatics, such difficulties often occur when the child must infer meaning regarding the speaker's intent, rather than derive the most literal interpretation of an utterance. For example, children with pragmatic impairments have been shown to have trouble understanding idiom (Norbury 2004), metaphor (Norbury 2005), sarcasm (Happé 1994; Rajendran, Mitchell and Rickards 2005), jokes (Emerich et al. 2005), distinguishing between lies and jokes in everyday contexts (Leekam and Prior 1994), understanding implicature (Katsos et al. 2011; Surian, Baron-Cohen and van der Lely 1996), and disambiguation of homophones (Hoy, Hatton and Hare 2004; Jolliffe and Baron-Cohen 2001). Finally, impairments in paralinguistic features such as rate, rhythm, prosody and accent are evident in some children (McCann and Peppé 2003; Paul et al. 2005; Shriberg et al. 2001).

1.2. Profiles of pragmatic competence in developmental disorders

The idea that different profiles of pragmatic competence may be associated with different developmental disorders is an intriguing one (Geurts and Embrechts 2008). Relating patterns of pragmatic impairment reliably to particular disorders could potentially have utility to inform differential diagnosis, as well as suggesting possible routes to intervention. It is therefore an increasingly common research paradigm to compare pragmatic profiles between children with differing developmental disorders associated with communication difficulties. We discuss some selected examples before going on to draw conclusions relevant to the assessment process.

One group of conditions which has received a great deal of attention in this literature, is the autism spectrum disorders (ASD). Autism is an umbrella label for a spectrum of neurodevelopmental conditions that affect social and communicative development and flexibility of cognition and/or behaviour. The focus on autism in the pragmatics literature is unsurprising given that deficits in communication are

considered core symptoms of ASD, and difficulties with pragmatic competence have been well documented (Volden et al. 2009). Comparison of children with ASD to those with Attention Deficit Hyperactivity Disorder (ADHD) has yielded mixed research findings. ADHD is a neurodevelopmental condition influencing attention and, emotional and behavioural self-regulation skills. Bishop and Baird (2001) found that children with ADHD had similar levels of pragmatic impairment to those with Asperger syndrome (considered a sub-type of autism in earlier versions of diagnostic classification systems), including difficulties with stereotyped language use and conversational rapport. In this study parental (but not professional) ratings of inappropriate conversational initiation actually showed that children with ADHD had greater difficulties in comparison to those with ASD. Camarata and Gibson (1999) note that the diagnostic criteria for ADHD contain indicators which are pertinent to pragmatic impairment, e. g. often blurts out answers before questions have been completed; often interrupts or intrudes on others (e. g., butts into conversations or games). These similarities in pragmatic difficulties between ADHD and ASD are therefore not surprising. One difference which has emerged from this research, however is that children with ADHD were observed to have pragmatic difficulties which were commensurate with their structural language skills, while children with ASD typically have difficulties with pragmatics which were disproportionate to their abilities in structural language skills.

Another developmental disorder which has been linked to pragmatic impairments is Conduct Disorder (CD) (Gilmour et al. 2004; Speltz et al. 1999). Conduct Disorder is diagnosed when children display repeated and long-term behavioural problems that transgress social norms, for example physical violence or setting fires. Gilmour and colleagues assessed the pragmatic competence of children with CD using the Children's Communication Checklist (Gilmour et al. 2004). In not only a sample drawn from children referred for specialist Child and Adolescent Mental Health Services (CAMHS) assessment but also a sample drawn from the community, a significant proportion of children displaying severely disruptive behaviour were found to have pragmatic impairments similar in severity to those in a comparison group of children with ASD. Mackie and Law (2010) also found significantly higher rates of pragmatic impairment in a sample of children referred for psychological assessment after displaying high levels of disruptive behaviour, when compared to non-referred peers. Subsequent longitudinal work found that pragmatic competence mediates between childhood social disadvantage and adolescent anti-social behaviour (Law et al. 2015).

Returning to our main topic of assessment, it is evident that pragmatic competence is highly likely to be relevant in the assessment of a number of commonly presenting conditions in the child development clinic. Irrespective of diagnosis, the ability to engage in successful conversational exchanges with others can have significant impact on quality of life, including the building up of friendships, resolving conflicts and expressing needs (Brinton and Fujiki 1993; Brinton, Fujiki and

McKee 1998; Brinton et al. 2007; Conti-Ramsden 2008). Moreover, undetected pragmatic impairments may contribute to behavioural, social and emotional difficulties in some children (Gilmour et al. 2004), and evaluation of possible pragmatic impairments could be a useful addition to assessment or screening protocols in CAMHS clinics.

It has also been proposed that pragmatic difficulties may occur in relative isolation from broader developmental disorders. The notion of difficulties with pragmatics that are greater than might be predicted from a child's lexical, semantic, or syntactic skills has featured in debates around the validity of a clinical syndrome labeled Social (Pragmatic) Communication Disorder (SPCD) (Norbury 2014a). SPCD was introduced in the fifth edition of the American Diagnostic and Statistical Manual (DSM-5) (American Psychiatric Association 2013) as a new diagnostic subcategory of Language Disorder. The putative clinical profile for SPCD is of a child who struggles with use of language in social situations, and experiences impairment of social interaction but who does not display stereotyped, restricted and repetitive behaviour akin to that seen in autism. However, although the criteria for SPCD have been published, precise definitions and diagnostic criteria have proven difficult to operationalise and there remains a lack of professional consensus about the validity of the category (Mandy et al. 2017). Most controversial is the relationship of the condition to autism spectrum disorder. Skuse argues that many of those formerly meeting criteria for "Asperger Syndrome" (abolished from the DSM-5) could be transferred to a diagnosis of SPCD without any substantive evidence that the condition is fundamentally different from ASD in terms of genetic/developmental origins, prognosis and suitable interventions (Skuse 2012).

On the other hand, the literature on developmental language disorders contains many accounts of children who have a profile of disproportionate pragmatic impairments but who are not necessarily viewed as having Asperger/ASD (Boucher 1998; Gibson et al. 2013; Rapin and Allen 1987, 1998). Children with this kind of profile have been described by a number of labels over the years including Semantic Pragmatic Disorder (SPD) and Pragmatic Language Impairment (PLI) (Bishop et al. 2000). Given that the symptom profile for pragmatic impairment has a good degree of overlap with conditions such as autism, some have advised that, regardless of the label given, this concept is useful in the clinical description and identification of the quality of life issues associated with limited pragmatic competence. However, there is a substantive difference between viewing the PLI profile as a descriptive term which can apply across categories, to the more rigid classification approach inherent in the SPCD diagnostic category (Norbury 2014b). The issue has substantive implications for assessment, which we discuss in section 2.

To conclude, from the examples of the conditions discussed above, it is clear that there is considerable heterogeneity and overlap in the presentation of pragmatic competence across different developmental disorders. Moreover, co-morbidity of developmental conditions is extremely common (Angold, Costello and

Alaattin 1999), reducing the potential validity of pragmatic profiling for diagnostic purposes. Achieving diagnostic specificity via pragmatic profiling therefore does not currently seem to be a realistic or desirable goal. Nevertheless, research into the pragmatic competence of children with a variety of developmental conditions can highlight tendencies associated with different disorders and it is therefore useful for informing the wider clinical picture, as well as shedding light on some aspects of pragmatic theory.

2. The assessment challenge

The complexity and diversity of the presentation of pragmatics deficits in developmental disorders leads to considerable assessment challenges. Moreover, additional challenges arise from the need to assess the child's level of competence not only in comparison to expectations for peers of a similar age but also with reference to the social and cultural issues on which successful pragmatic competence depends (Norbury and Sparks 2013). One response to these challenges has been to adopt a purely a descriptive approach, where the pragmatic difficulties relevant to a particular clinical case are listed. However, as Adams noted in her excellent review of clinical pragmatics, if assessment does not go beyond simple description then it is open to charges of triviality (Adams 2002). For this reason, it is important to keep in mind the purpose of assessment, as well as the theoretical framework that informs it. We therefore here describe common rationales for clinical assessment.

2.1. Purpose of assessment

Initial clinical assessment is usually triggered by a referral from someone with concerns about some aspect of a child or young person's development. Reasons for requesting assessment are varied and may include requests for information on, ruling in/out a specific diagnosis, queries regarding unusual behaviour or poor academic performance, opinions regarding appropriate educational placement, suggestions for suitable intervention strategies and so on (Rutter 2008). The nature of the referrer's concerns will of course influence the assessment approach and outcomes. Typically the aims of an initial assessment are to profile the individual's strengths and needs, to provide causal explanations for any identified difficulties where possible, and to suggest avenues for support or intervention (Kersner and Wright 2012).

Sometimes, the primary reason for assessment of pragmatic competence will be part of a diagnostic process. This is particularly relevant to assessment of autism spectrum disorder, where difficulties with social communication form part of the diagnostic criteria and therefore assessment of pragmatic competence is likely to form a key part of the clinical evaluation. For example, the Autism Diagnostic

Observation Schedule (ADOS [Lord et al. 2000]), considered one of the “gold standard” instruments for the clinical assessment of autism, includes codes for skills such as conversational turn taking, intonation and referential pointing in its scoring system. In this context, assessment of communicative acts is used alongside other assessment evidence to arrive at a diagnostic formulation, and the level of attention to the specific aspects of pragmatic competence is likely to be minimal.

If ASD has been ruled out, assessment may focus on whether a diagnosis of SPCD is more appropriate. The latter presents a particular challenge, as at present there are no agreed assessment protocols for diagnostic assessment of SPCD. Using the diagnostic criteria from DSM-5, it is clear that autism must be ruled out for the diagnosis to apply. However, mapping the remaining criteria to assessment activities is not a straightforward process given the requirement that pragmatic difficulties cannot be explained by more general linguistic difficulties. Given the substantial overlap in symptoms between specific language impairments, autism, and ADHD, it may be the case that very few children indeed will meet diagnostic criteria for this category (Norbury 2014b). It is also possible that clinicians may take a more liberal interpretation of the diagnostic indicators which is more reflective of the diversity of pragmatic impairments occurring outside of other clearly identifiable neurodevelopmental diagnoses. However, there is a profound scarcity of research and practice data on these issues, and it remains to be seen whether and how the idea of a separate diagnostic category will prove to be a useful concept.

Aside from specific diagnostic purposes, assessment of pragmatic competence therefore often takes place within the context of a broader developmental assessment conducted by a multi-disciplinary team. As discussed in, it is common for childhood difficulties with pragmatics to arise in the context of more general learning delays or neurodevelopmental disorders and even in cases where social difficulties are suspected, pragmatic competence is not always identified as a primary area of concern. Clinicians receiving referrals for other conditions (e. g. suspected language disorder, global delay) are advised to ask key informants some pertinent questions about the child’s pragmatic skills as part of the routine case history process. This can help ensure any disproportionate issues with pragmatic language competence are not obscured by other concerns over other aspects of the child’s development.

Assessment of pragmatic competence is also carried out with issues of intervention and support in mind (Adams et al. 2015). Practitioners may wish to gain information which will help to assess the effectiveness of interventions already implemented. Establishing efficacy is essential for health and educational services to best target precious resources, and at the individual level it is important to establish whether or not a child is making progress as expected. To achieve this, initial assessment needs to provide a reliable baseline from which progress can be measured, while follow-up assessment should be a reliable and sensitive way of measuring change on both specific targets and generalization to improvements in

quality of life. The assessment protocol should also allow the clinician to prioritise between different intervention targets (Adams and Gaile 2016). A high-quality assessment of pragmatic competence should also differentiate between issues of competence and issues of performance, for example it is important to differentiate the child who gives an insufficient quantity of information because she is shy from the child who does the same because she is unable to understand the information requirements of her conversation partner (Coplan and Weeks 2009).

Whether assessing for purposes of screening, diagnosis, profiling, intervention planning or target setting/reviewing, the frameworks which inform the assessment of pragmatic competence in developmental disorders are of great importance. The assessment process can be thought of as hypothesis testing on the part of the clinician (Wright 2014: 14–53) and various theoretical frameworks can be brought to bear on the collection and interpretation of evidence regarding the child's individual profile of strengths and needs in the area of pragmatic competence. We therefore discuss some of the key frameworks that clinicians use to inform assessment of pragmatic competence in section 2.2.

2.2. Frameworks for assessment

2.2.1. *A perspective from health and disability literature*

It is important for the non-clinical researcher in experimental or theoretical pragmatics to know that from the clinician's perspective, pragmatic competence would almost never be assessed as a stand-alone construct. Clinical assessment is all about people and their individual health needs. Therefore one of the most significant theoretical influences on assessment practices in this field, comes not from theories of pragmatics, but rather from theories of health and disability. Hence we begin this section with a description of one widely used framework from health research and practice, with the intention to give readers without a clinical background additional insight into the assessment process.

The World Health Organisation's (WHO) *International Classification of Functioning Disability and Health* (ICF [WHO 2007]) is an internationally used framework for understanding many health conditions. The ICF makes a distinction between impairment at the level of the body's structure and functioning (including psychological functioning), the impact that these impairments have on an individual's activities of daily living and participation in their community, and, the influence of contextual factors in the environment.

When applying this framework to the assessment of pragmatic competence, the traditional clinical approach can perhaps best be characterised as pragmatic (in the sense of emphasising practical over theoretical considerations), as clinicians may emphasise the activity, participation and contextual aspects of the framework. Clinicians may focus assessment on functional language use, exploring issues such

as; what the child can achieve with his or her language skills – (e. g. can she ask for help, use greetings, negotiate with peers), how any difficulties impact on community participation, (e. g. engaging in the local Girl Scout group), and whether anything in the environment can be adjusted to support pragmatic performance (e. g. a visual reminder to prompt the child to give polite greetings) (Paul, Norbury and Gosse 2018; Roulstone et al. 2015). Resource issues are often a contextual consideration for the assessment process too. If therapist time is limited, assessments based on detailed conversational analysis, which can undoubtedly yield important clinical insights, may not be considered feasible. Another corollary of this framework is that increased awareness of social approaches to disability means that many professionals conduct assessment focused on the issue of how best to structure the environment so that pragmatic *performance* is optimised, as opposed to solely focusing on the child's needs with regard to the development of their pragmatic *competence*.

Nevertheless, there is recognition that interventions which have the ultimate aim of improving activity and participation will often necessarily require individualised, therapeutic input at the level of impairment. A good illustration of this can be found in the social skills literature. Recent analysis has shown that efforts to improve social functioning for children with pragmatic impairments using approaches such as social skills groups have had a disappointingly limited effect (Gresham, Sugai and Horner 2001), and there is a growing body of work which suggests that a greater grounding in the theory regarding the presumptive underlying impairments in cognitive or linguistic development is essential for intervention success (Adams et al. 2015, 2012; Gerber et al. 2012).

2.2.2. *Perspectives from developmental psychology*

Alongside the perspectives from disability and health theory, assessment will also reflect the assessor's views on the process of how a child learns to be a competent communicator (Hwa-Froelich 2014). Given that pragmatic competence has an inherently social component (Matthews 2014), social-constructivist views have been influential in this regard.

In particular, ideas from the influential theorist Lev Vygotsky have been widely used in assessment contexts (Vygotsky 1978). Vygotskian approaches see child development as a socially constructed process, whereby adults and more competent peers provide opportunities and support which help a child to perform at a level which they would be unlikely to achieve independently. In the context of assessment for developmental disorders, this has been translated into dynamic assessment approaches which explore the extent of support needed for a child to succeed at a particular task (Haywood and Lidz 2007). Take the example of a child referred for assessment with reports of a tendency to abandon conversation after just 1 turn. In this case, the clinician may observe a baseline performance, followed

by systematic investigation into whether the number of appropriate conversational turns could be increased by different means such as providing overt visual or verbal cueing, modifying the topic of conversation to a subject of high-interest to the child, practising via role play with puppets and so on. This type of assessment approach is extremely useful for informing the types of intervention and adaptation likely to be most effective for an individual child.

Also influential is the neuroconstructivist perspective, which emphasises the interactional, and dynamic nature of child development (Karmiloff-Smith 1998, 2009; Thomas and Karmiloff-Smith 2002). Neuroconstructivism has been applied in the study of developmental disorders and stresses the importance of accounting for the processes involved in the complex interaction of biological, cognitive, social and environmental factors when attempting to understand phenotypes associated with different impairments. This is sometimes contrasted to a modular perspective on development and is consistent with a dynamic systems (DS) theory as applied to child development (Granic and Hollenstein 2006). From the clinical perspective both DS and Neuroconstructivism provide useful frameworks for considering how many complex factors may contribute to a child's individual profile of pragmatic competence. Understanding that a given set of developmental constraints can lead to the maintenance of particular aspects of atypical development, or that developmental change is often non-linear and subject to threshold effects is crucial to devising meaningful assessment approaches for children with developmental disorders.

2.2.3. Perspectives from linguistics and cognitive psychology

An important starting point for understanding a child's pragmatic competence is the assessment of her or his competence in other domains of linguistic functioning. Many specific aspects of pragmatic skill have been associated with other areas of language competence including semantics, syntax and morphology. For example, Norbury and colleagues found that most variance in performance in a metaphor task was explained by structural language skills. Similar effects have been demonstrated for narrative and idiom comprehension. In a clinical context, it is rare to find children who have pragmatic challenges who do not also have, at least to some extent, difficulties with other aspects of language. It is outside of the scope of this chapter to consider methods for assessment of other linguistic domains, however any assessment of pragmatic competence would not be complete without a broader language assessment. With this in mind, we now turn to consideration of different perspectives on clinical pragmatics.

In the clinical pragmatics literature it is not difficult to find perspectives which view clinical practice as insufficiently informed by theory (Cummings 2009), and conversely views which consider pragmatic theorists to sometimes neglect useful insights which a clinical perspective can bring (Perkins 2007). Happily,

there is increasing collaboration between clinicians, psychologists and linguists in the field, as evidenced in the current volume. In this section we give a selective overview of frameworks from the interface of theoretical and experimental pragmatics which have influenced clinical approaches to assessment of pragmatic competence.

As Gallagher and others have pointed out, since the major theoretical developments in pragmatics of the 1960s and 1970s there has been significant interest in clinical applications (Gallagher 1990; Perkins 2007). Speech act theory (Austin 1962; Searle 1969) which characterises communication in terms of a speaker's intention and the listener's reaction (known respectively as the illocutionary force and the perlocutionary effect), has been highly influential in the study of developmental pragmatics. Speech act theory pays attention to both the form and the function of an utterance, e. g. whether a speech act is direct or indirect, and whether it is intended as a command, request, statement etc. Successful communication occurs when there is a good balance between illocutionary force and perlocutionary effect. Importantly for the current discussion, speech act theory has been used to explore pragmatic impairments as well as pragmatic competence. For example, Wetherby and Prutting (1984) demonstrated that children with autism use a reduced variety of speech act functions compared to their typically developing peers. Ziatas and colleagues (Ziatas et al. 2003) also used speech act theory to explore differences in communicative competence between children with High-Functioning Autism (HFA), Asperger Syndrome (AS), Specific Language Impairment (SLI) and Typical Language Development (TLD). Their results provided informative descriptions of differences in the types of speech act used in a conversational setting, for each group. For example, the children with HFA were much more likely to make assertions and less likely to give explanations than children in the other three groups, while children with AS tended to make assertions about their own desires rather than assertions about thoughts and beliefs.

In the context of clinical assessment, speech act theory might lead a clinician to probe a child's abilities in understanding a speaker's intentions in both direct and indirect utterances, and to investigate their abilities to perform a range of functions using language. The observations from experimental work that some groups of children have a reduced range of speech act functions, may lead the clinician to examine and quantify this aspect of conversation. As discussed in section 1.2., a profile is unlikely to have sufficient sensitivity and specificity to support a diagnostic conclusion to be drawn, but it is likely to be useful as one piece of evidence among many in a full developmental assessment.

Grice's theory of Conversational Implicature (Grice 1975) has also been highly influential in clinical pragmatics. In particular his Cooperative Principle has been much used. This refers to the conceptualisation of conversation as a shared activity in which conversation partners co-operate so that their communicative intentions are correctly inferred. Interlocutors are assumed to subscribe to a set of four con-

versational maxims which aid disambiguation and help each speaker's intended meaning to be communicated successfully. Briefly, these can be summarised as 1) provide a 'just-right' amount of information, 2) be truthful, 3) be relevant, 4) be clear. Communicators may employ conversational turns which superficially appear to violate a maxim but when the speaker's intended, rather than literal, meaning is considered the principle is in fact upheld – a process known as conversational implicature. Thus failures in pragmatics may be described as a failure to abide by the Cooperative Principle or to appreciate that the subversion of the conversational maxims carries meaning. Several studies of pragmatic impairments have identified poor conversational implicature and poor management of conversational information requirements in clinical populations (Bishop and Adams 1989, 1992; Surian et al. 1996). As we shall see later, these maxims can be used to form the basis of a clinical assessment designed to pin-point where exactly a child's efforts in shared meaning making and conversation are going awry.

Of course it is one matter to describe a set of behavioural features associated with a particular functional outcome, but it is quite another to make a hypothesis about underlying causes. Relevance theory (RT) provides the most explicit link between linguistic and cognitive theories of pragmatics, proposing that communication is not simply a matter of a speaker encoding and a listener decoding a message, but rather communication is governed by a principle of relevance (Sperber and Wilson 1995). The principle of relevance is the assumption that human cognition has evolved a bias towards processing *relevant* information and therefore communicative acts involve deliberate attempts by the speaker to increase the salience of an utterance. RT assumes that disambiguation and comprehension of implicature are essentially problems of integrating meaning with context (Sperber and Wilson 1995). In some cases it is linguistic context which is most relevant for successful communication, in other cases social constructions and real-world factors come into play. Sperber and Wilson propose that appraisal of context and inferences about the mental state of the interlocutor interact with the act of linguistic encoding/decoding to produce successful communication, thus relevance is dependent on underlying cognitive skills such as central coherence, theory of mind, and executive functions. Relating these principles to clinical assessment, there has been increasing interest in assessment approaches which look at conversational performance, perception of relevance in contextual cues and relating pragmatic competence to underlying cognitive processes. We now go on to describe three key cognitive concepts which have been useful in the clinical assessment context.

Firstly, we consider the weak central coherence (WCC) account of pragmatic failures. WCC describes a general processing style which is focused on detail at the expense of a globally coherent perspective. WCC predicts that an affected individual would make incorrect inferences across all modalities including language (Noens and van Berckelaer-Onnes 2005). Thus in the case of pragmatic impairment WCC can be conceptually linked to relevance theory as a failure on the part

of the individual with pragmatic impairment to integrate the relevant cues with the linguistic or social context. This view is partially supported by experimental studies that have found predicted patterns of WCC extending to the linguistic domain in children with ASD. Frith and Snowling (1983) found that children with ASD performed poorly when asked to select an appropriate word to complete an unfinished sentence because they did not use the preceding semantic context to fill in the blank. Similarly, Jolliffe and Baron-Cohen (1999a) found that adults with ASD tended not to use linguistic context to determine the correct pronunciation of a homograph. However, it is not clear that such difficulties would necessarily lead to failures in pragmatics in conversational context. Note that Norbury and colleagues (Norbury 2004, 2005) found that language ability rather than autistic symptomatology was predictive of difficulties on tasks involving idiom comprehension and disambiguation of homophones. This suggests that the linguistic and metalinguistic demands of language disambiguation tasks need to be carefully controlled before task failure is attributed to WCC. Brock et al. (2008) controlled for these factors by using an eye-tracking paradigm to investigate the effects of context on a lexical disambiguation task and their results converged with Norbury's behavioural data, showing that difficulty on this type of task can be related to structural language impairment rather than pragmatic impairments per se. Nevertheless, there are other aspects of pragmatic difficulty which can be viewed from a WCC perspective. For example, an over informative response to an interlocutor might well stem from a failure to integrate relevant information into a coherent answer.

Another cognitive perspective useful for assessment purposes comes from the literature on the development of social cognition, and specifically the concept of Theory of Mind (ToM). ToM is a term describing the capacity for attributing and understanding beliefs, intentions and mental states to other people's minds (Baron-Cohen 1995). It has been hypothesised that deficits in ToM may contribute to pragmatic impairments as the failure to account for the mental and emotional state of one's conversation partner can lead to misunderstanding of intentions and needs. ToM has been identified as a key cognitive difficulty in autism, and has been consistently linked to pragmatic impairments in ASD (Tager-Flusberg 1999). This includes reduced ability to take the listener's perspective or prior knowledge into account (Tager-Flusberg 1996), limited number of types of speech act, especially concerning those with a social function (e. g. greetings), poor conversational turn taking (Capps et al. 1998) and reduced ability to understand speaker intentions, especially with regard to non-literal language (Jolliffe and Baron-Cohen 1999b). Happé (1994) found that for individuals with AS, inferencing skills concerning mental states could be dissociated from inferences made from physical states, which indicates an impairment in mentalising, rather than a more general impairment in integrating information. Moreover, in the previously discussed study Ziatas and colleagues (2003) found an association between ToM and communicative competence.

The final aspect of cognition that we consider in this section concerns executive functions (EFs). Executive functions refer to the set of cognitive functions which allow an individual to manage their own behaviour and work towards a specific goal. Theories of executive function vary in their accounts of the component skills and the exact relationship between them, however core executive skills include attention control (ability to pay selective attention to the most relevant stimuli and ignore irrelevant inputs), working memory (the ability to temporarily hold and process incoming sensory information), inhibitory control (the ability to suppress prepotent responses), and cognitive flexibility (the ability to switch between different ideas). The idea that difficulties with these skills can lead to executive dysfunction (ED) has been applied to the study of pragmatic impairments. Research into adult acquired disorders of pragmatics (for example following traumatic brain injury) has demonstrated links between ED and pragmatic impairment (Douglas 2010; Hartley and Jensen 1991; McDonald 1993). While less research has been done in the field of developmental disorders, some links between impairment of pragmatic competence and ED have been documented. Tannock and Schachar (1996) have suggested that ED underpins the pragmatic difficulties often seen in children with ADHD, for example difficulties with maintaining conversational topic and sequencing narratives are attributed to poor inhibitory control. Bishop and Norbury (2005) reported a significant correlation between performance on a task designed to measure inhibitory control and communicative competence in a sample of children with developmental communication impairments. These authors suggest that ED may explain some features of pragmatic disability which are less readily accounted for by the impaired ToM account, for example restricted range of conversation topics or poor disambiguation of homophones. Significant correlations between pragmatic competence and executive functioning have also been found in younger typically developing children (McEvoy, Rogers and Pennington 2006), while other studies have found no evidence of a relationship between EF and structural language competence (Joseph, McGrath and Tager-Flusberg 2005).

2.3. Linking theory to assessment

In section 2 we have provided an overview of some of the major frameworks and perspectives underpinning the clinical assessment process for developmental disorders, as well as indicating how these might specifically apply to the assessment of pragmatic competence. In practice, the heterogeneous nature of pragmatic impairments means that these frameworks may well be applied (or not) in different ways and for different reasons for each client requiring assessment. In section 3 we turn to more practical considerations, giving an overview of the assessment process.

3. The clinical assessment process

The structure and content of an assessment of a child's pragmatic competence will be determined by a number of factors. These include the purpose of assessment, the age/developmental progression of the client, the context for assessment, and the hypotheses the assessor wishes to explore. In this section we consider different techniques for assessment, giving examples of specific tools for each purpose. Our aim is to provide useful and illustrative examples of such assessment tools, rather than a comprehensive or systematic review of the many instruments available.

3.1. Planning for assessment of pragmatics

The starting point for assessment of pragmatic competence is to collect sufficient contextual information to allow accurate interpretation of the child's profile (Adams 2014). This begins with an information gathering phase involving synthesis of data from the referral documentation, reports from other professionals, and case history interview with key informants such as parents, caregivers and teachers. This process should identify any relevant issues such as family history of neurodevelopmental communication impairments, history of traumatic brain injury, the presence of sensory impairments, and information about non-verbal cognitive development. Information regarding early psychosocial development and family structure should be sought too, as early adversities such as maltreatment or neglect can have later implications for pragmatic competence (Manso et al. 2010; Hwa-Froelich 2012).

Another purpose of this initial phase is to clarify the purpose of assessment and to explore the perspectives of the child and/or caregiver. As part of the case history interview, the clinician should ask for the key informant's opinion on the child's main areas of difficulty and what outcomes they hope for from the assessment process. The child's own opinions should also be sought on this matter, although it is important to remember that some children with pragmatic difficulties may have limited insight into their own needs (Lockton, Adams and Collins 2016).

This synthesis of initial information can then be used together with frameworks for exploring pragmatic competence as described above, to generate an assessment plan including assessment goals, specific hypotheses to test, and aspects of pragmatic competence to examine. Identification of other aspects of development which need evaluation may also be an outcome from this phase leading to plans for assessment in other aspects of linguistic competence as well as referral to other professionals if needed.

3.2. Indirect assessment

3.2.1. *Informal interview*

Assessments which are based on third-party report, rather than direct observation or measurement of a child, are known as indirect assessment approaches. As the presentation of pragmatic impairment is likely to vary by context, such indirect reports from key informants can provide crucial information about performance in a range of situations. Often, a good way to solicit this information is simply as an extension of the case-history interview. For example, the clinician may use Grice's co-operative theory or Speech Act theory as a basis to structure questions about a child's conversational skills during an informal clinical interview:

- *Does Stephen often give too much information in response to questions? E. g. giving geographic co-ordinates when asked, "where do you live?"*
- *It's great to hear that Carlos is polite with familiar adults in the family. Is the same true when he's meeting someone new?*
- *Does Behzad seem to understand that people can sometimes say one thing but mean something different, e. g. sarcasm or joking? Can you give me some examples?*

Questions can also be structured to gain perspective on whether the child's pragmatic competence is congruent with the cultural and social expectations within the family:

- *Does Isabela greet older adults (e. g. grandparents) appropriately in your opinion? Is this different from other children in the family or social group?*

A similar approach can be informed by theories of social cognition, which can be useful too:

- *Is Molly able to talk about her feelings or tell you about what's upsetting her? Does she seem to understand other people's emotions?*

The reader can imagine that many more routes of investigation based on different pragmatic theories have potential for investigation using informal interviewing techniques.

3.2.2. *Standardised questionnaire*

While the informal interview technique allows the assessor to gain valuable, personalised information regarding a child's pragmatic competence based on evidence from beyond the contextual constraints of the clinic, it also has some drawbacks.

One limitation is that the individualised nature of the informal case history means it is not possible to compare a child's performance to that of his/her peers on the basis of this information alone. A second is that the approach usually relies on the views of a single informant and therefore maybe subject to the informant's biases, whether positive or negative, towards the child being assessed.

One strategy used to overcome the first limitation is to use standard questionnaires so that the same questions are asked of every child whose key-informant completes the survey. The latter limitation can be addressed by having multiple-informants complete the standard questionnaires. Moreover, questionnaires can be standardised on population samples in the same way as standardised test batteries (see below), providing a method of comparing the individual being assessed to his or her same-age peers.

One questionnaire which is widely used to assess pragmatic competence is the Children's Communication Checklist version 2 (CCC-2 [Bishop 2003]). CCC-2 was standardised on 542 British children aged between 4–16 years. Key-informants are presented with statements about the child's communication, e. g. "*My child doesn't explain what s/he is talking about,*" and asked to rate occurrence of the behaviour as follows: 0 = less than once a week (or never); 1 = at least once a week; 2 = once or twice a day; 3 = several times a day (or always). Scores from 70 items relating to different aspects of communication development can then be grouped into 10 subscales *A: Speech, B: Syntax, C: Semantics, D: Coherence, E: Inappropriate Initiation, F: Stereotyped Speech, G: Use of Context, H: Non-verbal Communication, I: Social Relationships, and, J: Interests*. Subscales A-D are concerned with structural aspects of language, subscales E-H focus on pragmatic aspects of language and subscales I-J are designed to identify autistic-like communication problems. Scales A-H can be summed to produce a General Communication Composite (GCC) score which is considered a general index of communicative ability. The subscales and the GCC can be interpreted with reference to the standardisation sample using scaled scores. A Social Interaction Deviance Composite (SIDC) score can also be computed by subtracting the sum of scales A-D from the sum of scales E, H, I and J. A negative score for SIDC is indicative of those children whose pragmatic difficulties are disproportionate to their structural language abilities.

CCC-2 is particularly useful as a clinical tool as Standard Scores are available for each subscale, allowing for analysis of the child's relative strengths and needs on an individual basis and also in comparison to the general population of children of a similar age. Moreover, the validation study for this measure identified profiles on the composite scales which were characteristic of children with different diagnoses/types of communicative disability (Bishop 2003; Norbury et al. 2004). For example, a SIDC score ≥ 9 in a child with a GCC score below 55 was characteristic of SLI, while negative values for SIDC in combination with a GCC score below 55 indicated communication difficulties consistent with autism spec-

trum conditions. Therefore, if the purpose of assessment is diagnostic, the CCC-2 can be a useful starting point to indicate which avenues may be most fruitful to explore.

For the evaluation of younger children, the Language Use Inventory (LUI) is a standardised questionnaire which can be used with parents of children aged 18–47 months (O’Neill 2007, 2014). This questionnaire asks parents to complete 180 mostly yes/no questions (a few require free-text responses) about their child’s communicative competence. Three broad sections provide information about, *A: Communication through gestures*, *B: Communication through words* and *C: Communication through longer sentences*. These broad categories each contain a number of sub-sections providing a detailed breakdown of the component skills. Percentile rankings are available for 1-month age groups, based on a normative sample of 3,500 Canadian children.

3.3. Direct assessment

Direct assessments are assessments which the clinician carries out directly with the client, rather than relying on third party informants. Direct assessments of pragmatic competence can take many forms including standardised test batteries, structured observation, and informal tasks.

3.3.1. *Standardised test batteries*

Standardised test batteries are often used to assess aspects of linguistic or cognitive development and typically consist of a standard set of materials designed to test the construct of interest, along with a standard protocol that ensures the materials are administered in the same way each time. Standardised test batteries are usually developed, validated and sold by specialist publishing companies. The assessment protocol is carried out with a population sample in order to derive normative data. However, there are significant challenges in using standardised tests to assess pragmatic competence. Firstly, judgements about pragmatic competence may vary according to the assessors’ different perspectives; what one assessor may perceive as over-informativeness, another may perceive as clarity. Therefore standardised scoring systems need to contain sufficient detail for consistent ratings to be made across different clinicians or assessment centres. Another challenge stems from the fact that the skills necessary for successful performance on a test of pragmatic competence in a structured assessment setting may not reflect the skills needed for adaptation in an everyday conversational setting (Adams 2014). For example, a child may be able to stay on-topic in a clinic-room, yet be unable to maintain a conversation in a supermarket without commenting on any number of topics suggested by distractions in the general environment. Or perhaps a child will be able to identify violations of Gricean maxims when discussing someone else’s

behaviour but be entirely unable to apply such meta-pragmatic awareness to their own conversational competence (Lockton, Adams and Collins 2016). Moreover, it is difficult to account for cultural background and expected differences in pragmatics as they vary by linguistic and cultural group (Norbury and Sparks 2013). Nevertheless, there is value in the standardised approach because it allows comparison of the individual against the performance of their same-age peers, and can improve clinical assessment practices by encouraging clinicians to adopt a consistent approach regardless of their working context. Therefore we discuss some recent examples of standardised tests which have been used to assess pragmatic competence.

One such assessment is the Clinical Evaluation of Language Fundamentals-5 Metalinguistics (CELF-5 M; [Wiig and Secord 2014]), which is designed for use with clients aged 9;0–21;11 years and contains 2 subtests designed to tap into pragmatic competence; Making Inferences and Conversation Skills. The Making Inferences subtest requires clients to attend to a short narrative and subsequently select the 2 most likely explanations for the story ending out of a choice of 4, and to generate another plausible explanation. For the Conversation Skills task, the assessor presents clients with a picture and some key words and the task is to use the words to generate an utterance which uses the key words and is constrained to the context provided by the stimulus picture. Standard scores, with a mean of 10 and standard deviation of 3, are available for these sub-tests, based on a standardisation sample of 800 children from the USA. Some of the challenges alluded to above are evident in the psychometric reports for the CELF-5 M, where it can be observed that the reliability coefficients tend to be lower for the Pragmatics subtests in comparison to subtests tapping different aspects of language development. Most notably, the test-retest reliability value for meta-pragmatics (whilst still in the acceptable range), is the lowest of the subtests in the battery.

Another option is the Comprehensive Assessment of Spoken Language (CASL [Carrow-Woolfolk 1999]). The CASL is an in-depth oral language assessment for children and young adults aged 3–21 years. The CASL battery of 15 tests measures comprehension, expression, and retrieval across different aspects of language development. The aspects most relevant to pragmatic competence are the Supralinguistic subtests, which assess comprehension of complex language where meaning is not directly available from lexical or grammatical information, and the Pragmatic Judgement subtest which assesses the client's judgement of the appropriateness of language in a given situational context and their ability to modify language. A useful feature of the Pragmatic Judgement subtest is that versions are available across the full range of 3–21 years, allowing potential to track progress. Other subtests relevant to pragmatics, such as the Ambiguous Sentences and Idiomatic Language tests are suitable for clients aged 11–18 years.

Finally, the Test of Pragmatic Language-2 (TOPL-2 [Phelps-Terasaki and Phelps-Gunn 2007]) is a standardised test focused entirely on pragmatics which is

suitable for clients aged 6 to 18 years old. Pragmatic knowledge is tested by presenting the assessee with scenarios which are explained verbally and accompanied by illustrations. Clients are then asked to either devise appropriate responses for the people in the scenario described, or to answer a question demonstrating knowledge of how or when to use appropriate language. A standard score and qualitative information can be computed using the client's responses. This assessment can take up to one hour to administer.

3.3.2. *Structured observations and informal tasks*

Direct assessment of pragmatic competence can also draw on approaches which have been developed in research contexts. This includes conversation analysis, discourse analysis and experimental tasks. To the best of our knowledge, there is limited data available about the extent to which such approaches are used in everyday clinical practice. Practitioners may have limited access to up-to-date research in developmental pragmatics and may also have restrictions on time which can make detailed conversational analysis infeasible.

One tool which was developed for research purposes and adapted for clinical use is the Targeted Observation of Pragmatics in Children's Conversations (TOP-ICC [Adams et al. 2011]). This assessment method involves engaging a child in conversation with the assessor using a set of photographs designed to stimulate interest. The conversations are video recorded and analysed for pragmatic performance. A key difference between the research-focused assessment and the clinical assessment is that the former was based on detailed transcripts and subsequent conversation analysis (Bishop et al. 2000), while the latter uses a broad rating scale for key areas of conversational competence that clinicians can use when watching back the recording. Areas of assessment in the TOPICC protocol are Conversational Reciprocity, Managing Information Requirements, Turn-Taking, Verbosity, Discourse Style and Response Problems. A useful feature of this approach to assessment is that it can feed directly into therapy targets and can be repeated using different conversation stimuli pictures as a method of assessing change in pragmatic competence over time.

Francesca Happé's *Strange Stories* task is another research task that we have observed in use in clinical practice (Happé 1994). The Strange Stories are a set of short stories in which the characters make utterances which have non-literal meanings, e. g. use of sarcasm, idiom, white lies, jokes. The assessee listens to the story, and is asked to reflect on the intended meaning of the non-literal language used by the character. A basic comprehension check is used to establish that more global difficulties with understanding are not confounding the results. This technique can be used by clinicians to identify particular areas of difficulty with different types of implicature, however this approach does not provide insight into the reasons behind failures to make the correct interpretation.

3.3.3. *Choosing an assessment method*

The different approaches to assessment have different strengths and weaknesses. Standardised assessments have an advantage in that they are administered in the same way to each child, providing a benchmark for performance that can be compared across groups of children of a similar age to give a standard score. This numerical information allows measurement of change over time. There are, however, also drawbacks to this type of assessment. For example, the standardisation samples on which the validity and psychometric properties of a measure are established are often not representative of children from multilingual and/or multicultural backgrounds. Further, when it comes to pragmatic functioning there are well documented examples of children being able to give a correct response in a clinical or research setting whilst still being reported to have significant pragmatic difficulties in daily life.

Checklist type assessments, on the other by hand, overcome some of these issues by drawing on the lived experience of the young person with pragmatic difficulties, and/or their parents, educators or carers. The use of behavioural descriptors in such checklists can help to improve reliability across different raters (eg parents and teachers). However, a potential drawback of this method is that it can be difficult to be certain that those completing the questionnaire have similar thresholds for identifying an issue as problematic. Nevertheless, a study comparing the TOPL to the CCC-2 found that the CCC-2 had greater sensitivity for detecting pragmatic impairments in children with autism, who had age-typical structural language skills. This indicates the checklist method maybe preferred in many cases. As checklists such as CCC-2 also provide normative data benchmark scores for comparisons with peers and for measuring progress can also be achieved, although this is of course also subject to the limitations of the representativeness of the normative sample as discussed above.

Informal assessments, or those adapted from non-validated research tasks may be useful for clinicians whose clients are presenting with issues not well-captured by measures with a fixed, standardised component. Observational methods have the advantage of being able to supply rich qualitative details about which difficulties have the most impact in which contexts. For example, poor management of information requirements in a conversation might be more problematic when conversing with peers compared to adults. This can be very useful in the development of meaningful, individualised therapeutic goals. The corollary of this individualisation is that the resulting data are subjective and independent benchmarks for the assessment of performance relative to peers cannot established.

3.4. Drawing conclusions

The final stage in the assessment process is the synthesis and interpretation of evidence. As discussed earlier in the chapter, the assessment data is most likely to be

garnered from multiple sources, using multiple techniques, and to have a broader scope than focussing on specific aspects of pragmatic competence alone. At this point the clinician needs to make judgements regarding the meaning of the assessment results, and the severity and impact of any difficulties observed.

There is an urgent need for a greater understanding of the interpretation of assessment of pragmatic competence in children from culturally and linguistically diverse backgrounds, as this can become a significant issue when drawing appropriate conclusions. For example, in the UK this could help investigation into anomalies in the identification rates of communication difficulties and developmental disorders in children from ethnic minority backgrounds (Norbury and Sparks 2013; Slade 2014). Dynamic assessment (see section 2.2.2.) could be a particularly useful assessment approach to develop for this population. Clinically significant gender differences in the presentation of pragmatic impairments may also prove to be a useful avenue for research, in light of recent concerns that traditional assessments of social communication have been male-biased (Dworzynski et al. 2012).

Conclusions should be brought together in the form of a comprehensive assessment report. Adams and Gaile (2016) recommend that at minimum, information regarding structural language abilities and social functioning should feed in to the report and any subsequent intervention plans. The assessment report should include an account of the assessment process, a report of the specific profile of strengths and needs with regard to pragmatic competence, and a clinical opinion on the contribution of any underlying difficulties such as impaired social cognition or inhibitory control. If diagnostic formulation was an assessment goal, then the diagnostic opinion should be reported with specific reference to the supporting evidence.

Given that the development of pragmatic competence forms such an important part of children's social experience, it is also advised that the assessment report contains an appraisal of the functional impact of any difficulties, following the World Health Organisation's (WHO) *International Classification of Functioning Disability and Health* model. Anecdotally, families of children with pragmatic impairments frequently report that while assessment is useful and enlightening, it is too often the point at which support and engagement with services comes to an end. To ensure the assessment process is a stepping stone rather than an end-point, clinical priorities, and developmental targets for improving pragmatic competence and quality of life should be clearly stated. This should be accompanied by practical points detailing who is responsible for each action and how and when the effectiveness of any intervention will be monitored.

4. Conclusions and future directions

In this chapter we have reviewed the clinical process for the assessment of pragmatic competence in children with developmental disorders. We have shown how theories from developmental and social psychology can be combined with theories rooted in cognitive and linguistic research on pragmatics to generate a framework for assessment. In this section we set out our opinions regarding the future of research and practice in this area.

We note that there is very little empirical evidence available on what constitutes typical practice for the assessment of clinical pragmatics in children with developmental disorders. Professional organisations such as the Royal College of Speech and Language Therapists (RCSLT), or the Comité Permanent de Liaison des Orthophonistes/Logopedes de l'Union Européenne (CPOL, transl. *Standing Liaison Committee of Speech and Language Therapists/Logopedists in the European Union*) provide guidance on clinical practice and/or professional standards, however there is, to the best of our knowledge, no existing research into the extent to which recommendations made by professional bodies regarding assessment for this particular group are actually implemented.

Likewise, there is a paucity of evidence regarding the way in which research in developmental pragmatics influences the clinical assessment process. The basic outline of theory-informed practice in this chapter is based on expert evidence of a research active speech and language therapist, who has extensive experience of clinical practice with children who have developmental pragmatic impairments. However, expert opinion, while valuable in its own right, cannot be regarded as a substitute for systematic research (Greenhalgh 2014). Previous work investigating the rationale behind interventions used with children with speech, language and communication needs found that practitioners tended not to explicitly refer to theory (Roulstone et al. 2010). It would be interesting to investigate how far this is true for assessment of pragmatics. Clinical practice is, understandably, somewhat behind in terms of the latest developments in the field of pragmatics, partly because of issues of relevance and reasonable caution, and partly due to patchy dissemination of the latest thinking.

Closer collaboration between researchers and clinicians is therefore a promising avenue for future work on assessment of pragmatics in children with developmental disorders. We discussed two examples of how tools initially designed for research have been co-opted for use in clinical assessments (Strange Stories and TOPICC), and of course there are many more potential examples in the research literature. Moreover, many of the same indirect and direct assessment batteries we have discussed are used in research contexts, but for different aims. In research, the aim of assessment of pragmatic ability is usually to address a specific research question, either by exploring the nature of pragmatic impairments, testing hypotheses suggested by various theories, or looking at the life outcomes associated with

having a pragmatic impairment. Some or all of this research has the potential to be informative to the clinician, particularly in relation to the development of assessment protocols and interventions supported by empirical evidence. However, implications for interventions from research findings are often more trumpeted than implemented and we suggest that collaboration in the earliest stages of research design could enable the potential impact of research on clinical practice to be more effectively realised.

References

- Adams, Catherine
2001 Clinical diagnostic and intervention studies of children with semantic-pragmatic language disorder. *International Journal of Language and Communication Disorders* 36(3): 289–305.
- Adams, Catherine
2002 Practitioner review: The assessment of language pragmatics. *Journal of Child Psychology and Psychiatry* 36: 289–306.
- Adams, Catherine
2014 Assessment and intervention for children with pragmatic language impairment. In: Deborah A. Hwa-Froelich (ed.), *Social Communication Development and Disorders*, 141–170. New York/Hove: Psychology Press.
- Adams, Catherine and Jacqueline Gaile
2016 *The SCIP Manual: Managing Children's Pragmatic and Social Communication Needs in the Early School Years*. Manchester, UK: Napier Hill Press.
- Adams, Catherine, Jacqueline Gaile, Elaine Lockton and Jenny Freed
2011 Targeted observation of pragmatics in children's conversations (TOPICC): Adapting a research tool into a clinical assessment profile. *Speech and Language Therapy in Practice* 2: 7–10.
- Adams, Catherine, Jacqueline Gaile, Elaine Lockton and Jenny Freed
2015 Integrating language, pragmatics, and social intervention in a single-subject case study of a child with a developmental social communication disorder. *Language, Speech, and Hearing Services in Schools* 46(4): 294–311.
- Adams, Catherine, Jonathan Green, Anne Gilchrist and Anthony Cox
2002 Conversational behaviour of children with Asperger syndrome and conduct disorder. *Journal of Child Psychology and Psychiatry* 43: 679–690.
- Adams, Catherine, Elaine Lockton, Jenny Freed, Jacqueline Gaile, Gillian Earl, Kirsty McBean, Marysia Nash, Jonathan Green, Andy Vail and James Law
2012 The Social Communication Intervention Project: A randomized controlled trial of the effectiveness of speech and language therapy for school-age children who have pragmatic and social communication problems with or without autism spectrum disorder. *International Journal of Language & Communication Disorders* 47(3): 233–244.

- American Psychiatric Association
2013 *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*. Washington: American Psychiatric Association.
- Angold, Adrian, E. Jane Costello and Alaattin Erkanli
1999 Comorbidity. *Journal of Child Psychology and Psychiatry* 40(1): 57–87.
- Austin, John L.
1962 *How to Do Things with Words*. Cambridge, MA: Harvard University Press.
- Baltaxe, Christiane A. M.
1977 Pragmatic deficits in the language of autistic adolescents. *Journal of Pediatric Psychology* 2(4): 176–180.
- Baltaxe, Christiane A. M. and Nora D'Angiola
1992 Cohesion in the disclosure interaction of autistic, specifically language-impaired, and normal children. *Journal of Autism and Developmental Disorders* 22(1): 1–21.
- Baron-Cohen, Simon
1995 *Mindblindness: An Essay on Autism and Theory of Mind*. Cambridge, MA: MIT Press
- Bartak, Lawrence and Michael Rutter
1974 The use of personal pronouns by autistic children. *Journal of Autism and Childhood Schizophrenia* 4(3): 217–222.
- Bishop, Dorothy V. M.
2000 Pragmatic language impairment: A correlate of SLI, a distinct subgroup, or part of the autistic continuum? In: Dorothy V. M. Bishop and Laurence B. Leonard (eds.), *Speech and Language Impairments in Children: Causes, Characteristics, Intervention and Outcome*, 99–113. Hove: Psychology Press.
- Bishop, Dorothy V. M.
2003 *The Children's Communication Checklist: CCC-2 Manual*. London: Harcourt Assessment.
- Bishop, Dorothy V. M. and Catherine Adams
1989 Conversational characteristics of children with semantic-pragmatic disorder. II. What features lead to a judgement of inappropriacy? *British Journal of Disorders of Communication* 24: 241–263.
- Bishop, Dorothy V. M. and Catherine Adams
1992 Comprehension problems in children with specific language impairment: Literal and inferential meaning. *Journal of Speech and Hearing Research* 35(1): 119–129.
- Bishop, Dorothy V. M. and Gillian Baird
2001 Parent and teacher report of pragmatic aspects of communication: Use of the Children's Communication Checklist in a clinical setting. *Developmental Medicine and Child Neurology* 43: 809–818.
- Bishop, Dorothy V. M., Janet Chan, Catherine Adams, Joanne Hartley and Fiona Weir
2000 Conversational responsiveness in specific language impairment: Evidence of disproportionate pragmatic difficulties in a subset of children. *Development and Psychopathology* 12(2): 177–199.
- Bishop, Dorothy V. M. and Courtenay Norbury
2005 Executive functions in children with communication impairments, in relation to autistic symptomatology. 1: Generativity. *Autism* 9(1): 7–27.

Boucher, Jill

- 1998 SPD as a distinct diagnostic entity: Logical considerations and directions for future research. *International Journal of Language and Communication Disorders* 33(1): 71–81.

Brinton, Bonnie and Martin Fujiki

- 1993 Language, social skills, and socioemotional behavior. Clinical Forum: Language and social skills in the school age population. *Language Speech, and Hearing Services in Schools* 24: 194–198.

Brinton, Bonnie, Martin Fujiki and Lara McKee

- 1998 Negotiation skills of children with specific language impairment. *Journal of Speech, Language, and Hearing Research* 41(4): 927–940.

Brinton, Bonnie, Matthew P. Spackman, Martin Fujiki and Jenny Ricks

- 2007 What should Chris say? The ability of children with specific language impairment to recognize the need to dissemble emotions in social situations. *Journal of Speech, Language, and Hearing Research* 50(3): 798–811.

Brock, Jon, Courtenay Norbury, Shiri Einav and Kate Nation

- 2008 Do individuals with autism process words in context? Evidence from language-mediated eye-movements. *Cognition* 108(3): 896–904.

Camarata, Stephen M. and Terrie Gibson

- 1999 Pragmatic language deficits in attention-deficit hyperactivity disorder (ADHD). *Mental Retardation and Developmental Disabilities Research Reviews* 5(3): 207–214.

Capps, Lisa, Jennifer Kehres and Marian Sigman

- 1998 Conversational abilities among children with autism and children with developmental delays. *Autism* 2(4): 325–344.

Capps, Lisa, Molly Losh and Christopher Thurber

- 2000 “The frog ate a bug and made his mouth sad”: Narrative competence in children with autism. *Journal of Abnormal Child Psychology* 28: 193–204.

Carrow-Woolfolk, Elizabeth

- 1999 *Comprehensive Assessment of Spoken Language (CASL)*. Circle Pines, MN: American Guidance Service.

Conti-Ramsden, Gina

- 2008 Heterogeneity of specific language impairment in adolescent outcomes. In: Courtenay F. Norbury, J. Bruce Tomblin and Dorothy V. M. Bishop (eds.), *Understanding Developmental Language Disorders: From Theory to Practice*, 115–129. Hove: Psychology Press.

Coplan, Robert J. and Murray Weeks

- 2009 Shy and soft-spoken: Shyness, pragmatic language, and socio-emotional adjustment in early childhood. *Infant and Child Development* 18(3): 238–254.

Cummings, Louise

- 2009 *Clinical Pragmatics*. Cambridge: Cambridge University Press.

De Rosnay, Marc and Claire Hughes

- 2006 Conversation and theory of mind: Do children talk their way to socio-cognitive understanding? *British Journal of Developmental Psychology* 24(1): 7–37.

- Diehl, Joshua J., Loisa Bennetto and Edna C. Young
2006 Story recall and narrative coherence of high-functioning children with autism spectrum disorders. *Journal of Abnormal Child Psychology* 34: 83–98.
- Douglas, Jacinta M.
2010 Relation of executive functioning to pragmatic outcome following severe traumatic brain injury. *Journal of Speech Language and Hearing Research* 53: 365–382.
- Dworzynski, Katharina, Angelica Ronald, Patrick Bolton and Francesca Happé
2012 How different are girls and boys above and below the diagnostic threshold for autism spectrum disorders? *Journal of the American Academy of Child and Adolescent Psychiatry* 51(8): 788–797.
- Emerich, David M., Nancy A. Creaghead, Sandra M. Grether, Donna Murray and Carol Grasha
2005 The comprehension of humorous materials by adolescents with high-functioning autism and Asperger's syndrome. *Journal of Autism and Developmental Disorders* 33(3): 253–257.
- Frith, Uta and Maggie J. Snowling
1983 Reading for meaning and reading for sound in autistic and dyslexic children. *British Journal of Developmental Psychology* 1(4): 342–349.
- Gallagher, Tanya
1990 Clinical pragmatics: Expectations and realizations. *Journal of Speech-Language Pathology* 14(1): 3–6.
- Gerber, Sima, Alejandro Brice, Nina Capone, Martin Fujiki and GERALYN Timler
2012 Language use in social interactions of school-age children with language impairments: An evidence-based systematic review of treatment. *Language, Speech, and Hearing Services in Schools* 43(2): 235–249.
- Geurts, Hilde M. and Mariëtte Embrechts
2008 Language profiles in ASD, SLI, and ADHD. *Journal of Autism and Developmental Disorders* 38(10): 1931–1943.
- Gibson, Jenny L., Catherine Adams, Elaine Lockton and Jonathan Green
2013 Social communication disorder outside autism? A diagnostic classification approach to delineating pragmatic language impairment, high functioning autism and specific language impairment. *Journal of Child Psychology and Psychiatry* 54: 1186–1197.
- Gilmour, Jane, B. H. Clear Hill, Maurice Place and David H. Skuse
2004 Social communication deficits in conduct disorder: A clinical and community survey. *Journal of Child Psychology and Psychiatry* 45(5): 967–978.
- Granic, Isabela and Tom Hollenstein
2006 A survey of dynamic systems methods for developmental psychopathology. In: Dante Cicchetti and Donald Cohen (eds.), *Developmental Psychopathology: Theory and Method*, 890–926. Hoboken, NJ: John Wiley and Sons.
- Greenhalgh, Trisha
2014 *How to Read a Paper: The Basics of Evidence-Based Medicine* (5th ed.). London: BMJ Books.
- Gresham, Frank M., George Sugai and Robert H. Horner
2001 Interpreting outcomes of social skills training for students with high-incidence disabilities. *Exceptional Children* 67(3): 331–344.

Grice, H. Paul

- 1975 Logic and conversation. In: Peter Cole and Jerry Morgan (eds.), *Studies in Syntax and Semantics*, Volume 3: *Speech Acts*, 41–58. New York: Academic Press.

Happé, Francesca

- 1994 An advanced test of theory of mind: Understanding of story characters' thoughts and feelings by able autistic, mentally handicapped, and normal children and adults. *Journal of Autism and Developmental Disorders* 2: 129–154.

Hartley, Leila L. and Paul J. Jensen

- 1991 Narrative and procedural discourse after closed head injury. *Brain Injury* 5(3): 267–285.

Haywood, H. Carl and Carol S. Lidz

- 2007 *Dynamic Assessment in Practice: Clinical and Educational Applications*. Cambridge: Cambridge University Press.

Hoy, James A., Chris Hatton and Douglas Hare

- 2004 Weak central coherence: A cross-domain phenomenon specific to autism? *Autism* 8(3): 267–281.

Hwa-Froelich, Deborah A.

- 2012 Childhood maltreatment and communication development. *SIG 16 Perspectives on School-Based Issues* 13(2): 43–53.

Hwa-Froelich, Deborah A. (ed.)

- 2014 *Social Communication Development and Disorders*. New York: Psychology Press.

Jolliffe, Therese and Simon Baron-Cohen

- 1999a A test of central coherence theory: Linguistic processing in high-functioning adults with autism or Asperger syndrome: Is local coherence impaired? *Cognition* 71(2): 149–185.

Jolliffe, Therese and Simon Baron-Cohen

- 1999b The Strange Stories Test: A replication with high-functioning adults with autism or Asperger syndrome. *Journal of Autism and Developmental Disorders* 29(5): 395–406.

Jolliffe, Therese and Simon Baron-Cohen

- 2001 A test of central coherence theory: Can adults with high-functioning autism or Asperger syndrome integrate objects in context? *Visual Cognition* 8(1): 67–101.

Joseph, Robert M., Lauren M. McGrath and Helen Tager-Flusberg

- 2005 Executive dysfunction and its relation to language ability in verbal school-age children with autism. *Developmental Neuropsychology* 27(3): 361–378.

Karmiloff-Smith, Annette

- 1998 Development itself is the key to understanding developmental disorders. *Trends in Cognitive Sciences* 2(10): 389–398.

Karmiloff-Smith, Annette

- 2009 Nativism versus neuroconstructivism: Rethinking the study of developmental disorders. *Developmental Psychology* 45(1): 56–63.

Katsos, Napoleon, Clara A. Roqueta, Rosa A. C. Estevan and Chris Cummins

- 2011 Are children with Specific Language Impairment competent with the pragmatics and logic of quantification? *Cognition* 119: 43–57.

- Kersner, Myra and Jannet A. Wright
2012 *Speech and Language Therapy: The Decision-Making Process When Working with Children*. Abingdon: Routledge.
- Ketelaars, Mieke, Juliane Cuperus, Kino Jansonius and Ludo Verhoeven
2010 Pragmatic language impairment and associated behavioural problems. *International Journal of Language and Communication Disorders* 2: 204–214.
- Law, James, Robert Rush, Judy Clegg, Tim Peters and Susan Roulstone
2015 The role of pragmatics in mediating the relationship between social disadvantage and adolescent behavior. *Journal of Developmental and Behavioral Pediatrics* 36(5): 389–398.
- Lee, Anthony, Peter Hobson and Shulamuth Chiat
1994 I, you, me, and autism: An experimental study. *Journal of Autism and Developmental Disorders* 24(2): 155–176.
- Leekam, Susan and Margot Prior
1994 Can autistic children distinguish lies from jokes? A second look at second-order belief attribution. *Journal of Child Psychology and Psychiatry* 35(5): 901–915.
- Lockton, Elaine, Catherine Adams and Anna Collins
2016 Do children with social communication disorder have explicit knowledge of pragmatic rules they break? A comparison of conversational pragmatic ability and metapragmatic awareness. *International Journal of Language and Communication Disorders* 51(5): 508–517.
- Lord, Catherine, Susan Risi, Linda Lambrecht, Edwin H. Cook Jr., Bennett L. Leventhal, Pamela C. DiLavore, Andrew Pickles and Michael Rutter
2000 The autism diagnostic observation schedule generic: A standard measure of social and communication deficits associated with the spectrum of autism. *Journal of Autism and Developmental Disorders* 30: 205–223.
- Mackie, Leila and James Law
2010 Pragmatic language and the child with emotional/behavioural difficulties (EBD): A pilot study exploring the interaction between behaviour and communication disability. *International Journal of Language and Communication Disorders* 45(4): 397–410.
- Mandy, William, Adele Qi Wang, Irene L. Y. Lee and David H. Skuse
2017 Evaluating social (pragmatic) communication disorder. *Journal of Child Psychology and Psychiatry* 58(10): 1166–1175.
- Manso, Juan M. M., Ma Elena García-Baamonde, Macarena Blázquez Alonso and Eloísa Guerrero Barona
2010 Pragmatic language development and educational style in neglected children. *Children and Youth Services Review* 32(7): 1028–1034.
- Matthews, Danielle (ed.)
2014 *Pragmatic Development in First Language Acquisition*. Amsterdam: John Benjamins Publishing Company.
- McCann, Joanne and Sue J. E. Peppé
2003 Prosody in autism spectrum disorders: A critical review. *International Journal of Language and Communication Disorders* 38(4): 325–350.

- McDonald, Skye
1993 Pragmatic language loss after closed head injury: Ability to meet the informational needs of the listener. *Brain and Language* 44: 28–46.
- McEvoy, Robin E., Sally J. Rogers and Bruce F. Pennington
2006 Executive function and social communication deficits in young autistic children. *Journal of Child Psychology and Psychiatry* 34: 563–578.
- McTear, Michael F. and Gina Conti-Ramsden
1992 *Pragmatic Disability in Children*. London: Whurr.
- Noens, Ilse L. J. and Ina A. van Berckelaer-Onnes
2005 Captured by details: Sense-making, language and communication in autism. *Journal of Communication Disorders* 38: 123–141.
- Norbury, Courtenay
2004 Factors supporting idiom comprehension in children with communication disorders. *Journal of Speech Language and Hearing Research* 47(5): 1179–1193.
- Norbury, Courtenay
2005 The relationship between theory of mind and metaphor: Evidence from children with language impairment and autistic spectrum disorder. *British Journal of Developmental Psychology* 23: 383–399.
- Norbury, Courtenay
2014a Atypical pragmatic development. In: Danielle Matthews (ed.), *Pragmatic Development in First Language Acquisition*, 343–362. Amsterdam: John Benjamins Publishing Company.
- Norbury, Courtenay
2014b Practitioner review: Social (pragmatic) communication disorder conceptualization, evidence and clinical implications. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 55: 204–216.
- Norbury, Courtenay, Marysia Nash, Gillian Baird and Dorothy V. M. Bishop
2004 Using a parental checklist to identify diagnostic groups in children with communication impairment: A validation of the Children’s Communication Checklist-2. *International Journal of Language and Communication Disorders* 39(3): 345–364.
- Norbury, Courtenay and Alison Sparks
2013 Difference or disorder? Cultural issues in understanding neurodevelopmental disorders. *Developmental Psychology* 49(1): 45–58.
- O’Neill, Daniela K.
2007 The language use inventory for young children: A parent-report measure of pragmatic language development for 18- to 47-month-old children. *Journal of Speech, Language, and Hearing Research* 50(1): 214–228.
- O’Neill, Daniela K.
2014 Assessing pragmatic language functioning in young children: Its importance and challenges In: Danielle Matthews (ed.), *Pragmatic Development in First Language Acquisition*, 363–386. Amsterdam: John Benjamins Publishing Company.
- Parsons, Lauren, Reinie Cordier, Natalie Munro, Annette Joosten and Renée Speyer
2017 A systematic review of pragmatic language interventions for children with autism spectrum disorder. *PLoS One* 12(4): e0172242.

- Paul, Rhea, Amy Augustyn, Ami Klin and Fred Volkmar
2005 Perception and production of prosody by speakers with autism spectrum disorders. *Journal of Autism and Developmental Disorders* 35(2): 205–220.
- Paul, Rhea, Courtenay Norbury and Carolyn Gosse
2018 *Language Disorders from Infancy through Adolescence: Listening, Speaking, Reading, Writing, and Communicating*. St. Louis: Elsevier.
- Paul, Rhea, Stephanie M. Orlovski, Hilary C. Marcinko and Fred Volkmar
2009 Conversational behaviors in youth with high-functioning ASD and Asperger syndrome. *Journal of Autism and Developmental Disorders* 39(1): 115–125.
- Paul, Rhea and Kaitlyn Wilson
2009 Assessing speech, language and communication in autism spectrum disorders. In: Sam Goldstein, Jack Naglieri and Sally Ozonoff (eds.), *Assessment of Autism Spectrum Disorders*, 171–208. New York: The Guilford Press.
- Perkins, Michael
2007 *Pragmatic Impairment*. New York: Cambridge University Press.
- Phelps-Terasaki, Diana and Trisha Phelps-Gunn
2007 *(TOPL-2) Test of Pragmatic Language, Second Edition*. Torrance, CA: WPS.
- Rajendran, Gnanathusharan, Peter Mitchell and Hugh Rickards
2005 How do individuals with Asperger syndrome respond to nonliteral language and inappropriate requests in computer-mediated communication? *Journal of Autism and Developmental Disorders* 35(4): 429–443.
- Rapin, Isabelle
2006 Practitioner review: Developmental language disorders: A clinical update. *Journal of Child Psychology and Psychiatry* 37: 643–655.
- Rapin, Isabelle and Doris A. Allen
1987 Developmental dysphasia and autism in preschool children: Characteristics and subtypes. In: *Proceedings of First International Symposium on Specific Speech and Language Disorders in Children*, 20–35. Brentford, UK: Association for All Speech Impaired Children.
- Rapin, Isabelle and Doris A. Allen
1998 The semantic-pragmatic deficit disorder: Classification issues. *International Journal of Language and Communication Disorders* 33(1): 82–87.
- Roulstone, Sue E., Julie E. Marshall, Gaye G. Powell, Juliet Goldbart, Yvonne E. Wren, Jane Coad, Norma Daykin, Jane E. Powell, Linda Lascelles, William Hollingworth, Alan Emond, Tim J. Peters, Jon I. Pollock, Cres Fernandes, Jenny Moultrie, Sam A. Harding, Lydia Morgan, Helen F. Hambly, Naomi K. Parker and Rebecca A. Coad
2015 Evidence-based intervention for preschool children with primary speech and language impairments: Child Talk – an exploratory mixed-methods study. *Programme Grants for Applied Research* 3(5). Southampton: National Institute for Health Research.
- Roulstone, Sue, Yvonne Wren, Ioanna Bakopoulou, Susan Goodlad and Geoff Lindsay
2010 *Exploring Interventions for Children and Young People with Speech, Language and Communication Needs: A Study of Practice*. London: Department for Education.

Rutter, Michael

- 2008 Diagnostic concepts and risk processes. In: Courtenay F. Norbury, J. Bruce Tomblin and Dorothy V. M. Bishop (eds.), *Understanding Developmental Language Disorders: From Theory to Practice*, 205–215. Hove: Psychology Press.

Searle, John

- 1969 *Speech Acts*. Cambridge: Cambridge University Press.

Shriberg, Lawrence D., Rhea Paul, Jane L. McSweeney, Ami Klin, Donald J. Cohen and Fred R. Volkmar

- 2001 Speech and prosody characteristics of adolescents and adults with high-functioning autism and Asperger syndrome. *Journal of Speech, Language Speech and Hearing Research* 44(5): 1097–1115.

Skuse, David H.

- 2012 DSM-5's Conceptualization of autistic disorders. *Journal of the American Academy of Child and Adolescent Psychiatry* 51(4): 344–346.

Slade, G.

- 2014 *Diverse Perspectives: The Challenges for Families Affected by Autism from Black, Asian and Minority Ethnic Communities*. London: National Autistic Society.

Smith, Benita R. and Eeva Leinonen

- 1992 *Clinical Pragmatics: Unravelling the Complexities of Communicative Failure*. London: Chapman and Hall.

Speltz, Matthew L., Michelle DeKlyen, Rose Calderon, Mark T. Greenberg and Philip A. Fisher

- 1999 Neuropsychological characteristics and test behaviors of boys with early onset conduct problems. *Journal of Abnormal Psychology* 108(2): 315–325.

Sperber, Dan and Deirdre Wilson

- 1995 *Relevance: Communication and Cognition* (2nd ed.). Oxford: Blackwell Publishing.

Surian, Luca, Simon Baron-Cohen and Heather van der Lely

- 1996 Are children with autism deaf to Gricean maxims? *Cognitive Neuropsychiatry* 1(1): 55–72.

Tager-Flusberg, Helen

- 1996 Current theory and research on language and communication in autism. *Journal of Autism and Developmental Disorders* 26: 169–172.

Tager-Flusberg, Helen

- 1999 A psychological approach to understanding the social and language impairments in autism. *International Review of Psychiatry* 11(4): 325–334.

Tannock, Rosemary and Russell Schachar

- 1996 Executive dysfunction as an underlying mechanism of behavior and language problems in attention deficit hyperactivity disorder. In: Joseph Beitchman, Nancy Cohen, Mary Konstantareas and Rosemary Tannock (eds.), *Language, Learning and Behavior Disorders*, 128–155. Cambridge: Cambridge University Press.

Thomas, Michael and Annette Karmiloff-Smith

- 2002 Are developmental disorders like cases of adult brain damage? Implications from connectionist modelling. *Behavioral and Brain Sciences* 25(6): 727–750.

- Volden, Joanne, Jamesie Coolican, Nancy Garon, Julie White and Susan Bryson
2009 Brief report: Pragmatic language in autism spectrum disorder: Relationships to measures of ability and disability. *Journal of Autism and Developmental Disorders* 39(2): 388–393.
- Volden, Joanne and Catherine Lord
1991 Neologisms and idiosyncratic language in autistic speakers. *Journal of Autism and Developmental Disorders* 21(2): 109–130.
- Volden, Joanne, Joyce Magill-Evans, Keith Goulden and Margaret Clarke
2007 Varying language register according to listener needs in speakers with autism spectrum disorder. *Journal of Autism and Developmental Disorders* 37(6): 1139–1154.
- Vygotsky, Lev
1978 *Mind in Society*. Cambridge, MA: Harvard University Press.
- Wetherby, Amy and Carol Prutting
1984 Profiles of communicative and cognitive-social abilities in autistic children. *Journal of Speech and Hearing Research* 27: 364–377.
- Whitehouse, Andrew J. O., Helen J. Watt, E. A. Line and Dorothy V. M. Bishop
2009 Adult psychosocial outcomes of children with specific language impairment, pragmatic language impairment and autism. *International Journal of Language and Communication Disorders* 44: 511–528.
- WHO
2007 *International Classification of Functioning, Disability and Health: Version for Children and Youth*.
- Wiig, Elisabeth H. and Wayne Secord
2014 *Clinical Evaluation of Language Fundamentals, CELF-5: Metalinguistics*. London: Pearson Education.
- Wright, Jordan
2014 *Conducting Psychological Assessment*. Hoboken, NJ: John Wiley and Sons.
- Ziatas, Kathryn, Kevin Durkin and Chris Pratt
2003 Differences in assertive speech acts produced by children with autism, Asperger syndrome, specific language impairment, and normal development. *Development and Psychopathology* 15: 73–94.

Contributors

Anne Barron is Professor of English linguistics at the Leuphana University of Lüneburg. She publishes in the areas of second language pragmatics, variational pragmatics, the pragmatics of Irish English, corpus pragmatics and contrastive genre analysis. Within second language pragmatics, her focus has been on pragmatic development, the study abroad context, and on the use of corpora to analyse and teach second language pragmatics. Recent publications include *Public Information Messages* (2012, Benjamins), the special issues *Pragmatic Development and Stay Abroad* (*Journal of Pragmatics*, 2019) and *A Variational Pragmatic Approach to Regional Variation in Language* (*Multilingua*, 2015) and the edited handbooks *The Routledge Handbook of Pragmatics* (2017, Routledge, co-editors: Y. Gu and G. Steen) and *Pragmatics of Discourse* (2014, De Gruyter, co-editor: K.P. Schneider). Her work has also appeared in a range of journals, such as *Intercultural Pragmatics*, *Journal of Pragmatics*, *Language Teaching*, *Multilingua*, *System* and *World Englishes*.

Nancy D. Bell is Professor and coordinator of the ESL program in the English Department at Washington State University. Her research interests center mainly on the discourse analytic investigation of conversational humor, language play, and linguistic creativity, especially with respect to second language users. Her books include *We are not Amused: Failed Humor in Interaction* and, with Anne Pomerantz, *Humor in the Classroom: A Guide for Language Teachers and Educational Researchers*. She is also the editor of the Mouton de Gruyter series, *Language Play and Creativity*.

Marisa Casillas, PhD (Stanford University), is a postdoctoral researcher in the Language Development Department at the Max Planck Institute for Psycholinguistics. Her research examines the relationship between communicative skills and linguistic processing in children and adults. She investigates these topics using a combination of experiment- and observation-based methods in both Western and non-Western populations.

Livia Colle, PhD in Psychology, Assistant Professor in the Psychology Department, University of Turin, Italy. She is also specialized in Cognitive Psychotherapy. Her research approach is at the intersection of social cognition and psychopathology, studying the specific deficit in social interaction and communication in different pathologies, such as autism, schizophrenia and personality disorders.

<https://doi.org/10.1515/9783110431056-023>

Louise Cummings is Professor in the Department of English at The Hong Kong Polytechnic University. She teaches and conducts research in pragmatics and clinical linguistics, and is the author and editor of several books in these areas, including *Clinical Pragmatics* (Cambridge University Press, 2009), *Communication Disorders* (Palgrave Macmillan, 2014), *Pragmatic Disorders* (Springer, 2014), *The Cambridge Handbook of Communication Disorders* (Cambridge University Press, 2014), *Case Studies in Communication Disorders* (Cambridge University Press, 2016), *Research in Clinical Pragmatics* (Springer, 2017), and *Speech and Language Therapy: A Primer* (Cambridge University Press, 2018). Professor Cummings has been a Visiting Fellow in the Department of Philosophy at Harvard University, and the Centre for Research in the Arts, Social Sciences and Humanities (CRASSH) at Cambridge University. She is a member of the Royal College of Speech and Language Therapists and the Health & Care Professions Council in the UK.

J. César Félix-Brasdefer is Professor of Linguistics and Spanish at Indiana University, Bloomington, USA. His research interests include pragmatics, discourse analysis, instruction of pragmatics, im/politeness, and intercultural pragmatics. He has published several books, edited volumes, numerous peer-reviewed journals, book chapters, and articles for handbooks. He is the author of *The Language of Service Encounters: A Pragmatic Discursive Approach* (2015, Cambridge University Press) and *Spanish Pragmatics (Pragmática del español: contexto, uso y variación)*, (2019, Routledge). He co-edited a volume on pragmatic variation and service encounter discourse (2020, Routledge). He is currently co-editing the *Routledge Handbook of Spanish Pragmatics* (Routledge, 2020). He served as the Executive Secretary of the American Pragmatics Association (AMPRA) and is currently on the editorial boards of several prestigious presses, including the *Journal of Pragmatics*, *Spanish in Context*, and *Applied Pragmatics*.

Susan Foster-Cohen is Director of The Champion Centre, an early intervention center for infants and young children with developmental delays and their families. She is Adjunct Associate Professor of Linguistics at the University of Canterbury, New Zealand and a member of the New Zealand Institute of Language, Brain and Behaviour. Susan's research interests span typical and atypical language development in early childhood with a focus on pragmatic development in clinical contexts.

Annette Gerstenberg is Full Professor of Romance Linguistics at University of Potsdam. She is co-founder of Corpora for Language and Aging Research (CLARe). Since 2005, she has built the corpus LangAge comprised of narrative interviews with older French speakers. Her work covers related theoretical and terminological questions (generation, normal aging, language change) as well as the study of

linguistic variables. Another area of interest is language in Computer-Mediated Communication (CMC). Her publications include a monograph *Generation und Sprachprofil*, 2011 (Klostermann, Analecta 76), an co-edited volume *Language Development: the Lifespan Perspective*, 2015 with Anja Voeste (Benjamins, Impact 37), a co-edited special issue of *Linguistics Vanguard*, 2019 with Camilla Lindholm (De Gruyter), and, among others, papers in *Cahiers de linguistique française*, *International Journal of the Sociology of Language*, *Journal of Historical Pragmatics*, *Narrative Inquiry*, *Revue de linguistique romane*, and *Romanische Forschungen*.

Jenny Gibson PhD, is a Lecturer in Psychology and Education at the Faculty of Education, University of Cambridge, UK. Jenny is a principal investigator in the centre for research on Play in Education, Development and Learning (PEDAL) where she leads the *Social Play, Social Lives* group investigating the role of play in children's linguistic, social and emotional development. Jenny completed her PhD at the School of Psychological Sciences, University of Manchester and went on to do postdoctoral research in the Developmental Psychiatry group, University of Cambridge. Jenny is a qualified member of the Royal College of Speech and Language Therapists and her clinical research is focused on the social and communication needs of children with autism and developmental language disorders.

Marta González-Lloret is a Professor at the University of Hawai'i Manoa. Her research interests lie at the intersections of technology and TBLT (Task-based Language Teaching), technology and L2 pragmatics, Conversation Analysis for L2 interaction, and performance-based assessment. Her work has appeared in volumes for John Benjamins, Blackwell, Multilingual Matters, and Cambridge Scholars Press as well as national and international journals. Her most recent book is a co-edited volume with M. Vinagre on computer-mediated communication (Equinox, 2018). In the area of Pragmatics Dr. González-Lloret, was the editor for the volume on *Pragmatics* in the Wiley *Encyclopedia of Applied Linguistics* (2012, Carol Chapelle, General Editor) and is currently editing a Special Issue for *CALICO Journal on the Interface of Interlanguage (L2) Pragmatics and Digital Spaces* with J. Sykes. She is the Editor of the *Pragmatics & Language Learning NFLRC* book series as well as co-editor of the Elsevier *System Journal*.

Heidi E. Hamilton is Professor in the Department of Linguistics, Georgetown University where she teaches courses from the perspective of interactional sociolinguistics in the analysis of conversation and narrative, institutional discourse, epistemics and intertextuality. Her research interests focus on issues of discourse and dementia, language and aging, and health discourse. Her books include *Language, Dementia and Meaning Making: Navigating Challenges of Cognition and Face in Everyday Life*; *Conversations with an Alzheimer's Patient: An Interactional Sociolinguistic Study*; *Language and Communication in Old Age: Multi-*

disciplinary Perspectives; *Wiley-Blackwell Handbook of Discourse Analysis* (with Tannen and Schiffrin); *Linguistics, Language, and the Professions* (with Alatis and Tan); and *Routledge Handbook of Language and Health Communication* (with Chou). Her academic awards include the Fulbright Distinguished Chair in Linguistics (Innsbruck, Austria); German Academic Exchange Service visiting professorship (Berlin, Germany); and the Humboldt Research Prize (Potsdam, Germany).

Elma Hilbrink PhD, (Cardiff University), has worked as a postdoctoral researcher in the Language and Cognition department at the Max Planck Institute for Psycholinguistics. Her work focuses on early communicative development. In particular, the acquisition of conversational turn-taking and turn-timing in communicative development. She currently holds a teaching position at the Radboud University and works at stichting Babywerk and Baby-LinQ where she links science with society by making scientific knowledge accessible for professionals and parents.

Elly Ifantidou is Professor in Language and Linguistics at the Department of English Language and Literature of the National and Kapodistrian University of Athens. She holds a Ph.D. in Linguistics (University College London) and an M.Phil. in Linguistics (University of Cambridge). She is the author of *Evidentials and Relevance* (2001, John Benjamins), *Genres and Pragmatic Understanding* (2011, Patakis Publishers) and *Pragmatic Competence and Relevance* (2014, John Benjamins). Her publications include articles in journals such as *Journal of Pragmatics*, *Pragmatics and Cognition*, *Pragmatics*, *International Review of Pragmatics*, *Functions of Language*, *Lingua*, and in edited volumes published by John Benjamins, De Gruyter Mouton, Cambridge University Press. Her research interests are in semantics, pragmatics, pragmatic development in first and second language acquisition.

Naoki Ikeda teaches quantitative methods in the Master of Applied Linguistics at the University of Melbourne. He holds a PhD in Applied Linguistics from the University of Melbourne. His research interests include speaking assessments, quantitative and qualitative discourse analyses, and second language pragmatics. His research has addressed issues of practicality and construct coverage of an interactional test for L2 oral pragmatic performance.

Napoleon Katsos is interested in how children and adults learn and process the meaning of words and sentences. He aims to contribute to the relevant linguistic theory using evidence from sentence processing, typical and atypical language acquisition by monolingual or bilingual children, and the relation between language and executive functions. Napoleon is among the first scholars that were trained in the now flourishing interdisciplinary area of experimental pragmatics. He received his PhD from the University of Cambridge and conducted research in

child language acquisition at the University of Oxford before returning to Cambridge. His more recent work includes the *Handbook of Experimental Semantics and Pragmatics* (2019, OUP), co-edited with Chris Cummins. Beyond experimental pragmatics, his other work is motivated by gaps in research on bilingual children with developmental disorders such as autism and ADHD, and the keen interest by families, educators and clinicians to understand what the best linguistic practice is for these children.

Alicia Martínez-Flor is a Senior Lecturer in Applied Linguistics at Universitat Jaume I (Castellón, Spain). Her main research interests include interlanguage pragmatics and language teaching and learning. Some of her work has appeared in international journals such as *Canadian Journal of Applied Linguistics* and *Foreign Language Annals*. She has co-edited several volumes, including *Current Trends in the Development and Teaching of the Four Language Skills* (Mouton de Gruyter, 2006), *Pragmatics in Foreign Language Learning, Teaching and Testing* (Multilingual Matters, 2008) and *Speech Act Performance: Theoretical, Empirical and Methodological Issues* (John Benjamins, 2010).

Tomoko Matsui is a Professor at Tokyo Gakugei University in Tokyo, Japan. Her main research interest is psychological mechanisms involved in utterance interpretations. Recently she has carried out several research projects on developmental pragmatics, in particular, exploring interaction between language, social cognition and culture. Her publications include *Bridging and Relevance* (John Benjamins, 2000; Ichikawa Prize winner), *Evidentiality: A Window into Language and Cognitive Development* (Wiley, 2009; co-edited with Stanka Fitneva) and *Kodomo no Uso, Otona no Hiniku* ('Children's Lies and Adults' Ironies') (Iwanami Publisher, 2013).

Troy McConachy is Associate Professor in Applied Linguistics at the Centre for Applied Linguistics, University of Warwick, UK. His research focuses on intercultural issues in education, particularly the development of intercultural capabilities within language education and higher education more broadly. He draws on work in meta-pragmatics, intercultural communication, and social psychology to conceptualise the links between culture and language use, and how awareness of these links can be developed through meta-pragmatic reflection. He also examines discourses on linguistic and cultural diversity within language textbooks, intercultural training materials, and discourses on internationalisation of higher education. He has published articles in a wide variety of international journals, as well as the monograph *Developing Intercultural Perspectives on Language Use: Exploring Pragmatics and Culture in Foreign Language Learning* (Multilingual Matters, 2018).

Gloria Streit Olness PhD, is Associate Professor in the Department of Audiology & Speech-Language Pathology, faculty member of the Doctoral Program in Health Services Research in the College of Health and Public Service, and affiliated faculty in the Department of Linguistics at the University of North Texas. She is engaged in basic and clinically applied research and teaching in neurolinguistics and rehabilitative neuroplasticity, with specialized focus on discourse-based communicative profiles and personal narration of people who have aphasia. Her lines of inquiry seek to discern fundamental patterns of association and dissociation across domains of linguistic impairment, communicative activity, and communicative participation in context. She also collaborates actively in the development of evidence-based intervention, support, and advocacy for and with people who have aphasia.

Carsten Roever is Associate Professor in Applied Linguistics at the University of Melbourne. He holds a Ph.D. in Second Language Acquisition from the University of Hawai'i. His research interests include language testing, second language pragmatics, conversation analysis and quantitative research methods. He is particularly interested in learning of L2 pragmatics for languages other than English. He is the co-author (with Naoko Taguchi) of *Second Language Pragmatics* (2017, Oxford University Press) and (with Aek Phakiti) of *Quantitative Methods for Second Language Research* (2018, Routledge).

Klaus P. Schneider is Professor of Applied Linguistics in the Department of English, American and Celtic Studies at the University of Bonn, Germany. His current research focuses on pragmatic variation, pragmatic competence, meta-pragmatics, and conventions of language use in and across native, second and foreign language varieties. His publications include *Variational Pragmatics* (2008, Benjamins), *Pragmatics of Discourse* (2014, De Gruyter Mouton), both co-edited with Anne Barron, a special issues of the *Journal of Pragmatics* on "Im/politeness across Englishes" (2012, co-edited with Michael Haugh), and *Methods in Pragmatics* (2018, De Gruyter Mouton, co-edited with Andreas H. Jucker and Wolfram Bublitz). His work has also appeared in journals such as *Journal of Pragmatics*, *Intercultural Pragmatics*, *Sociolinguistic Studies*, *English World-Wide*, *Review of Cognitive Linguistics*, and *Multilingua*, and in edited volumes published by Cambridge University Press, Palgrave Macmillan, Routledge, Springer, and Wiley.

Helen Spencer-Oatey is Professor at the Centre for Applied Linguistics, University of Warwick, UK. With an educational background in both linguistics and psychology, her research lies at the interface of these two fields. Her primary research interests are in cross-cultural and intercultural pragmatics, politeness theory and rapport management, intercultural interaction, intercultural discourse, and cross-cultural psychology. She has published extensively in these areas, in journals

and elsewhere, including a number of popular books (e. g. *Culturally Speaking*, Continuum, 2000/2008; *Intercultural Interaction: A multidisciplinary approach to intercultural communication*, with Peter Franklin, Palgrave, 2009). She is currently working on a book on *Intercultural Politeness* (CUP, with Daniel Kádár). Helen is particularly committed to the applied relevance of her research, and with colleagues has developed extensive resources for practitioners, many of which are freely available via the University of Warwick's GlobalPeople website.

Michelle St Clair PhD, obtained an MSc in Reading, Language and Cognition and a PhD in Psychology at the Department of Psychology, University of York. Her PhD looked at the psycholinguistic processes behind word category learning. She subsequently worked on the Manchester Language Study with Professor Gina Conti-Ramsden at the University of Manchester. There she developed a research interest into Developmental Language Disorder, specifically in looking at long term outcomes of adolescents and adults with this pervasive and lasting disorder. She subsequently developed an expertise in the field of Developmental Psychopathology at the Department of Psychiatry at the University of Cambridge. Dr St Clair is now a Lecturer in Developmental Psychology in the Department of Psychology at the University of Bath. Her research now focuses on the nature of the relationship between Developmental Language Disorder and social communication deficits, socialisation problems, emotional regulation issues, and emotional and psychiatric outcomes.

Naoko Taguchi is Professor in the Applied Linguistics Program at Northern Arizona University. Her primary research areas include second language pragmatics, English-medium instruction, technology-assisted learning, and contexts of second language learning. Her recent books include the Routledge *Handbook of Second Language Acquisition and Pragmatics* (Routledge, 2019), *Second Language Pragmatics* (with Carsten Roever; Oxford University Press, 2017), and *Developing Interactional Competence in a Japanese Study Abroad Context* (Multilingual Matters, 2015). She is the co-editor of the new journal, *Applied Pragmatics*, and serves/has served on the editorial board for the *Studies in Second Language Acquisition*, *Modern Language Journal*, *Language Teaching*, *Contrastive Pragmatics*, *Japanese SLA*, *Study Abroad Research in Second Language Education and International Education*, and *Studies of Chinese Language Teaching Journal*. She is also a member of the Executive Board of AAAL.

Hanna K. Ulatowska PhD, is Professor in the School of Behavioral and Brain Sciences, University of Texas at Dallas. Her primary area of research is neurolinguistics, more specifically investigations of the discourse in aphasia and aging. The focus of her research is the characterization of communicative competence of these populations and how it relates to preservations and impairments of lin-

guistic and cognitive functioning. She has been actively involved in investigating the representation of camp experience in narrative of elderly concentration camp survivors in Poland. More recently, she has been involved in investigations of testimonies of WWII American veterans.

Esther Usó-Juan is a Senior Lecturer in Applied Linguistics at Universitat Jaume I (Castellón, Spain). Her main research interests include interlanguage pragmatics and language teaching and learning. Some of her publications have appeared in international journals such as *The Modern Language Journal*, *Applied Language Learning* and *ELT Journal*. She has co-edited several volumes, including *Current Trends in the Development and Teaching of the Four Language Skills* (Mouton de Gruyter, 2006), *Pedagogical Reflections on Learning Languages in Instructed Settings* (Cambridge Scholars Publishing, 2007) and *Speech Act Performance: Theoretical, Empirical and Methodological Issues* (John Benjamins, 2010).

Anne van Bysterveldt is a Senior Lecturer and Speech and Language Therapist at the University of Canterbury, New Zealand and a member of the New Zealand Institute of Language, Brain and Behaviour. Her research focuses on facilitating speech, language and literacy development in young children with developmental disabilities and understanding the home and school environments in which this development occurs, early intervention, and the provision of evidence based therapy for children with Down syndrome.

Tim Wharton PhD, is Principal Lecturer in Linguistics in the School of Humanities, University of Brighton, UK. He specializes in pragmatics, the study of utterance interpretation. In particular, his research explores how ‘natural’, non-linguistic behaviours – tone of voice, facial expressions, gesture – interact with the linguistic properties of utterances. His main theses are outlined in his 2009 book, *Pragmatics and Non-Verbal Communication*, which charts a point of contact between pragmatics, linguistics, philosophy, cognitive science, ethology and psychology. He is currently working on a second book on the pragmatics of emotion.

Deirdre Wilson is Emeritus Professor of Linguistics at University College London. From 2007–2017, she co-directed (with Herman Cappelen) the Linguistic Agency project at the Centre for the Study of Mind in Nature, University of Oslo. Her main research interests are in communication and theoretical pragmatics: her long-standing collaboration with Dan Sperber (*Relevance: Communication and Cognition*, Blackwell, 1986/95; *Meaning and Relevance*, Cambridge University Press, 2012) has led to publications on a wide variety of pragmatic topics, from disambiguation and reference resolution to rhetoric and style. Her most recent book (co-edited with Terence Cave) is *Reading Beyond the Code: Literature and Relevance Theory* (Oxford University Press, 2018). Her novel *Slave of the Passions*

(Picador, 1991) was shortlisted for two prizes, and she has recently completed a second.

Elsbeth Wilson received her PhD from the University of Cambridge on children's acquisition of quantity, relevance and manner implicatures, with a particular focus on how children learn to reason about the speaker's epistemic state in such inferences. Her research interests include children's pragmatic development, multilingual development, and the relationship between multilingual practices and well-being in the family. She has also been substantially involved in communicating developmental linguistics research to parents and educators, and initiating dialogue with the community to help inform practice with research findings. She is currently an Economic and Social Research Council post-doctoral fellow at the Faculty of Education, University of Cambridge.

Helen Woodfield was formerly Senior Lecturer in TESOL/Applied Linguistics at the University of Bristol Graduate School of Education UK and Director of the MSc TESOL programme. Her publications include articles in *Journal of Pragmatics*, *Multilingua*, *Studies in Applied Linguistics*, and *Evaluation and Research in Education*. She has also co-edited (with Maria Economidou-Kogetsidis) *Interlanguage Request Modification* and (with Kate Beeching) *Researching Sociopragmatic Variability: perspectives from variational, interlanguage and contrastive pragmatics*. Her research interests focus on comparative and developmental aspects of interlanguage pragmatics and on the contribution of verbal report to research methodology in examining cognitive processes and metalinguistic knowledge in speech act production.

Sandrine Zufferey (born 1978, PhD University of Geneva, 2007) is Full Professor of French linguistics at the University of Bern in Switzerland. Her current research focuses on the way native and non-native speakers use, understand and process discourse connectives, as well as on the way discourse relations are encoded across languages and discourse genres.

Name index

A

- Abbeduto, Leonard 551, 553–560, 562–563
Abbot-Smith, Kirsten 50, 546
Abdollahizadeh Masouleh, Fatemeh 276, 278, 283
Abed, Ahmed Q. 374
Abrams, Lise 218
Abrams, Zsuzsanna 253
Abusamra, Valeria 509
Achiba, Machiko 314
Ackerman, Brian P. 41, 49, 96, 160
Acredolo, Linda P. 75
Adams, Catherine 79, 648–649, 652–655, 658, 661, 664–666, 668
Adams, Jennifer 550
Adamson, Lauren B. 71, 74, 552
Agha, Asif 628
Aguert, Marc 152
Ahn, Russell Changseob 255, 477, 490
Aijmer, Karin 213, 306
Aikhenvald, Alexandra Y. 90
Aitken, Kenneth J. 551
Akhtar, Nameera 192
Akmal, Nazanin 92
Aksu-Koç, Ayhan 41–42, 99, 103, 105, 107, 111
Albert, Martin L. 612
Alcón Soler, Eva 273, 276–278, 285–286, 400, 402, 436, 441–442, 456, 465
Alevriadou, Anastasia 558
Al-Gahtani, Saad 242, 490
Ali, Ziyad 306
Alikhani, Sima 276, 280, 283
Al-Issa, Ahmad 375, 380–382
Al-Khaza'leh, Bilal Ayed 371
Allen, Doris A. 651
Alm, Norman 621–622
Alp, İ. Ercan 103, 111
Al-Shboul, Yasser 372, 381–382
Alter, Jennifer 66
Ambridge, Ben 119
Amir, Ori 349
Anagnostopoulou, Nefeli 129
Anani Sarab, Mohammad Reza 276, 280, 283
Anas, Ann P. 615
Andersen, Elaine S. 38
Anderson, John R. 290
Anderson, Michael 523
Anderson, Peter J. 507
Andrés-Roqueta, Clara 137
Andrianopoulos, Mary V. 551
Androutsopoulos, Jannis 383
Angel, Ronald J. 215
Angeleri, Romina 526
Angold, Adrian 651
Angouri, Jo 217
Annaz, Dagmara 537
Anolli, Luigi 161
Anthony, James C. 218
Antoniou, Kyriakos 126, 140, 254
Apostolou, Nicole 595
Appell, Julian 613, 621
Arbuckle, Tannis Y. 218, 220
Archakis, Argiris 215
Ardila, Alfredo 583
Ariel, Mira 193
Arisi, Elena 549
Arjmandi, Masoumeh 276, 283
Armstrong, Elizabeth 596–597, 599, 602
Arnold, Gordon 177
Arundale, Robert 242
Asch, Solomon E. 34, 49
Ash, Sharon 511–512
Astington, Janet W. 41, 44, 95, 157, 159, 168
Ateş, Beyza Ş. 551
Attardo, Salvatore 347, 349
Austin, John L. 62, 240, 270, 657
Axia, Giovanna 79
Aydin, Çağla 111
- ## B
- Babaie, Sherveh 372, 384
Bachelor, Jeremy W. 371
Bachman, Lyle F. 393, 432, 491
Backhaus, Peter 224, 629, 635
Bäckman, Lars 221
Baddeley, Alan D. 558
Baffy, Marta 620, 631

- Bahtiyar, Sevda 40
 Baillargeon, Renée 43, 71, 94, 137
 Baird, Gillian 650
 Bakeman, Roger 71, 552
 Baker, Amanda 353
 Baker, Anne E. 76
 Baker, Rachel K. 126
 Bakhtin, Mikhail 628
 Baldwin, Dare A. 43, 97, 525–526
 Bale, Alan 126, 131–133, 135
 Balog, Heather 182–183, 192–193, 198
 Baltaxe, Christiane A. M. 528, 530, 532, 648–649
 Baltés, Margret M. 630
 Baltés, Paul B. 218, 221
 Banerjee, Robin 95
 Bannard, Colin 37
 Bannister, Karen A. 615
 Bara, Bruno G. 49, 516, 524
 Bardovi-Harlig, Kathleen 237–239, 243, 246–247, 269, 274, 302, 312–314, 316–317, 319, 384, 398–402, 430
 Barkat-Defradas, Melissa 219
 Barker, Valerie 217
 Barkow, Jerome H. 188
 Barner, David 126, 131–133, 135, 140
 Barnes, Matt 212
 Baron-Cohen, Simon 70, 95, 137, 331, 336, 506, 525–527, 531–533, 649, 659
 Baroni, Maria R. 79
 Barron, Anne 2, 19–20, 211, 241, 251, 301, 310–312, 314, 398, 430–431, 436–437, 439–442, 450, 453, 457, 460–462
 Barros Garcia, Maria J. 308, 371
 Barstein, Jamie 556
 Bartak, Lawrence 649
 Barth-Weingarten, Dagmar 191, 217
 Bartsch, Karen 93, 104
 Bass, Wendy 557
 Basting, Anne D. 615, 619–620
 Bastos, Maria-Thereza 384
 Basturkmen, Helen 293
 Bataller, Rebeca 242, 247, 251, 441
 Bates, Elizabeth 67–68, 73, 79, 524, 527, 531
 Bayer, Antony 619
 Bayles, Kathryn 612–614
 Beach, Cheryl 184
 Becker, Tabea 589
 Becker-Bryant, Judith B. 33, 52
 Beebe, Leslie M. 240, 365, 367, 370, 373–374, 378–379, 381–384
 Beeching, Kate 214
 Beecken, Masako 376
 Beeghly, Marjorie 555, 559
 Beeke, Suzanne 601–602
 Begus, Katarina 35
 Behne, Tanya 70, 121
 Belcher, Diane D. 461
 Bell, Nancy 16, 349, 352–353
 Bella, Spyridoula 243
 Bellugi, Ursula 215
 Belz, Julia A. 253–254, 404, 440, 442, 446, 458
 Bennetto, Loisa 649
 Ben-Shlomo, Y. 619
 Benson, D. Frank 583
 Benton, E. 508
 Bergen, Leon 137
 Berger, Jiri 551, 553
 Berglund, Eva 560
 Bernicot, Josie 50
 Bernstein, Cynthia 624–625
 Bert-Erboul, Alain 160–161
 Betten, Anne 222
 Bialystok, Ellen 395–397, 399, 401, 409
 Bielby, Denise 217
 Biesenbach-Lucas, Sigrun 253
 Bieswanger, Markus 462
 Bill, Cory 140
 Billmyer, Kristine 400, 420
 Biney, Hannah 50, 546
 Birch, Susan A. J. 92
 Bishop, Dorothy V. M. 79, 126, 129, 135, 562, 648–651, 658, 660, 663, 666
 Blakemore, Diane 188, 190
 Blattner, Géraldine 440, 442, 454–456, 458
 Bloom, Lois 104, 191
 Bloom, Paul 43, 191
 Blum-Kulka, Shoshana 65, 244, 301, 303–308, 311
 Bobb, Susan C. 78
 Boden, Deirdre 217
 Bodman, Jean W. 316, 366
 Bogorevich, Valeriia 255
 Boich, Linda H. 211
 Boles, Larry 602
 Bolinger, Dwight 177, 180
 Bolly, Catherine T. 213, 219, 633
 Bonnesen, Jaye L. 223
 Booth, Wayne 153
 Bortfeld, Heather 219
 Bosco, Francesca M. 516

Boucher, Jill 526, 529, 531, 651
 Boudreau, Donna M. 562
 Bou-Franch, Patricia 240
 Bourgeois, Michelle 622
 Boutet, Dominique 213
 Bouton, Lawrence F. 241, 338, 351, 479
 Bowles, Melissa A. 245
 Boyce, W. Thomas 45
 Braun, Bettina 372, 380
 Brazil, David 177
 Breheny, Richard 137
 Brentari, Diane 198
 Bridges, Kelly Ann 625
 Briggs-Whittaker, Jan 223
 Brinton, Bonnie 79, 650–651
 Brock, Jon 659
 Brooks, Lisa R. 74
 Brooks, Neon 126, 131, 135
 Brooks, Patricia 37
 Brookshire, Robert H. 586–589
 Brophy, Stephanie 255, 339
 Brosseau-Liard, Patricia É. 89, 92, 126
 Brown, James Dean 255, 476–478,
 482–483, 488–489
 Brown, Lucien 253–254
 Brown, Mary 152, 163
 Brown, Penelope 14, 209, 215, 242, 271–273,
 275, 303, 305–309, 411, 476, 484, 615
 Brown, Roger 215
 Brown-Sweeney, Sharon G. 550
 Bruner, Jerome S. 67, 73, 77, 528
 Brush, Jennifer 621
 Bryan, Karen L. 222, 508, 514
 Bryant, Dana 97
 Bryant, Greg 160
 Bryant, Peter 92–93
 Bu, Jiemin 373, 382
 Bubnitz, Wolfram 2
 Bucciarelli, Monica 49, 516
 Bucholtz, Mary 629
 Buchstaller, Isabelle 211
 Buckley, Frank 545
 Bühler, Karl 583
 Bull, Marilyn J. 548, 554, 556
 Burdelski, Matthew 46
 Burgoyne, Kelly 558
 Burgucu-Tazegül, Assiye 371
 Butterworth, George 69
 Bygate, Martin 289
 Byon, Andrew S. 308–309
 Byram, Michael 482

C

Caldi, Stefania 43, 94
 Calkins, Margaret 621
 Camaioni, Luigia 67–68, 73, 527
 Camarata, Stephen M. 650
 Cameron, Richard 216–217
 Cameron-Faulkner, Thea 48, 61, 68, 73
 Campbell, Aimee L. 37
 Canale, Michael 237, 393, 491
 Cap, Piotr 2
 Capelli, Carol 150, 158
 Capirci, Olga 68
 Caplow, Nancy J. 599
 Capps, Lisa 589, 596, 648–649, 659
 Caputi, Marcella 95
 Carpendale, Jeremy I. 95
 Carpenter, Brian D. 631
 Carpenter, Malinda 35, 69, 71, 73, 128, 192
 Carpenter, Robert L. 554
 Carrell, Patricia 47, 339
 Carrick, Nathalie 96
 Carrow-Woolfolk, Elizabeth 665
 Carruthers, Peter 516
 Carston, Robyn 39, 121, 169, 188
 Caselli, Maria Cristina 75, 550, 554
 Casillas, Marisa 7, 77–78
 Cattell, Raymond B. 218
 Cebula, Katie R. 557
 Ceci, Stephen J. 111
 Cedersund, Elisabet 629
 Celce-Murcia, Marianne 393, 432–433
 Cenoz, Jasone 363, 370, 382
 Chafe, Wallace L. 621, 626–627
 Chambers, J. K. 212
 Chaminaud, Stéphanie 50
 Chandler, Michael J. 95
 Chang, Wei-Lin Melody 407
 Chang, Yuh-Fang 374, 382
 Chapelle, Carol A. 481, 486, 490
 Chapman, Robin S. 556, 558, 560, 562
 Chapman, Sandra B. 507
 Charafeddine, Rawan 45
 Charalambidou, Anna 211
 Chasin, Joan 75
 Chatterji, Roma 621, 633
 Chemla, Emmanuel 131
 Chen, Aoju 177
 Chen, Chi-Fen Emily 253–254
 Chen, Li-Shiun 218
 Chen, Rong 310
 Chen, Yi-chen 349

- Chen, Yuan-shan 276, 279, 282, 291–292
 Cherry, Louise J. 36
 Cherubim, Dieter 220, 223
 Cheung, Him 95
 Chevallier, Coralie 43, 152
 Chiat, Shulamuth 649
 Chierchia, Gennaro 39, 121, 123, 128, 131
 Choi, Ikkyu 479, 482–483, 489
 Choi, Jieun 529
 Chomsky, Noam 3, 505, 515
 Chong, Sang C. 92
 Christiansen, Morten H. 50
 Christodoulides, George 219
 Churchill, Eton 436
 Cicchetti, Dante 555, 559
 Ciceri, Rita 161
 Clancy, Patricia 101
 Clare, Linda 616, 618
 Claridge, Claudia 169
 Clark, Billy 178, 194, 196
 Clark, Eve V. 33, 48, 72, 78, 119, 126
 Clark, Herbert H. 64, 72, 152, 161–162, 305
 Cleave, Patricia L. 562
 Clegg, Judy 527
 Cleland, Joanne 549
 Clément, Fabrice 92
 Code, Chris 510, 582
 Coggins, Truman E. 554, 563
 Cohen, Andrew D. 239, 250–251, 274, 292, 318–319, 366, 369, 379, 381, 383, 399–401, 406
 Cohen, Gillian 211
 Cohen, Lawrence 616
 Cohen, Matthew 138
 Coleman, James A. 432
 Colgan, Siobhan E. 527
 Colle, Livia 22, 49, 516, 529
 Collentine, Joseph 464
 Collins, Anna 661, 665
 Collis, Glyn M. 526, 551, 556
 Colonnesi, Cristina 69
 Colston, Herbert 150, 154, 157
 Coltheart, Max 158
 Comparini, Lisa 215
 Connors, Frances A. 551, 553–557, 559–560
 Connor, Robert T. 550
 Conti-Ramsden, Gina 79, 648, 651
 Cook, Misty 339
 Cook, Vivian 302, 313, 409
 Copeland, Gary 602
 Coplan, Robert J. 654
 Corder, Pit S. 363
 Corriveau, Kathleen H. 139
 Cosmides, Leda 188, 198
 Costello, E. Jane 651
 Côté, Hélène 508–509
 Coulmas, Florian 479
 Coulson, Seana 331, 347–349
 Coulthard, Malcolm 38, 450
 Councill, Cheryl 549
 Coupland, Justine 210, 214, 216, 629
 Coupland, Nikolas 210, 214, 216, 615, 629
 Court, Deborah 559
 Courtney, Ellen H. 90, 99, 103
 Couzens, Donna 556
 Crawley, Susan B. 553, 557
 Creusere, Marlena 152–153, 158–159
 Cross, David 43, 93, 137
 Crowson, Mary 525–526
 Cruttenden, Alan 184, 196
 Crystal, David 184, 302, 361
 Csibra, Gergely 43–45, 71, 199
 Culbertson, Jennifer 66
 Culpeper, Jonathan 304
 Cumming, Elaine 212
 Cummings, Jeffrey L. 601
 Cummings, Louise 21, 121, 499, 501, 505–510, 512, 514, 558, 614, 656
 Cummins, Chris 133
 Cunningham, Cliff C. 551, 553
 Cunningham, D. Joseph 253–254, 292
 Currie, Gregory 152
 Curtin, Suzanne 181
 Cuskelly, Monica 556
 Cutler, Anne 181
- D**
- D'Angiola, Nora 528, 649
 D'Odorico, Laura 558
 Dahl, Merete 245, 247, 395
 Dale, Naomi 503
 Damico, Jack S. 632
 Danesi, Marcel 354
 Daunhauer, Lisa A. 554, 560
 Davidson, Kathryn 133, 135, 140
 Davies, Bronwyn 615, 617, 629
 Davies, Catherine Evans 50, 122, 126–129, 351
 Davies, Martin 158
 Davies, Susan 525
 Davis, Barbara 182

- Davis, Boyd H. 216, 224, 614–615, 624–625, 630
 Davis, Christopher 91
 Davis, John McE. 460, 462
 Dawson, Geraldine 525
 De Bot, Kees 635
 de Frias, Cindy M. 221
 de Graaf, Gert 545
 De Haan, Ferdinand 91
 De Marchena, A. Brooke 126, 528
 de Mulder, Hannah 42, 108–109
 De Neys, Wim 140
 de Rosnay, Marc 95, 649
 de Saussure, Ferdinand 3
 de Saussure, Louis 197
 de Villiers, Jill G. 41, 49, 105
 de Villiers, Peter A. 49
 de Vos, Connie 74
 De Winter, J. Peter 548
 Dean, Michael P. 588
 DeCapua, Andrea 376
 Deckers, Stijn R.J.M. 546, 558
 Deckner, Deborah F. 552
 Degen, Judith 139
 Dehé, Nicole 191
 Demorest, Amy 34, 96, 533
 Demuth, Katherine 66
 Dennis, Maureen 535
 Dent, Cathy H. 47
 Depowski, Nicole 74
 Deser, Toni 219
 Detmer, Emily 255, 476–478, 482–483, 488–489
 Devlin, Anne Marie 431, 464
 Devlin, Lisa 545
 Dewaele, Jean-Marc 401
 Dews, Shelly 41, 156
 Dezechache, Guillaume 196, 198
 Diehl, Joshua J. 649
 Diesendruck, Gil 126
 Diessel, Holger 104
 DiGuseppi, Carolyn 553
 Dimroth, Christine 372, 380
 Dings, Abby 441, 450
 Dini, Shadi 253, 276, 285, 287, 291
 Dipper, Lucy T. 514
 Dixon, Roger A. 221
 Dobbinson, Sushie 529, 531
 Dodd, Barbara 549
 Doehring, Peter 525
 Doğançay-Aktuna, Seran 376, 380
 Donnelly, Seamus 50
 Dore, John 67
 Dörnyei, Zoltán 243, 312, 319, 393, 398–399, 432, 457
 Dostie, Gaétane 213
 Douglas, Jacinta M. 660
 Downs, Murna 616, 618
 Drew, Paul 302, 305, 320
 Du Bois, John W. 332
 Du, Xue 349
 Dubreil, Sébastien 254
 Dufon, Margaret A. 401, 436
 Duncan, E. Susan 587
 Dunham, Philip 41, 159–160, 163, 167–168
 Durkin, Kevin 649
 Duszak, Anna 635
 Dworzynski, Katharina 668
 Dyck, Murray J. 94
 Dykens, Elisabeth 552–553
 Dynel, Marta 347
- E**
- Eadie, Patricia A. 562
 Eales, Martin J. 523
 Economidou-Kogetsidis, Maria 306, 308, 313, 317
 Edgerton, Edward 621
 Edmondson, Willis 243, 431
 Eichenbaum, Howard 632
 Eigsti, Inge-Marie 528
 Eimas, Peter 181
 Eisenstein, Miriam 316, 366
 Eiteljörge, Sarah 122
 Ekman, Paul 186
 El Haj, Mohamad 628
 Elder, Catherine 255, 475, 479, 481–482, 486, 488–490
 Elias, Vanessa 367, 370
 Ellis, Rod 313–314, 317, 363, 365, 395
 Elma, Stephen 548
 Elrod, Mimi M. 49
 Embrechts, Mariëtte 649
 Emerich, David M. 534, 649
 Endress, Ansgar D. 44
 Englebretson, Elise F. 599
 Engstrand, Olle 182
 Ephratt, Michal 603
 Erdodi, Laszlo 350
 Eriksson, Mårten 560
 Ervin-Tripp, Susan M. 36–37, 79
 Esbensen, Anna J. 548, 550

- Escandell-Vidal, Victoria 178, 353
 Eslami-Rasekh, Abbas 276, 285–286
 Eslami-Rasekh, Zohreh 253, 276, 278–279,
 285, 287, 291, 375, 401, 406
 Esser, Jürgen 583
 Evans, David 553
 Evans, E. Margaret 95
 Evans, Mary A. 47
 Ewert, Barbara 79
- F**
- Fabry, Iris 140
 Faerch, Claus 306, 313, 317
 Fairclough, Norman 617
 Faller, Martina T. 91
 Farrell, Kathleen 395, 440, 442, 450, 454,
 460
 Farrell, Meagan T. 218
 Farroni, Teresa 195
 Faulkner, Dorothy 211
 Faust, Miriam 505
 Feeley, Kathleen M. 557
 Feeney, Aidan 129
 Feldman, Carol 528
 Félix-Brasdefer, J. César 17, 240, 245, 247,
 250–251, 292, 302–303, 307, 310–318,
 320, 366, 368–370, 380, 383, 433, 438,
 441–442, 451, 453
 Fenson, Larry 546
 Ferguson, Alison 595
 Ferguson, Heather J. 137
 Ferguson, Kristen 94
 Fernald, Anne 78
 Fernandez, Susana S. 404
 Fey, Marc E. 549
 Fidler, Deborah J. 545–546, 548, 552–554,
 556, 558
 Fiehler, Reinhard 215, 217
 Filippova, Eva 44, 95, 157, 159, 168
 Finestack, Lisbeth H. 560, 562
 Firth, Alan 248
 Fisher, Cynthia 36
 Fisman, Michael 613, 621
 Fitneva, Stanka A. 78, 90, 197
 Fitzgerald, Michael 535
 Flanzer, Vivian 375, 380, 382
 Flax, Judy 182
 Fleder, Hannah 621
 Fodor, Jerry A. 513
 Fogel, Alan 66
 Foppolo, Francesca 123, 128
 Ford, Cecelia E. 248, 353
 Ford, Janet 160
 Ford, Shawn 276–277, 282
 Forrester, Michael A. 79
 Forsberg, Julia 461
 Foster-Cohen, Susan H. 23, 546–547, 549,
 552, 555–556, 559
 Fox Tree, Jean 160
 Fox, Barbara 353
 Fox, Danny 121, 131
 Fox, Sarah 602
 Frampton, Kristen L. 92
 Franco, Fabia 550
 Frank, Arthur W. 594
 Frank, Katherine 548, 550
 Frank, Michael C. 77, 123–124, 126,
 133–135, 140
 Fraser, Bruce 3
 Fraser, Catriona 475, 479, 481–482, 486,
 488–490
 Freed, Barbara F. 430–432, 436
 Freeman, Mark 220
 Freeman, Stephanny F.N. 557
 French, John R. P. Jr. 413
 Fretheim, Thorstein 178
 Freund, Alexandra M. 221
 Fridlund, Alan 186
 Fridriksson, Julius 588
 Friedberg, Carlyn 138
 Fried-Oken, Melanie 622
 Fries, Charles C. 362
 Frith, Uta 70, 137, 331, 336, 527, 659
 Fujiki, Martin 650
 Fukushima, Saeko 307
 Fukuya, Yoshinori J. 249, 276–277,
 283–284, 291
 Furrow, David 91, 97
 Furuta, Yoshiteru 101
 Fuxi, Fang 94
- G**
- Gabbatore, Ilaria 4
 Gadet, Françoise 212
 Gaile, Jacqueline 654, 668
 Gale, Elaine 74
 Gallacher, John 619
 Gallagher, Tanya 657
 Galligan, Roslyn 178
 Gamble, Dianna L. 47
 Gao, Hong 310
 García, Carmen 240, 310

- Garcia, Paula 339–340
 Gardner, Howard E. 411
 Garfinkel, Harold 434
 Garrod, Simon 557
 Gaskins, Suzanne 78, 80
 Gass, Susan 318, 363
 Gathercole, Virginia C. 126
 Gattis, Merideth 66
 Gayraud, Frederique 219
 Gazdag, Gail 557
 Gelman, Susan A. 89, 188
 Georgakopoulou, Alexandra 211
 Gerber, Sima 655
 Gergely, György 71
 Gerrig, Richard 152, 161–162
 Gerstein, Leonore 531
 Gerstenberg, Annette 12, 211–213, 219, 222–223
 Gesuato, Sara 400
 Geurts, Bart 122
 Geurts, Hilde M. 649
 Ghahraman, Vahid 375
 Gharagozlou, Reza 373, 380
 Ghavamnia, Maedeh 276, 279, 285–286
 Ghawi, Mohammed 378
 Ghaziuddin, Mohammad 531
 Giaouri, Stergiani 558
 Gibbs, Raymond W. Jr. 150, 152–154, 163–167, 305
 Gibson, Jenny L. 26, 650–651
 Giles, Howard 217, 615
 Gillon, Gail T. 547, 549, 560
 Gilmore, Linda 558
 Gilmour, Jane 650–651
 Giora, Rachel 17, 150, 152, 331, 347–348
 Girolametto, Luigi 553, 555, 558, 560
 Gjengedal, Eva 635
 Glaser, Karen 244, 461
 Glei, Dana A. 619
 Glenwright, Melanie 150, 157–159
 Glosser, Guila 219
 Glucksberg, Sam 150, 152, 158, 163, 167
 Glue, Paul 556
 Goberis, Dianne 503
 Goffman, Ervin 615, 633
 Golan, Ofer 526
 Golato, Andrea 243, 247, 479
 Golato, Peter 243, 247
 Gold, Dolores P. 218, 220
 Gold, Rinat 505
 Goldin-Meadow, Susan 68
 Goldman, Alvin I. 516
 Goldstein, Abraham 505
 Goldvarg, Yevgeniya 152
 Golinkoff, Roberta 127
 Gomez-Laich, Maria Pia 250, 294, 403–404
 Gonzales, Adrienne M. 253
 Gonzalez-Fuente, Santiago 353
 González-Lloret, Marta 13, 240, 248, 253–254, 291–292, 302
 Goodman, Joan F. 553
 Goodman, Mina 549
 Goodman, Noah D. 123–124, 126, 137
 Goodwin, Charles 590–591, 601
 Goodwyn, Susan W. 75
 Gopnik, Alison 92–93, 515
 Goral, Mira 614
 Gordon, David 37
 Gordon, Robert M. 516
 Gosse, Carolyn 655
 Gotzner, Nicole 134
 Goulandris, Nata 178, 184, 194
 Göy, Elif 308
 Grabowski, Kirby C. 27, 484–486, 489
 Graf, Eileen 50
 Graf, Peter 92
 Graham, Susan A. 126
 Granic, Isabela 656
 Grassmann, Susanne 36, 44, 49, 125, 127, 133, 136
 Greenhalgh, Trisha 669
 Greer, Tim 464
 Gresham, Frank M. 655
 Grice, H. Paul 9–10, 17, 27, 63–64, 70, 80, 120–121, 125, 150, 155, 186–188, 192, 194, 241, 304, 331–335, 344, 506, 586, 657, 662
 Grieco, Julie 556
 Grieve, Averil Marie 440, 453
 Griffin, Robert 399
 Grigoroglou, Myrto 38
 Grindrod, Christopher M. 503
 Grodner, Daniel J. 137
 Groenewold, Rimke 602
 Grosse, Gerlind 123–124, 134, 138
 Grossman, Murray 221
 Gruber, Silvia 96
 Gu, Mingyue (Michelle) 252
 Gu, Xiao-le 278, 285, 288, 291
 Guasti, Maria Teresa 123, 128
 Gudykunst, William B. 410
 Guendouzi, Jacqueline 224, 614–615, 617

- Guillon, Quentin 503
 Guillot, Marie-Noëlle 214
 Gundel, Jeanette K. 193
 Gunter, Cheryl D. 560
 Guo, Jiansheng 37, 79
 Guralnick, Michael J. 547, 550, 553, 556,
 563–564
 Gussenhoven, Carlos 177, 180, 195
- H**
- Hahn, Laura J. 545–547
 Halberda, Justin 126
 Halenko, Nicola 276, 278, 283–284
 Hall, Alison 190
 Hall, Amanda 549
 Hall, Deborah 503
 Hall, D. Geoffrey 126
 Hall, Kira 629
 Halliday, Michael A. K. 177–178, 180, 182,
 192, 282, 614
 Hamlin, J. Kiley 45
 Han, Turgay 371
 Han, Zhengrui 250
 Hancock, Jeffrey 41, 159–160, 163, 167–168
 Happé, Francesca G.E. 44, 94, 150, 152,
 157, 515, 523, 533–534, 536–537, 552,
 649, 659, 666
 Harden, Tamara 629
 Hare, Douglas 649
 Harré, Rom 217, 615, 617, 629
 Harris, Margaret 75–76
 Harris, Melanie 157
 Harris, Paul L. 92
 Hart, Betty 78
 Hartford, Beverly S. 239, 246, 313
 Hartley, Leila L. 660
 Harwood, Jake 216–217
 Hasler-Barker, Maria 380, 383, 438,
 441–442, 451, 453
 Hassall, Timothy 318–319, 430–431,
 440–442, 453, 455, 458, 463
 Hata, Kaori 400
 Hatrak, Marla 75
 Hatton, Chris 649
 Haugh, Michael 242, 304, 407
 Hauser, Marc 186
 Hauser-Cram, Penny 564
 Hayashi, Hajimu 94
 Haynes, Michele 556
 Haywood, H. Carl 655
 He, Agnes 433
 He, Lin 310
 He, Zijing 71
 Hedberg, Nancy 193
 Heidtmann, Daniela 215
 Heimann, Mikael 551
 Heinemann, Trine 629
 Heinrichsmeier, Rachel 210
 Heithaus, Dorsey 549
 Helfrich, Hede 212
 Hellermann, John 248
 Hendriks, Berna 304, 317
 Hendriks, Petra 223
 Henery, Ashlie 402, 404–406, 440, 442,
 456
 Hengst, Julie A. 590, 601
 Henrichon, Andrea J. 95
 Hepburn, Susan L. 545, 553
 Hering, Alexandra 224
 Heritage, John 615
 Hermelin, Beate 527
 Hernandez, Todd A. 463
 Herring, Susan 383
 Hesketh, Linda J. 556, 558
 Hestvik, Arild 48
 Hilbrink, Elma E. 7, 66
 Hilgendorf, Suzanne 220
 Hill, Beverly 310
 Hill, Thomas 313–316
 Hirschberg, Julia 130, 177
 Hirschfeld, Lawrence 188
 Hirsh-Pasek, Kathy 127
 Hobson, Peter 525–526, 532, 649
 Hochstein, Lara 138
 Hockett, Charles F. 212
 Hodapp, Robert 553
 Hogrefe, Jürgen 93
 Holden, Chris 254
 Holland, Audrey 584
 Hollebrandse, Bart 40
 Hollenstein, Tom 656
 Hollich, George J. 127
 Holmes, Janet 3, 65, 211, 254
 Holowka, Siobhan 181
 Holst, Mark 377, 380–381
 Holtgraves, Thomas 244, 503
 Holzrichter, Amanda S. 74
 Hooff, Jan van 186
 Hopfield, Natalie 44
 Horn, John L. 218
 Horn, Laurence 121
 Horner, Robert H. 655

Horowitz, Alexandra C. 123–124, 134–135
 Horton, William S. 220
 House, Jill 178, 191
 House, Juliane 239, 243–244, 252, 304–307,
 311, 313, 317, 400, 437
 Howard, Martin 5, 462–463
 Howarth, Lynne C. 622
 Howe, David 553
 Hoy, James A. 649
 Hsu, Yik K. 95
 Hu, Chunmei 310
 Huang, Yan 2, 33
 Huang, Yi Ting 123, 126, 139
 Huber, Oswald 534
 Hudson, Mutsuko E. 215
 Hudson, Thom 255, 476–478, 482–483,
 488–489
 Hughes, Claire 649
 Hughes, Diana L. 560
 Hulstrand, Janet 451, 463
 Hummert, Mary L. 211, 223
 Hurford, James R. 79–80
 Hutchins, Edwin 251
 Huth, Thorsten 248, 382
 Huwari, Ibrahim Fathi 372, 381–382
 Hwa-Froelich, Deborah A. 655, 661
 Hydén, Lars-Christer 216, 622, 631, 633
 Hymes, Dell H. 4, 237

I

Iarocci, Grace 557, 564
 Iberri-Shea, Gina 248
 Ide, Sachiko 306
 Ifantidou, Elly 3, 5, 108, 111, 179, 513
 Ignatieff, Michael 633–634
 Ikeda, Naoki 20, 483–484, 486–491
 Imai, Kunihiko 178, 194
 Infantino, Maria Giaele 161
 Iozzi, Laura 128
 Irigaray, Luce 612
 Isaac, Adrienne 622
 Isabelli-García, Christina 429, 431, 461,
 465
 Ishida, Midori 248–249, 440
 Ishihara, Noriko 240, 243, 250–251, 292,
 399–401, 403–404, 408
 Itakura, Hiroko 376, 380, 382
 Ito, Kiwako 178
 Itomitsu, Masayuki 480–481, 490
 Iverson, Jana M. 68, 550
 Iwasaki, Noriko 440, 446, 460

J

Jackson, Jane 243
 Jaeger, T. Florian 139
 Jäger, Gerhard 122
 Jahromi, Laudan B. 558
 Jakobson, Roman 583
 James, Lori E. 220
 Jansen, Sandra 461
 Janssens, Leen 140
 Jaroenkitboworn, Kandaporn 253–254
 Jarrold, Christopher 558
 Jarvis, Scott 363
 Jary, Mark 137
 Jefferson, Gail 64, 72, 591
 Jenkins, Jennifer 252, 461
 Jensen, Paul J. 660
 Jeon, Eun Hee 249, 400
 Jessner, Ulrike 407
 Jiang, Lingyun 372
 Jin, Li 441, 453, 455, 458
 Jivraj, Stephen 212
 Joannette, Yves 509
 Johansson, Iréne 560
 John, Angela E. 554
 Johns, Andrew 310–312
 Johnson, L. Clark 550
 Johnston, Bill 318
 Johnstone, Barbara 3, 596, 616
 Jolliffe, Therese 533, 649, 659
 Jones, Christian 276, 278, 283–284
 Jones, Christopher D. 529–530
 Jongmans, Marian J. 554
 Jorgensen, Julia 151–152
 Joseph, Aileen 548–549
 Joseph, Robert M. 660
 Jucker, Andreas H. 2
 Judd, Elliot L. 401
 Juszczak, Peter 181

K

Kádár, Dániel Z. 273, 306
 Kakegawa, Tomomi 254
 Kaland, Nils 94
 Kalashnikova, Marina 127
 Kamişli, Sibel 376, 380
 Kane, Michael T. 481, 486, 489–490
 Kang, Okim 243
 Kang, Sang Kyun 349
 Kang, Seung-Man 376, 380–382
 Kanner, Leo 523, 525
 Karchmer, Michael A. 74

- Kärkkäinen, Elise 604
 Karkowski, Andrea M. 74
 Karmiloff-Smith, Annette 556, 656
 Karnieli-Miller, Orit 631
 Kasari, Connie 552, 557
 Kasper, Gabriele 5, 238–242, 244–245, 247, 249, 255, 271, 274, 301–306, 311–318, 341, 365, 380, 383, 394–395, 398, 400–401, 437, 457, 486
 Kaszniak, Alfred W. 613–614
 Katsos, Napoleon 9, 40, 122, 126–127, 129, 135, 137–138, 649
 Kaukoma, Timo 353
 Kaya, Tadayoshi 249, 400
 Kaye, Kenneth 66
 Kay-Raining Bird, Elizabeth 562
 Kecskés, István 5, 240, 252, 335–336, 346, 406, 408–409, 415
 Keenan, Thomas R. 41, 152, 156, 158, 160–161
 Kehoe, Margaret 178, 180–182
 Kehres, Jennifer 648
 Keil, Frank C. 45
 Keisanen, Tiina 604
 Keller-Bell, Yolanda D. 562
 Keller-Cohen, Deborah 220
 Kelley, Colleen 459
 Kellogg, David 318
 Kelson, Elizabeth 622
 Kemper, Susan 218–219, 222, 629
 Kempler, Daniel 613–614
 Kendon, Adam 195, 198
 Kent, Ray D. 549–550
 Kermad, Alyssa 243
 Kersner, Myra 652
 Kertesz, Andrew 583, 613, 621
 Keshavarz, Mohammad H. 375
 Ketabi, Saeed 249
 Ketelaars, Mieke 647
 Khorshidi, Hassan Rasouli 441, 453, 458
 Kidd, Evan 50
 Kim, Eun Young Ariel 253–254
 Kim, Hye Yeong 240, 251
 Kim, Jiyun 353
 Kim, Minkyung 461
 Kim, Youjin 276, 280, 285, 289, 291
 Kindell, Jaqueline 614
 Kinginger, Celeste 248, 251, 253–254, 395, 402–404, 440, 442, 446, 450, 454–456, 458, 460
 Kissine, Mikhail 137
 Kitwood, Tom 615, 618, 622, 630
 Kliegel, Matthias 224
 Klin, Ami 527
 Klippi, Anu 601
 Knoch, Ute 490
 Koenig, Mareile A. 560
 Koenig, Melissa 92
 Koenigsnecht, Roy A. 587
 Koester, Lynne S. 74
 Koike, Dale A. 239, 302–303, 316, 339, 369, 374–375, 377, 380–382
 Kondo, Sachiko 415
 König, Ekkehard 190
 Kontos, Pia C. 617, 619–620, 632–634
 Koring, Loes 42, 108–109
 Korolija, Natascha 223
 Koutlaki, Sofia A. 406
 Kovács, Agnes M. 44
 Kover, Sara T. 560–561
 Krashen, Stephen 395
 Kreuz, Roger 152, 158, 167, 169
 Kuhl, Patricia 181
 Kumin, Libby 549–550
 Kumon-Nakamura, Sachi 152, 163
 Küntay, Aylin C. 40, 551
 Kurata, Naomi 246
 Kurumada, Chigusa 134, 139
 Kutas, Marta 331, 348–349
 Kynette, Donna 222
 Kyratzis, Amy 38
- L**
- Laakso, Minna 601
 Labov, William 211, 217, 591, 597, 599, 626
 Lacerda, Francisco 182
 Ladd, Robert 177–178, 180, 195
 Lado, Robert 362, 365
 Lafford, Barbara A. 441, 446
 Lagattuta, Kristin H. 94
 Lagercrantz, Hugo 181
 Lai, Huei-ling 349
 Lai, Yi-hsiu 635
 Lajiness-O'Neill, Renee 350
 Lakoff, George 39
 Lakoff, Robin T. 242
 Lammertink, Imme 77
 Lampert, Martin 37, 79
 Lanfranchi, Silvia 558
 Langdon, Robyn 158
 Langer, Ellen J. 411

- Lanyon, Lucette 590
 Laval, Virginie 50, 160–161
 Law, Ann 102
 Law, James 650
 Lawrence, Rebecca 138
 Laws, Glynis 549, 558, 562
 Le Couteur, Ann 526
 Leal, Stephanie L. 219
 Ledbetter, Patricia J. 47
 Leddy, Mark 550, 561
 Lederberg, Amy R. 74
 Lee, Anthony 525–526, 649
 Lee, Cynthia 310
 Lee, Hye-Ran 219
 Lee, Jiyeon 219
 Lee, Michelle 547, 556, 558, 560
 Lee, Nancy Raitano 558
 Lee, Sheng-Hsun 464
 Lee, Thomas H. 102
 Lee, Yo-An 248
 Lee, Yoonkyoung 529
 Leech, Geoffrey N. 3, 167, 273, 302, 304, 364, 432, 479, 563
 Lee Wong, Song-Mei 310
 Leekam, Susan R. 44, 533–534, 649
 Leggitt, John 163–165
 Lehman Blake, Margaret T. 510
 Leibing, Annette 615, 622, 633
 Leinonen, Eeva 123, 514, 547–548, 648
 Lemaire, Patrick 218
 Lemée, Isabelle 5
 Lenchuk, Iryna 629
 Lender, Winifred Lloyds 553
 Lennon, Laurie 530
 Leonard, Laurence B. 49
 Leow, Ronald P. 318
 Leslie, Alan M. 70, 137, 331, 336, 515
 Leung, Constant 407
 Leung, Genevieve 408
 Levin, Samuel R. 595
 Levinson, Stephen C. 14, 65–66, 125, 131, 209, 215, 242, 271–273, 275, 303, 305–309, 411, 476, 484, 615
 Levitt, Andrea 182
 Lewis, Shevaun 128
 Lewis, Vicky 551, 556
 Lewis, Virginia 526
 Lewy, Arthur L. 525
 Leyhe, Thomas 510
 Li, Duanduan 254
 Li, Shai 339
 Li, Shuai 243, 440–441, 453, 457, 463–465
 Li, Wei 361, 365–366, 368–371, 381–382
 Liberman, Mark 180
 Lichtert, Guido F. 75
 Liddicoat, Anthony J. 339, 406–409, 415–417
 Lidz, Carol S. 655
 Liebal, Katja 80
 Liebal, Kristin 71, 192, 199
 Lieberman, Amy M. 75
 Lieberman, Matthew 196
 Lieven, Elena V. M. 50, 78, 119, 122
 Light, Leah L. 618
 Limberg, Holger 250
 Lim-Chang, Yoonsook 376, 380–382
 Lin, Yu-te 635
 Lindenberger, Ulman 218
 Lindholm, Camilla 619, 632–633
 Lindner, Jennifer L. 526
 Linn, Margaret Inman 553
 Linville, Sue E. 219
 Liszkowski, Ulf 35, 128
 Liu, Chia Ning 276, 278, 285, 287, 291
 Liu, David 94
 Liu, Dilin 378
 Liu, Jianda 255, 269–270, 477–480, 483, 489–490
 Liu, Yan 339
 Local, John 184, 302, 305, 320
 LoCastro, Virginia 272–273, 315, 400–401
 Locher, Miriam 273
 Lockton, Elaine 661, 665
 Loncke, Filip T. 75
 Longobardi, Emiddia 214, 550
 Lopez de Victoria Rodriguez, Patria C. 614
 Lopez, Belem 350–351, 353
 Lopez, Kristina 527
 Lord, Catherine 526–527, 649, 653
 Losh, Molly 556, 560, 649
 Lott, Ira T. 547, 554
 Loukusa, Soile 123, 506, 515, 525
 Loveland, Katherine A. 523, 526–528
 Low, Jason 49, 51
 Lozier, Leah M. 503
 Lubinski, Rosemary 629–630
 Lucariello, Joan 41
 Lucas, Amanda J. 99, 111
 Lucy, Peter 305
 Luyster, Rhiannon 527
 Lyketsos, Constantine G. 218
 Lynch, Michael P. 549

Lyon, Thomas D. 96

Lyons, Viktoria 535

M

Maas, Fay K. 41

Macaulay, Ronald K. S. 214

MacKay, Gilbert 150, 536

Mackenzie, Jenny 616, 618

Mackey, Alison 318

Mackie, Leila 650

Maclagan, Margaret 216, 624–625

MacLure, Margaret 215

Madden, Cary 150, 158

Madella, Pauline 179

Maeshiba, Naoko 367, 377, 380, 382

Magliacane, Annarita 462–463

Mahajan, Neha 45

Maillat, Didier 197

Major, George 250

Makoni, Sinfree 635

Malkin, Cheryl 547

Mandy, William 651

Manes, Nessa 3

Manjula, R. 550

Manso, Juan M. M. 661

Manzón-Omundson, Sandra 351, 354

March, Evrim G. 624–625

Marchena, Ashely de 126, 528

Marchman, Virginia A. 78

Marcos, Haydée 37

Marin, Oscar 612–613

Marini, Andrea 219

Markman, Ellen M. 43

Markson, Lori 126

Marmaridou, Sofia 3, 432

Marneffe, Marie-Catherine de 134

Marquardt, Thomas P. 602

Marriott, Helen 440–441, 455, 457

Marsden, Sharon 211

Marsh, Abigail A. 503

Marti, Leyla 306

Martin, Gary E. 548, 554, 556, 560

Martin, Ingerith 506, 508

Martin, Lori Schindel 622

Martinez, Francisco 351, 353

Martínez-Flor, Alicia 15, 249, 269, 273, 293, 401

Masataka, Nobuo 74

Mascaro, Olivier 45, 96, 137, 197

Mash, Clay 95

Mason, Peyton 624–625

Masuda, Kyoko 440, 458

Matsuda, Maya 270

Matsui, Tomoko 8, 89–92, 98–99, 101–102, 197

Matsumoto, Yoshiko 211, 306, 310

Matsumura, Shoichi 438, 441–442, 446, 451

Matteson, Samuel E. 590, 599

Mattheier, Klaus J. 212

Matthews, Danielle 33, 37, 50, 126–128, 546, 655

Mattock, Karen 127

Mauthner, Gerlinde 214

Maxim, Jane 222, 601

Mayberry, Rachel I. 75

Mayer, Mercer 511

McCabe, Allyssa 560

McCabe, Patricia J. 510

McCagg, Peter 98

McCaleb, Peggy 531

McCann, Joanne 192, 649

McCloskey, Laura 36, 49

McConachie, Helen 551, 553, 558

McConachy, Troy 18, 400, 402, 406–409, 415–417

McDonald, Skye 150, 152, 506, 508, 660

McEvoy, Phil 617

McEvoy, Robin E. 660

McGillivray, LaRae 560

McGrath, Lauren M. 660

McGregor, Don 595

McKee, Lara 651

McKinnon, Sean 383

McLean, Athena H. 618, 622

McNamara, Patrick 503

McNamara, Timothy F. 481, 488

McNeill, David 195

McTear, Michael F. 648

Mead, George H. 614

Meadan, Hedda 564

Mehler, Jacques 48, 181

Meier, Ardith J. 406, 409–411

Meier, Richard P. 74

Meins, Elizabeth 94

Melchor-Couto, Sabela 437, 441–442, 446

Melogno, Sergio 535, 537

Meltzoff, Andrew N. 515

Melvold, Janis L. 618

Menard-Warwick, Julia 408

Meng, Katharina 210

Menke, Mandy 351, 354

Mentis, Michelle 223

- Mercier, Hugo 196–198
 Meristo, Marek 76
 Merleau-Ponty, Maurice 632
 Mervis, Carolyn B. 554
 Mesibov, Gary B. 534
 Messick, Samuel 478, 480, 490
 Mey, Jacob L. 33, 479, 581, 583–584,
 590–592, 595, 601, 603
 Meyers, Judith 459
 Miles, Sally 560, 562
 Miller, George 151–152, 166
 Miller, Jon F. 550, 560–561
 Miller, Judith N. 533–534
 Miller, Karen 123, 133
 Miller, Laura 412–414
 Miller, Scott A. 95
 Millican, Mahaley 599
 Mills, Sara 273, 306
 Milosky, Linda 160
 Mindolovich, Catherine 41
 Minkov, Michael 415
 Minshev, Nancy 535
 Miolo, Giuliana 558
 Mirzaei, Azizullah 253, 276, 285,
 287, 291
 Mitchell, Nic 431
 Mitchell, Peter 93, 649
 Mitchell, Ross E. 74
 Miura, Yui 98
 Mizrachi, Inbal 559
 Moalla, Asma 352
 Moeller, Mary P. 76
 Moghaddam, MasoudYazdani 373,
 380
 Mohr, Susanne 461
 Molinsky, Andy 415
 Moll, Henrike 35, 72, 199
 Mondada, Lorenza 615
 Monetta, Laura 503
 Montgomery, Martin 215
 Moon, Christine 181
 Moore, Chris 91, 97
 Moore, Colleen F. 95
 Moore, Derek G. 557
 Moore, Richard 70–71
 Morales, Michael 71
 Moran, Catherine 547, 555
 Moran, Greg 66
 Morett, Laura M. 528
 Morgan, Jerry L. 304, 337
 Morgan-Short, Kara 318
 Morgenstern, Aliyah 75
 Morisseau, Tiffany 126–128
 Morissette, Paul 69
 Morollon Marti, Natalia 404
 Morris, Charles 524
 Morrison, Patrick J. 545
 Moss, Jo 553
 Mossman, Sabrina 384
 Moura, Carla Pinto 550
 Muecke, Douglas 153
 Mull, Melinda S. 95
 Müller, Nicole 216, 615, 617
 Mundy, Peter 71, 78, 525, 552, 555
 Muñoz, Maria. L. 602
 Murphy, Bróna 209, 214
 Murray, Lynne 68
 Musolino, Julien 39, 134
- N**
- Nadeu, Marianna 178
 Nadig, Aparna S. 37
 Næss, Kari-Anne B. 563
 Naito, Mika 95
 Nakagawa, Noreen 150, 158
 Nakamura, Keiko 46
 Nakassis, Constantine 41, 150, 158, 160
 Narita, Ritsuko 249
 Nazroo, James 212
 Nelson, Katherine 547
 Nerlich, Steve 429, 451, 463
 Nerlove, Harriet 34, 49
 Nespoulous, Jean-Luc 584–585, 597
 Neumann, Eva Maria 630
 Newcombe, Nora 36
 Ng, Kwai-fun 400
 Nguyen, Hanhn 248
 Nguyen, Thi Thuy Minh 245, 247, 276,
 279–281, 283–285, 289–293
 Nicholas, Linda E. 587
 Niezgoda, Kimberly 398
 Nilsson, Elin 216
 Ninio, Anat 33, 69
 Noens, Ilse L. J. 658
 Norbury, Courtenay 158, 649, 651–653,
 655–656, 659–660, 663, 665, 668
 Norrick, Neal R. 2, 164, 217, 222, 589, 629
 Norris, John M. 250, 289
 Noveck, Ira A. 33, 119, 129, 131, 150, 199
 Nussbaum, Jon F. 214
 Nwoye, Onuigbo G. 306
 Nye, Rebecca 93

O

O'Brien, Gregory 505
 O'Connor, Joseph 177
 O'Connor, Mary 37
 O'Hearn, Kirsten 528
 O'Neill, Daniela K. 35–36, 72, 92–93, 138,
 546–547, 552, 563, 648, 664
 O'Toole, Ciara 547
 Obler, Loraine K. 612–613, 621
 Ochs, Elinor 46, 559, 589, 596
 Odató, Christopher V. 220
 Odlin, Terence 363
 Ögel-Balaban, Hale 103, 111
 Ogiermann, Eva 306–308
 Ohta, Amy S. 402
 Okanda, Mako 123
 Okulska, Urszula 635
 Olaison, Anna 629
 Olness, Gloria Streit 24, 590, 596, 598–599,
 601–602
 Olshtain, Elite 65, 303, 318–319, 366,
 379–380
 Onishi, Kristine H. 43, 94, 137
 Oppenheimer, Catherine 622
 Origgi, Gloria 195
 Orsolini, Margherita 537
 Ortega, Lourdes 238, 248, 250
 Örluv, Linda 631
 Osterling, Julie 525
 Oswald, Steve 197
 Otçu, Bahar 304, 308, 314–315, 317
 Ouston, Janet 525–526
 Owings, Nathaniel O. 554
 Ozçaliscan, Seyda 39
 Ozonoff, Sally 533–534

P

Palmer, Adrian S. 432, 491, 560, 562, 568
 Palmer, Meghan 560, 562
 Palmiere, Denise T. L. 369, 374, 380–381
 Pan, Ping Cathy 253–254
 Paoletti, Isabella 217
 Papafragou, Anna 34, 36, 38–42, 106–107,
 122–124, 130, 132, 134–135, 138
 Papagno, Costanza 510
 Papp, Tünde 240
 Papp, Viktoria 547
 Park, Albert H. 548
 Park, Eunjin 46
 Parsons, Lauren 647
 Partanen, Eino 181

Partington, Alan 164
 Pasquini, Elisabeth S. 92
 Patkin, John 252
 Patterson, Tess 556
 Pattison, Pip 624–625
 Paul, Rhea 529–530, 560, 648–649, 655
 Pearson, Barbara Z. 38
 Pearson, Joanne 505
 Pearson, Lynn 239
 Pell, Marc D. 180, 195, 503
 Penke, Martina 556
 Pennington, Bruce F. 660
 Peppé, Susan J. E. 178, 180–182, 184,
 192–194, 531, 649
 Peräkylä, Anssi 353
 Pérez Vidal, Carmen 251, 430, 442, 456, 460
 Perkins, Michael R. 527, 529, 531, 547–548,
 550, 648, 656–657
 Perner, Josef 45, 49, 51, 94, 96, 137
 Persicke, Angela 150, 537
 Pesco, Diane 560
 Peterson, Candida C. 50, 94
 Petitto, Laura Ann 181
 Pexman, Penny 150, 157–159, 164, 168
 Phelps-Gunn, Trisha 665
 Phelps-Terasaki, Diana 665
 Phillips, Roger D. 195
 Phoocharoensil, Supakorn 374, 382
 Pickering, Lucy 353
 Pickering, Martin J. 557
 Pierrehumbert, Janet 177
 Pillow, Bradford H. 92–93, 95
 Pinto, Maria 537
 Placencia, María Elena 240
 Plant, Roger 617
 Plonsky, Luke 249–250
 Poeck, Klaus 583
 Pogue, Amanda 139
 Pojanapunya, Punjaporn 253–254
 Polanyi, Livia 596–597
 Pomerantz, Anne 353
 Pope, Charlene 630
 Post, Stephen G. 617
 Potts, Christopher 91
 Poulin-Dubois, Diane 89, 126
 Pouscoulous, Nausicaa 33, 39–40, 46, 48,
 122–123, 131
 Pratt, Chris 92–93, 649
 Premack, David 70
 Prezbindowski, Amy K. 74
 Price, Johanna R. 547, 556

Prieto, Pilar 178, 353
 Pring, Linda 503
 Prior, Margot 534, 649
 Prizant, Barry 531
 Prutting, Carol 657
 Pryde, Michael 441, 450
 Pulsipher, Dalin T. 509
 Purdy, Kelly 41, 159–160, 163, 167–168
 Pure, Kiran 91
 Purpura, James E. 484
 Pyers, Jennie E. 76

Q

Quas, Jodi A. 96
 Quasthoff, Uta M. 589
 Quigley, Kathleen 41, 152, 156, 158,
 160–161

R

Rabiee, Mitra 249
 Rajendran, Gnanathusharan 649
 Ramanathan, Vai 618, 622
 Ramanathan-Abbott, Vai 614
 Rapin, Isabelle 648, 651
 Rapsey, Charlene M. 556
 Raskin, Victor 347
 Rassiga, Cecilia 510
 Rathmayr, Renate 306
 Raven, Bertram H. 413
 Raymer, Anastasia M. 594
 Raymond, Geoffrey 615
 Read, Barbara K. 36
 Read, Stephanie 546, 554
 Recchia, Holly 164–166, 169–170
 Redanz, Nancy 181
 Reddy, Vasudevi 77
 Redeker, Gisela 594
 Reeder, Kenneth 36, 47
 Rees, Beth 546, 552, 559
 Reese, Elaine 546, 554
 Regan, Vera 5
 Ren, Wei 244–247, 250–251, 318, 436,
 441–442, 446, 450
 Reynolds-Case, Anne 440
 Rickards, Hugh 649
 Riddiford, Nicky 254
 Ripich, Danielle N. 630
 Risley, Todd R. 78
 Ritchie, Louise 621
 Roberts, Craige 121
 Roberts, Felicia 182

Roberts, Joanne E. 547, 549, 559
 Roberts, Richard 169
 Robinson, Elizabeth J. 93
 Robinson, Jeffrey D. 629
 Robinson, Mary A. 318, 366, 370
 Rockwell, Patricia 160
 Roever, Carsten 20, 241–242, 247, 249, 255,
 291, 302–303, 312–313, 318, 339, 342,
 361, 384, 398, 475, 479–482, 486, 488–490
 Rogers, Sally J. 545, 553, 660
 Rohde, Hannah 133
 Roitblatt, Herbert L. 305
 Rollins, Pamela R. 560
 Rose, Heath 294
 Rose, Kenneth R. 238–239, 242, 269,
 275, 302, 313–315, 317–318, 365, 394,
 400–401, 457
 Rose, Miranda L. 590
 Rosén, Lee A. 526
 Rosenberg, Jarrett 37
 Rosenthal, Varda 559
 Rosner, Marla 37
 Ross, Steven J. 5, 241, 255, 318
 Rossano, Federico 80
 Roth, Froma P. 44, 49
 Roulstone, Susan E. 655, 669
 Rovee, Carolyn K. 68
 Rovee, David T. 68
 Rubin, Emily 530
 Rubio-Fernández, Paula 122
 Ruch, Willibald 534
 Ruffman, Ted 50
 Rühlemann, Christoph 213
 Rundblad, Gabriella 537
 Rupela, Vani 549–551
 Rutherford, Mel D. 526
 Rutter, Michael 526, 531, 649, 652
 Ruusuvoori, Johanna 353
 Ryan, Ellen B. 210–211, 615, 622, 629–630
 Ryckebusch, Céline 37
 Ryder, Nuala 123, 547–548

S

Sabat, Steven R. 615, 617, 629
 Sabbagh, Mark A. 97
 Sachweh, Svenja 211, 224
 Sacks, Harvey 64, 72, 434, 591
 Sacks, Oliver 596, 601–602
 Sadowska, Maria 601
 Saeidi, Sayyid N. 373, 380
 Saffran, Eleanor 612–613

- Safont Jordà, Maria Pilar 255, 276–277, 282
 Sag, Ivan 180
 Saito, Hidetoshi 376
 Sakai, Erin Y. 631
 Sakkalou, Elena 70
 Salemi, Azin 249
 Salomo, Dorothé 50
 Samson, Andrea C. 534
 Sánchez-Hernández, Ariadna 465
 Sandhu, Priti 246
 Sattler, Christine 219
 Saunders, Pamela 631
 Savundranayagam, Marie Y. 621, 630
 Scarcella, Robin 378, 380
 Scarino, Angela 407, 409, 417
 Schachar, Russell 660
 Schachter, Jacqueline 363
 Schaeken, Walter 140
 Schaie, K. Warner 218–219
 Schauer, Gila A. 239, 247–248, 251, 306,
 314, 318, 398, 430, 436, 441–442, 453,
 458
 Schegloff, Emanuel A. 64–65, 72, 434, 591
 Schelletter, Christina 514
 Scheuer, Jann 195
 Schick, Brenda 74, 76
 Schieffelin, Bambi B. 46, 559
 Schiffrin, Deborah 614
 Schmah, Tanya 587
 Schmidek, Mark 560
 Schmidgall, Jonathan 432
 Schmidt, Richard 274, 301, 313–314, 365,
 369, 395–401, 408
 Schneider, Klaus P. 2, 4, 210–211, 213, 243,
 301, 310, 433
 Schneider, Rose M. 123–124
 Schnieders, Guido 211
 Schochet, Ian M. 94
 Scholl, Brian J. 515
 Scholl, Jane M. 629
 Schölmberger, Ursula 310, 441, 451
 Schrabback, Susanne 210
 Schrauf, Robert W. 215, 218, 615
 Schulze, Cornelia 36, 44, 49, 125, 127–128,
 133, 136
 Schumann, Elke 217
 Schwartz, Ilene S. 529
 Schwartz, Myrna F. 612–613
 Scollon, Ron 182, 311, 621
 Scollon, Suzanne Wong 311, 621
 Scott, Kate 178, 193–194
 Scott, Katherine 71
 Scott, Rose M. 43, 71
 Scott-Phillips, Thomas C. 196, 198
 Scrafton, Susan 129, 140
 Searle, John R. 41, 62–63, 65, 240, 270–271,
 275, 303, 479, 657
 Secord, Wayne 665
 Sedivy, Julie C. 37
 Segal, Aviva 560
 Segal, Gabriel 515
 Sekerina, Irina A. 48, 134
 Seki, Yoshimi 95
 Selinker, Larry 361, 363, 365, 395, 437
 Sell, Friederike 461–462
 Senghas, Ann 76
 Senju, Atsushi 43–44, 71, 199
 Seung, Hye-Kyeong 560
 Sfirlea, Lidia 212
 Shadden, Barbara 596
 Shahrokhi, Mohsen 372
 Shapiro, Jon 47
 Sharwood-Smith, Michael 400
 Shatz, Marilyn 36, 49–50, 72, 104
 Shaw, Adrienne 150, 536
 Sheard, Christine 510
 Shelley-Tremblay, John 624
 Shimura, Mika 255
 Shirai, Hidetoshi 101
 Shirai, Junko 101
 Shirinbakhsh, Salva 373, 382
 Shively, Rachel L. 241–242, 246, 249, 251,
 318, 351–354, 366, 398, 400, 430, 437,
 441–442, 450, 453, 455–456, 460, 462,
 464
 Shiverick, Sean M. 95
 Shott, Sally R. 548–550
 Shriberg, Elizabeth 220
 Shriberg, Lawrence D. 648–649
 Shultz, Thomas 49, 122, 124, 130
 Shute, Brenda 215
 Sidnell, Jack 65
 Siegal, Meryl 408, 440, 460
 Siegal, Michael 33, 128, 588
 Sifianou, Maria 305
 Sigman, Marian D. 526, 551–552, 555,
 648
 Sigman, Marion 557
 Silber, Sharon 104
 Sillars, Alan L. 216
 Silverman, Laura B. 528
 Silvern, Louise 531

- Simmons III, James Q. 530
 Simmons-Mackie, Nina N. 602, 632
 Simon, Anne C. 219
 Sinai-Gavrilov, Yana 526
 Sinclair, John Mc Hardy 213, 450
 Sindberg, Heidi A. 558, 560, 562
 Singer, Tania 218, 550
 Singer Harris, Naomi G. 550
 Singh, Raj 131
 Ska, Bernadette 509
 Skordos, Dimitrios 34, 40, 122, 134–135, 138
 Skotko, Brian G. 545
 Skuse, David H. 651
 Slabakova, Roumyana 349
 Slade, G. 668
 Slaughter, Virginia 50, 94
 Slonims, Vicky 551, 553, 557
 Small, Steven L. 587
 Smith, Benita R. 648
 Smith, Bruce L. 549–550
 Smith, Lars 559
 Smith, Mary K. 630
 Smith, Peter K. 516
 Smith, Rita L. 560
 Smithers, Janice 612
 Smylie, Charlotte 195
 Snedeker, Jesse 41, 123, 126, 139, 150, 158, 160
 Snow, Catherine E. 33, 69, 78
 Snow, David 182–183, 193
 Snowling, Margaret J. 659
 Snyder, Lisa 616–617, 619–620, 633
 Soares Palmer, Dionne 253–254
 Sobel, David M. 139
 Soderstrom, Melanie 181
 Sodian, Beate 42, 92–93
 Sokol, Shari 549
 Song, Hyun-Joo 36, 43, 199, 206
 Sorenson, Autumn 532, 544
 Southgate, Victoria 35, 43–44, 53, 59, 199
 Sowden, Hannah 527
 Spagnolli, Anna 255
 Sparks, Alison 652, 665, 668
 Speas, Margaret 91
 Spector, Benjamin 121, 131
 Speer, Shari 178
 Spekman, Nancy J. 44, 49
 Speltz, Matthew L. 650
 Spencer, Patricia E. 74, 76
 Spencer-Oatey, Helen 18, 242, 393, 411–413, 415
 Sperber, Dan 33, 43, 64, 91, 94–96, 121, 137, 151–152, 161–163, 166, 169, 188–190, 193, 195–199, 331, 333–337, 500, 513, 547–548, 559, 648, 658
 Spieler, Daniel H. 220
 Spiker, Donna 553, 557
 Spotorno, Nicola 150, 158
 Stark, Jacqueline A. 599
 Steensig, Jakob 615
 Stewart, Craig T. 590, 599
 Stiller, Alex J. 123–124, 126
 Stine, Elizabeth A. 222
 Stine-Morrow, Elizabeth A. 221
 Stivers, Tanya 65, 615
 Stoel-Gammon, Carol 549–550, 563
 Stokoe, Elisabeth 247
 Strey, Claudia 196
 Stuhlmüller, Andreas 137
 Su, I-Ru 373–374
 Suendermann-Oeft, David 490
 Sugai, George 655
 Sullivan, Jessica 133, 135, 140
 Sullivan, Kate 44, 94
 Sunakawa, Chiho 216
 Surian, Luca 33, 43, 94, 128, 506, 531, 649, 658
 Swain, Merrill 237, 393, 404, 491, 629
 Swerlander, Agneta 551
 Swisher, M. Virginia 74
 Sydorenko, Tetyana 276, 280, 285, 288, 291
 Sykes, Julie M. 253–254, 292, 406
 Symons, Douglas 66
 Syrbe, Mona 294
- T**
- Tada, Masao 478–479, 490
 Taddei Gheiler, Franca 220
 Tadić, Valerie 503
 Tager-Flusberg, Helen 94, 523, 529, 531, 659–660
 Taguchi, Naoko 16, 241, 243–244, 247–251, 255, 269, 276, 280, 285, 289, 291–292, 302, 316, 338–344, 361, 383–384, 400, 402, 407, 430–431, 435–437, 440–442, 448, 453–454, 457–459, 461, 463–465, 479
 Takada, Akira 77
 Takahashi, Satomi 249, 255, 276–277, 285–286, 305, 365, 368, 377, 382, 394–395, 399–400
 Takahashi, Tomoko 240, 365, 367, 370, 373–374, 379, 381–382, 384

- Takamiya, Yumi 402–403, 404
 Takimoto, Masahiro 400
 Taleghani-Nikazm, Carmen 248, 382
 Tanaka, Noriko 315
 Tanenhaus, Michael K. 139
 Tannen, Deborah 222
 Tannock, Rosemary 553, 557, 559, 660
 Tantalou, Niki 39, 123–124, 130
 Tarone, Elaine 240, 401, 408
 Tateyama, Yumiko 249, 400
 Tavakoli, Mansoor 373, 382
 Taylor, Lauren J. 526
 te Kaat-van den Os, Danielle 554
 Téglás, Erno 44
 ten Have, Paul 618
 Teng, Chunhong 441, 453, 456
 Tercedor Cabrero, Marta 253
 Terkourafi, Marina 308
 Tesak, Juergen 582
 Tetnowski, John A. 550
 Thagard, Paul 190
 Thiemann-Bourque, Kathy S. 549, 553
 Thomas, Anaïs 213, 633
 Thomas, David C. 410, 414
 Thomas, Jenny A. 2–3, 239, 270–271, 273,
 303, 331, 364, 394, 432, 481
 Thomas, Michael 656
 Thompson, Ian 222
 Thompson, L. 549
 Thompson, Laura 33
 Thompson, Paul 216
 Thompson, Sandra A. 248
 Thordardottir, Elin T. 556
 Thurber, Christopher 529–531, 649
 Thurrell, Sarah 393, 432
 Tieu, Lyn 131
 Timmins, Claire 549
 Timpe-Laughlin, Veronika 4, 254, 432, 479,
 482–483, 489
 Ting-Toomey, Stella 410
 Tomasello, Michael 35–37, 44–45, 49–50,
 70–71, 73, 79–80, 104, 119, 125, 127–128,
 133, 136–138, 192, 525
 Tonhauser, Judith 134
 Tooby, John 188, 198
 Topolovec, Jane C. 36
 Tran, Giao Q. 375, 381
 Tranströmer, Tomas 594–595
 Trevarthen, Colwyn 68, 551
 Tribushinina, Elena 125
 Trosborg, Anna 271, 275, 304, 306, 313
 Trueswell, John C. 134
 Tsai, Mei-Hsing 248, 253
 Tsakiridou, Eleni 558
 Tunali, Belgin 528
 Turco, Giuseppina 372, 380
 Tyson, John 514
- U**
- Ulatowska, Hanna K. 24, 590, 594–602
 Uliss-Weltz, Robin 365, 382
 Ullstadius, Eva 551
 Únal, Ercenur 107
 Underwood, Kate 216
 Upadhyay, Shiv R. 309–310
 Usó-Juan, Esther 15, 269, 293, 401
 Uzundag, Berna A. 103
- V**
- Vahdany, Fereydoon 276, 283
 Vahid Dastjerdi, Hossein 276, 285–286
 Vaid, Jyotsna 348, 350, 353
 Vaihinger, Hans 617
 van Berckelaer-Onnes, Ina A. 658
 Van Borsel, John 549, 550
 Van Bourgondien, Mary E. 534
 van Bysterveldt, Anne K. 23, 546–547, 549,
 552, 559–562
 van Compernelle, Remi A. 250, 303, 320,
 395, 401–405, 432
 van den Bogaerde, Beppie 76
 Van den Branden, Kris 289
 van der Lely, Heather K. J. 506, 531, 649
 van Dijk, Teun 615
 Van Lancker Sidtis, Diana 625
 Van Lancker, Diana 601, 625
 van Langenhove, Luk 217
 van Tiel, Bob 132
 Vance, Maggie 178
 Vandereet, Joke 558
 Vanmeter, John W. 503
 Varley, Rosemary 588
 Veenstra, Alma 40
 Velleman, Shelley L. 549–551
 Vellenga, Heidi E. 312, 384, 400
 Verbuk, Anna 49, 122, 124, 130–131
 Verschueren, Jef 584
 Vihman, Marilyn 178
 Vilar-Beltrán, Elina 313, 437, 441–442, 446
 Visootsak, Jeannie 548
 Voeste, Anja 211
 Volden, Joanne 531–532, 648–650

- Volman, M. (Chiel) J. M. 554
 Volterra, Virginia 67–68, 73, 75, 527
 Voltmer, Kai A. 371
 von Tetzchner, Stephen 559
 Voperian, Hourri K. 549–550
 Vorster, Jan 215
 Vosniadou, Stella 39
 Vygotsky, Lev 403, 655
- W**
- Wachtel, Gwyn F. 43
 Wade, Shirlene 133, 135, 140
 Wagner, Laura 556
 Wagner, Suzanne E. 211
 Wahl, Hans-Werner 630
 Wain, Jennifer 432
 Wakefield, Jane 47
 Wales, Roger 624–625
 Waletzky, Joshua 217
 Walker, Traci 302, 305, 320
 Walker-Andrews, Arlene 195
 Walters, F. Scott 484–486
 Walters, Joel 316
 Wang, Jiayi 412
 Wang, Stanley 255, 339
 Wang, Ting 150, 534
 Wannaruk, Anchalee 375
 Ward, Gregory 177
 Warga, Muriel 310, 436, 441, 451
 Waring, Hansun Z. 383
 Warneken, Felix 70
 Warner, Chantelle 415
 Warren, Steven F. 551, 553–557, 559–560
 Watling, Dawn 95
 Watson, Julianne 43, 93, 137
 Watts, Richard J. 272–273, 310
 Waxman, Robyn P. 74, 76
 Wayland, Sarah C. 222
 Wearing, Catherine 169
 Weasenforth, Donald 253
 Weber, Ashley 250, 403–404
 Weed, Stephen T. 95
 Weeks, Murray 654
 Weijerman, Michel E. 548
 Weinreich, Uriel 362
 Weisleder, Adriana 78
 Weiss-Perry, Bedonna 555, 559
 Weitzman, Elaine 555, 558, 560
 Weizman, Elda 304
 Wellman, Henry M. 43, 93–94, 104, 137
 Wells, Bill 178, 181–182, 184, 192, 194
 Wells, Gordon 215
 Wendelstein, Britta 219
 Werkhofer, Konrad 272
 West, Paul 595
 Westerveld, Marleen F. 547, 560–561
 Wetherby, Amy M. 523, 657
 Wharton, Tim 11, 178, 180, 185–187, 190,
 193, 195–198, 502
 Wheeler, Polly 69
 Wheelwright, Sally 526
 Wheldall, Kevin 215
 Whitaker, H. 614
 Whitcombe, Emma L. 93
 Whitehouse, Andrew J. O. 647
 Wichmann, Anne 178, 191, 195
 Widjaja, Christina 318
 Wiegel-Crump, Carole 587
 Wiemann, John M. 615
 Wierzbicka, Anna 46, 216,
 306–307
 Wiig, Elisabeth H. 665
 Wijayanto, Agus 373
 Wilkinson, Ray 601
 Williams, Angie 216
 Williams, Karen 182
 Williams, Katie R. 557
 Williams, Kristine N. 629–630
 Williams, Lawrence 320, 401, 403
 Wilson, Deirdre 10, 39, 41, 64, 95,
 121, 151–152, 162–163, 166, 169,
 178, 180, 185–190, 193, 195–196,
 198, 331, 333–337, 500, 513–514,
 547–548, 559, 648, 658
 Wilson, Elspeth 9, 123–124, 126–127, 138
 Wilson, Kaitlyn 648
 Wimmer, Heinz 42, 92–94, 96, 137
 Wingfield, Arthur 221–222
 Winke, Paula M. 441, 453, 456
 Winner, Ellen 41, 44, 48, 150, 510, 533
 Wishart, Jennifer G. 550, 557
 Witecy, Bernadette 556
 Wohlfahrt, Rainer 217
 Wolfson, Joan 3
 Wong, Tze-Peng 547, 555–556, 558–559
 Woodfield, Helen 16, 304, 306, 308, 313,
 315–318, 320
 Woodruff, Guy 70
 Woods, Juliann 525
 Woodward, Amanda L. 70
 Wray, Alison 224, 613, 625, 632
 Wright, Courtney A. 558

Wright, Ingram 551, 556
Wright, Jannet A. 652
Wright, Jordan 654
Wu, Ching-Lin 534
Wyner, Lauren 239
Wynn, Karen 45

X

Xiao, Feng 430, 440, 457, 465
Xing, Jianyu 412

Y

Yamaguchi, Shota 241
Yamamoto, Taeko 98, 101–102
Yamanaka, Janice 339–340, 342–343,
345
Yamashita, Sayoko O. 477–478, 480,
489–490
Yang, Li 400
Yashima, Tomoko 401
Yassa, Michael A. 219
Yates, Lynda 245, 250, 436
Yildirim, Ilker 139
Yoder, Paul J. 555
Yoon, Erica J. 124, 133, 140
Yoon, Yeo Bom 318
Yoshitake, Sonia 477–478
Youn, Soo Jung 255, 483–487, 489–490
Young, Edna C. 649

Young, Richard F. 433
Yourganov, Grigori 583
Yuill, Nicola 95
Yun, Seungmin 372
Yurovsky, Daniel 64
Yus, Francisco 253, 347

Z

Zacharski, Ron 193
Zaitchik, Deborah 94
Zalla, Tiziana 532
Zampini, Laura 550, 558
Zank, Susanne 630
Zaslow, Martha 36
Zee, Eric 530
Žegarac, Vladimir 415
Zeisel, John 621–622
Zellner-Keller, Brigitte 222
Zeshan, Ulrike 74
Zeyrek, Deniz 304, 308, 314–315, 317
Zhang, Yao 276–277, 283–284, 291
Zhao, Na 310
Zhuang, Jingyuan 249–250
Ziatas, Kathryn 649, 657, 659
Zietlow, Paul H. 216
Zigman, Warren B. 547
Zinke, Katharina 224
Zufferey, Sandrine 7, 33–34, 44, 122,
136, 198, 212

Subject index

A

- ability
 - inferential ~ 192
 - interactional ~ 486
 - mindreading ~ 93–96, 157–158, 186, 198
 - narrative ~ 547
 - processing ~ 459
 - see also* competence
 - see also* disability
- abroad
 - sojourn ~ 431, 456
 - stay ~ 342, 429, 435, 453
 - study ~ 250, 343, 429, 431
 - study ~ context 431, 453, 455
 - year ~ 435, 451–452
- acceptance 441
- acquisitional study 238
- acquisition period 35
- actional level 433, 439
- action sequence 66–67
- ad hoc
 - see* implicature
 - see* inference
- adjacency pair 65, 506
- address 212, 253, 309–310, 364, 369, 397, 405–406, 416, 433, 439, 454, 599–600
- advanced learner *see* learner
- affect 182
 - ~ sharing 545, 557
- affective prosody 196
- affordance 584
- age 209
 - ~~grading 212
 - ~~related roles 213
- agency 240, 243, 251, 406
- allusional pretence theory 152
- alternative (stronger) 123
- Alzheimer's dementia *see* Alzheimer's Disease
- Alzheimer's Disease (AD) 217, 223, 503, 510, 547
- analysis of knowledge 397
- anaphoric reference 508, 511
- aphasia 502, 507, 581–583, 585, 586–602
 - ~ typology 582, 604
- apology 383, 458, 477
- apparent time 214
- appropriate/inappropriate language use 407
- appropriateness judgment 49, 481
- art gallery program 622
- as if philosophy 617
- Asperger Syndrome (AS) 524, 651, 657
- assessment 255
- attentional control 75, 397
- Attention Deficit Hyperactivity Disorder (ADHD) 650
- attention-getting cue 75
- attitude 151, 157, 160, 162, 167, 169
- audiovisual input 483
- augmentative and alternative communication (AAC) 622
- authentic discourse 246
- Autism Diagnostic Observation Schedule (ADOS) 652
- Autism Spectrum Disorder (ASD) 192, 502–503, 505, 516–517, 553, 649
 - High-Functioning ~ 23, 515, 524, 526, 533, 657
- automatization of language 614
- awareness 592
 - ~ of difference 410
 - ~ of interactional strategy 410
 - ~-raising instruction 400
 - ~-raising task *see* task
 - lack of ~ 399, 588
 - metalinguistic ~ 586, 592
 - metapragmatic ~ 18, 20, 394–395, 403–406, 439, 442, 456, 593, 665
 - phonological ~ 546 *see also* phonological
 - pragmalinguistic ~ 394, 401, 403
 - pragmatic ~ 18, 290, 393–395, 397, 400–401, 404, 410, 442
 - raising an ~ 250
 - sociopragmatic ~ 394

<https://doi.org/10.1515/9783110431056-025>

B

babbling 181
 baby talk, (secondary) 211
 backward inference *see* inference
 banter(ing) 161, 164, 167–168, 170
 bargaining 441
 baseline data 437–438
 beginner (learner) *see* learner
 belief 42, 70, 659
 ~ systems 616
 see also false belief
 biologization of senility 616
 black box research 463, 465
 body language 633
 book reading 75
 bottom-up 139, 478, 483, 485
 bridging inference *see* inference
 built environment 619–620

C

CALL task *see* task
 case history interview 661
 certainty 9, 42, 90–92, 97–98, 100–101,
 104–105
 child
 ~~centric perspective 78
 ~~directed signing 74
 Children's Communication Checklist
 (CCC) 663, 650
 chimpanzee 80
 Chinese 99–100, 111, 310, 365, 411, 455,
 465
 clarity of reference 598
 classroom 18, 249–250, 274, 419
 Clinical Evaluation of Language
 Fundamentals-5 (CELF-5) 665
 clinical pragmatics *see* pragmatics
 close/distant 411
 clustering 599
 code-switch 252, 598, 602
 cognitive
 ~ aging 218, 222
 ~ and emotional reaction 409
 ~ processing 289, 345, 459, 465, 508,
 531
 ~ substrate 506, 587
 coherence 559, 586, 593–594, 596, 600
 see also discourse coherence
 cohesion 508, 511
 cohesive (link) 121, 125, 136, 508, 649
 cohort effect 218

collaborative
 ~ dialogue 289, 291, 404, 417
 ~ engagement 590
 ~ talk 289, 403
 colloquialism 440
 colloquial phrase 454
 common ground 35, 37, 72, 536
 communication 73–75, 89, 120, 128, 140,
 154, 179, 186–187, 196, 210–211, 224,
 237, 252, 287, 301, 546, 562
 written ~ 2, 24, 592
 communicative
 ~ act 6–8, 61–63, 318, 653, 658
 ~ competence *see* competence
 ~ deficit 523
 ~ event 2, 412, 414
 ~ impairment 523, 525–526, 547
 ~ intention 43, 48, 61, 70, 72–73, 119, 121,
 182, 333, 449, 501–502, 506, 513, 517
 ~ rationality 504
 co-morbid condition 553, 651
 compensation 13, 210, 221–224
 competence 581, 585
 communicative ~ 4, 65, 220, 237, 250,
 369, 409, 432–433, 475
 discourse ~ 4, 237, 369, 482
 interactional ~ 5, 433, 475, 489, 648
 interactional non~ 619
 language ~ 2, 535, 656, 660
 linguistic ~ 429–430, 504–505, 532
 multi~ 14, 240, 409
 pragmalinguistic ~ 3, 364
 pragmatic ~ 1–27, 290, 341, 364, 383,
 393, 397, 429, 500, 504, 508, 512, 516–
 517, 591, 594–595, 655
 sociolinguistic ~ 5
 sociopragmatic ~ 3
 speech act ~ 432
 complaint 18, 20, 66, 78, 239, 246, 313,
 318–319, 369, 375–376, 380, 383, 441
 compliment 240, 247, 270–271, 372, 374,
 380, 394, 416, 441–442, 451, 455, 484
 ~ response *see* compliment
 comprehension 48, 105–107, 122, 129, 140,
 156–159, 189–190, 193, 241, 249–250,
 305, 331–332, 336–352, 442, 459, 489,
 509, 514, 531, 534–535, 537, 549, 554,
 556, 563–564, 582, 588, 625, 649, 656,
 658–659, 665
 ~ accuracy 17, 340–342, 345
 ~ speed 17, 340–341, 343, 454

- see also* humour comprehension
see also idiom comprehension
see also indirectness comprehension
see also L2 implicature comprehension
see also metaphor comprehension
see also pragmatic comprehension
- Comprehensive Assessment of Spoken Language (CASL) 665
- computer-mediated communication (CMC) 287
- concept-based instruction 404–405
- conceptual encoding 190
- concurrent verbal report (CVR) 318, 320
- Conduct Disorder (CD) 650
- confidence 277, 279, 282–283, 285, 290, 293
- confronting dissonance 405
- constraint 301, 341, 584–585, 593, 602, 656
- construction 133–134, 213, 216–217, 252, 283, 307–308, 404, 432, 615, 622–623, 628–629
- context 121, 129, 139, 167, 190, 214, 241, 243, 249–250, 252–253, 274, 282–283, 302, 313–315, 334, 363, 366, 395–396, 411, 431, 448, 451, 461–464, 481–482, 486, 517, 524, 528, 532, 535, 560, 585, 593, 603
 - ~ boundedness 621
 - ~ dependency of meaning 407
 - ~ of interaction 524, 531
 - ~ of stay 451
- contextual affordance 588, 602
 - ~ assessment norm 411
 - ~ constraint 301, 585, 602
 - ~ variable 397, 401, 409–410, 484
- contrastive analysis 362–363
 - ~ stress 133–134, 183, 192
- conventional
 - ~ and non-conventional meaning 363
 - ~ implicature *see* implicature
 - ~ indirectness *see* indirectness
- conventionalised 3, 45, 126
- conventionality 126, 140, 337–339, 344
- conversation 138, 380, 433
 - ~ analysis (CA) 8, 21, 64, 69, 242, 248, 271, 320, 433, 484–485, 618, 666
- conversational
 - ~ analysis 15, 655, 666
 - see also* conversation analysis (CA)
 - ~ implicature *see* implicature
 - ~ maxim 9, 305, 657–658
 - ~ narrative 24, 625, 627
 - ~ norm 77
 - ~ participation 601
 - ~ reciprocity 666
 - ~ register 531
 - ~ skill 67, 77, 556, 648, 662
- cooperative 128
 - ~ principle 63, 120, 332–333, 336, 657–658
 - ~ theory 662
- cooperativity 64, 129, 134, 139–140
- corpus pragmatics *see* pragmatics
- corrective feedback 285, 289–290, 455
- couch 26, 623, 628
- couple 215–216, 602
- cross-cultural
 - ~ adaptability 459, 465
 - ~ pragmatics *see* pragmatics
 - ~ variation *see* variation
- cross-linguistic 77, 140, 195, 319, 365, 373, 397, 476
 - ~ influence 373, 395
- cross-sectional 213, 313, 315, 317, 398, 401, 438, 446, 448, 537
 - ~ research 401
- cultural 216, 237, 242, 253, 269, 272, 306, 308–309, 334, 346, 351, 372, 406–411, 417, 603, 612, 621, 652, 665
 - ~ assumption 334, 406–407, 409–410, 417, 419
 - ~ signal 195
 - ~ stereotype 253, 417
 - ~ value 306, 373, 376, 378, 408, 411, 414, 621, 635
- culture 13, 45, 78, 195, 221, 240, 252, 272, 306, 308–309, 350, 362, 407, 415, 417, 444, 452, 458, 601, 616–617
 - hypercognitive ~ 617
- cyberpragmatics *see* pragmatics
- D**
- dance 26, 186, 623, 630
- data collection 246, 250, 318, 367, 380, 438
- DCT *see* discourse completion task
- deaf children/parents 8, 74–76
- decentering 409
- declarative pointing 524, 527
- deictic expression 23, 502, 524, 528
- deixis 26, 345, 511, 528, 601, 624–625, 649
- delay in implicature acquisition 119
- dementia discourse 224

- dementias 22, 499, 505, 510
 see also Alzheimer's Disease
- dependency-support script 630
- developmental trajectory 73, 122, 140, 352, 534
- development of L2 pragmatic competence 15, 250, 253, 430, 434, 453
- diachronic marker 223
- dialogue choice task *see* task
- direct
 ~ reported speech 511
 ~ request 241, 247, 304, 308, 314–315, 340, 368, 533
 ~ strategy 319
see also indirect
- disability 507, 528, 547–549, 556, 558, 654
- discernment politeness 309
- discourse 581, 583, 585–589, 593
 ~ analysis 248, 484, 615, 666
 ~ analytic approach 583–584, 593, 603
 ~ analytic framework 583
 ~ coherence 13, 219, 223, 587, 589, 591, 593, 599, 614
 ~ competence *see* competence
 ~ completion task (DCT) 20, 243–245, 279, 307, 317, 320, 366–367, 380, 402, 476, 481
 ~ completion test *see* ~ completion task
 ~ genre 596, 604
 ~ marker 7, 20, 38, 211, 213–214, 599
 ~ performance 483
 ~ task *see* task
- naturally-occurring ~ 243, 612, 629
- public ~ 25, 612, 616–617, 623, 629
- spoken ~ 4, 511, 594
- written ~ 4–5, 591, 594
- discovery task *see* task
- discursive
 construction of identity 628
 discursive view of pragmatics *see* pragmatics
- disfluency 219–220, 222
- disorder 6, 21, 499, 523, 548, 553, 582, 604, 613, 647, 649, 655, 668
- displacement 622
- divergence 12, 316, 401, 451
- doing being old 13, 217
- domain
 ~ of practice 464
 ~ specificity 515
- downgrader 249, 308, 314, 316
- Down syndrome 23, 545, 548, 555, 563
- dramatic irony 154
- dynamic systems (DS) theory 656
- E**
- early
 ~ age 42, 92, 119, 210, 555
 ~ childhood 66, 533
 ~ gesture 75
 ~ intervention 547, 563
- echoic
 ~ account 151, 155, 157
 ~ reminder theory 152
 ~ use 154, 166
- echoing 151, 155–156, 166
- educational standard 460
- EF *see* executive function
- elaborative inference 121, 125
- elderliness construction 216
- elderspeak 12, 211, 629
- ELF *see* English as a lingua franca
- ellipsis 309, 345, 450, 508, 586, 588, 591
- email request 253, 282–283, 290
- embodied selfhood 620
- emergent intention 335–336
- emotion 22–23, 94–95, 181, 183, 192, 195–197, 350, 409, 459, 525–526, 552, 557
 ~ recognition 526
- emotional
 ~ procedure 196
 ~ state 184, 525, 659
 ~ vigilance 196–197
- empathy 410–411, 633
- empty speech 624–625
- English as a lingua franca 431
- epistemic
 ~ expression 89–90, 92, 99, 111
 ~ state 98, 107, 136, 138
 ~ vigilance 91–93, 96, 100, 196
- equal/unequal 311, 411
- Erasmus 429, 443, 451
- essentialist perspective 417
- evaluative
 ~ device 599–600, 604
 ~ expression 597
 ~ judgement 415
 ~ language 590, 596
 ~ prosody 590, 599
 ~ repetition 598

- evidential system 105
 ~ expression 89–90, 99, 108–111
 ~ marker 41, 99–100, 103, 105, 249
- evidentiality 9, 91, 98, 100, 104, 111
- exchange structure 439, 441, 460
- executive
 dysfunction 505, 660
 ~ function (EF) 140, 507, 558, 587–588, 593, 658, 660
- expectations 129, 139, 189, 198, 212, 241, 312, 365, 501, 563
- experiential island 627
- experimental paradigm 614
- expert power 413–414
- explicature 121, 194
- explicit
 ~ focus on memory 619
 ~ instruction 249, 275, 284, 399, 623
 ~ teaching 250, 285
- eye
 ~ contact 71, 78, 525
 ~ gaze 38, 504
- F**
- fable 600–601
- face 242, 271–272, 275, 303, 306, 615
 ~ Constituting Theory 242
 ~-threatening 222, 272, 619, 622
 ~-threatening act 15, 242, 249, 271, 303
- facial 525, 557, 633
 ~ expression 160, 186, 190, 346, 503–504, 525–526
- factor 3–4, 9, 18, 26, 34, 50, 105, 122
- false belief 43–44, 137, 558
 ~ task 70, 93, 98, 138, 158
 ~ test 157–158, 558
 first-order ~ test 158
 second-order ~ task 158
- family interaction 530
- feedback 72, 249, 253, 284, 290, 455, 464, 561
- felicity condition 41
- figurative language 154, 347, 514, 535
- filler 220, 222, 441, 624
- focus intonation 133
- foreclosure, (narrative) 220
- foreigner talk 455, 464
- foreign language classroom 431–432
- foreignness 239
- formal
 ~ level 20, 433, 439–440, 443
 ~ style 531
- forward inference 334
- frame-shifting 348
- French 307, 311, 397, 404, 431, 447, 458, 462
- functional-communicative approach 583
- functionalist
 ~ approach 584
 ~ pragmatic perspective 601
- G**
- gaze following 71
- gender 3, 209, 214–216, 248, 309, 457, 630, 668
- generate alternatives 134–135
- generation 77, 211–212
- genre 282, 293, 407, 461, 596, 604
- German 16, 90, 223, 306–308, 316, 398, 446, 451, 460
- gestural impairment 526
- gesture 74, 346, 527–528, 546, 550, 554, 632–633
 ~-word combination 68–69
- gift offering 441
- globalization 419
- globalized world 255
- goal of developing pragmatic awareness 401
- grammar 122, 130, 133, 180, 188, 238, 252, 316, 361–362, 459
- greeting 46, 62, 78, 239–240, 283, 462, 655
- Gricean tradition 5
- Grice's theory 335, 657
- H**
- healthcare 224, 629
- health issue 548
- healthy aging 219, 223–224
- hearing loss 74, 503, 548–549
- heritage
 ~ language 216, 367, 371, 384
 ~ learner *see* learner
- High-Functioning Autism (HFA) *see* Autism Spectrum Disorder
- honorifics 13, 46, 309, 215, 397, 455
- host family 455–456
- human evolution 77

- humour 6, 17, 332, 346–347, 441, 509, 533–534, 590, 625, 633
 ~ comprehension 347, 349–351
 perception of ~ *see* perception
- hyperbole 153, 163, 165–166, 168–169, 536
- hypercognitive culture *see* culture
- I**
- iconic gesture 527
- identity 20, 243, 455, 596–597, 629
 ~ construction 216–217, 623, 628
- idiom 482, 509, 649, 666
 ~ comprehension 656, 659
- idiomatic expression 223, 535
- ignorant 35, 92, 111, 137
- illocutionary
 ~ act 62, 240, 270, 303
 ~ class 63
 ~ force 178, 271, 314, 503, 657
- imitation 162, 166, 525, 551, 556–557
- immediacy 622
- immigrant 254, 432, 434
- impairment 22, 219, 503, 582, 599, 601, 648, 660
- imperative pointing 527
- implicature 119, 241, 479, 509, 649, 666
 ad hoc (quantitative) ~ 123–124
 conventional ~ 337–338, 344
 conversational ~ 150, 241, 304, 332, 657–658
 manner ~ 125–127, 135–136
 non-conventional ~ 17, 242, 338–339–340, 342–343
 quantity ~ 9–10, 123–124, 130, 136–138
 relevance ~ 9–10, 124–125, 129, 133–134, 338
 scalar ~ 39–40, 42, 123, 131–133
- implicit instruction 249, 275, 285, 291
- implicitly 38, 43, 136, 249, 344
- implicit vs. explicit pragmatic instruction 401
- inanimate object 621
- INCA-A coding system 69
- incongruity 347, 534
- indirectness 242, 301, 311, 320, 364, 370, 408
 conventional ~ 304–305, 307, 364
 ~ comprehension 332, 344
 non-conventional ~ 304–305
- indirect
 ~ refusal 338, 342–343, 366
 ~ request 45, 241, 247, 304, 340, 536
 ~ speech act 36, 306, 337, 502
see also direct
- individual
 ~ difference 50, 78, 103, 218, 255, 457
 ~ variation *see* variation
- Indonesian 319, 446
- inefficiency of expression 587
- infancy 66, 78, 119, 138
- infant play 67
- inference 43, 62, 92, 103, 120–121, 130, 190, 332, 335
 ad hoc ~ 123–124
 backward ~ 334
 bridging ~ 514
 manner ~ 133, 135
 quantity ~ 134
 relevance ~ 125, 129, 132, 136
- inferencing 333, 346, 547
 ~ process 127, 134, 334, 399
- inferential
 ~ ability *see* ability
 ~ process 134, 188, 197
- inferred meaning 533
- informal interview 662
- informational encapsulation 515
- information management 512
- informed understanding 405
- in-group 252
- inhibitory control 512, 660
- initiate and maintain topics 559
- input 243, 249, 251, 285, 396, 453
- institutional
 ~ setting 215, 480, 629
 ~ talk 254
- instruction 285–286, 398, 456
 ~ versus exposure studies 274, 283
- instructional settings/classroom 249
- instrument practicality 488
- intake 312, 396
- integrate 138–139
- intellectual 218, 556
- intelligence 91, 218, 410
- intelligibility 545, 550, 561
- intention 48, 70, 80, 94–95, 119, 128, 136, 335
- interaction 184, 194, 242, 453, 484
- interactional
 ~ ability 486
 ~ competence *see* competence
 ~ consequence 402

~ context 618–619
 ~ convention 412
 ~ level 20, 433, 439, 450
 ~ non-competence *see* competence
 ~ practice 246, 248, 433
 ~ routine 77, 80
 interactive communication 601
 intercultural
 ~ interaction 352
 ~ language learning 415–417
 interculturality 419
 intergenerational 216, 224, 629
 ~ encounters 210, 216
 ~ interaction 629
 interlanguage 16, 269, 301, 313, 317, 395,
 398, 457
 ~ pragmatics (ILP) *see* pragmatics
 interlocutor 273, 303, 351–352, 414
 internal modification 16, 307, 312–314,
 450
 interpersonal
 ~ memory 622
 ~ relationship 395, 403, 408
 inter-rater reliability 478, 484
 intersubjectivity 252, 551, 632
 primary ~ 551
 secondary ~ 551
 interventional study 276
 interview 246, 344, 380, 453, 526, 595, 618,
 661–662
 in the wild 251
 intonation 12, 23, 156, 179, 182, 530, 550,
 589, 632
 intralingual variation *see* variation
 ironical
 ~ attitude 155
 ~ imperative 153
 ~ interrogative 153
 ~ tone of voice 11, 150, 160–162
 ironic
 ~ compliment 159, 164, 168
 ~ criticism 156, 159, 164
 irony 10, 41, 153–155, 163, 166, 338, 340,
 351, 505, 533

J
 Japanese 46, 90, 98–99, 101, 211, 249, 255,
 309–310, 341, 365, 369, 417, 446–447,
 459, 477
 jocularity 164, 166–167
 jocular utterance 166–167

joint
 ~ activity 64
 ~ attention 22, 70–74, 128, 525, 552, 622
 ~ attentional frame 128
 joke 155, 160, 222, 347–353, 534, 649
 judgment tasks *see* task

K

knowledge 10, 14, 35, 46, 51, 77, 80,
 91–93, 99, 121, 127–128, 138, 237–238,
 255, 282, 293, 302, 317, 331, 340, 364,
 395, 397, 432, 461, 481–482, 592
 see also pragmatic knowledge
 see also sociopragmatic knowledge
 see also world knowledge
 knowledgeable 35, 92, 137–138

L

L1 humor processing *see* processing
 L2
 ~ humor interpretation 349
 ~ implicature comprehension 17, 336, 345
 ~ pragmatic development 238, 242, 250,
 255, 395, 401, 448, 454, 463
 ~ pragmatics *see* pragmatics
 ~ proficiency 255, 350–351
 ~ workplace 249, 254
 lack of awareness *see* awareness
 language
 ~ acquisition 35, 46, 73, 76, 274, 431, 457
 ~ competence *see* competence
 ~ contact 342–343, 453
 ~ deficit 582
 ~ development 42, 61, 65, 71, 78, 194,
 395, 523, 527, 554, 665
 ~ impairment 502, 508, 510, 514, 583,
 585, 651, 657
 ~ learning 15, 19, 72, 238, 251, 288, 273,
 394, 400, 409, 415
 ~ preservation 582
 ~ use inventory 546, 552, 664
 later childhood 7, 67, 79
 laughter 26, 164, 353, 632–633
 learner
 advanced ~ 319, 340, 351, 367
 beginner (~) 314–317
 heritage ~ 462
 ~ identity 251
 learners'
 ~ analysis 400
 ~ performance 282, 292, 418

- learning context 14, 239, 312, 365–367, 383, 464
- leave-taking 462
- legitimate power 413
- length
 ~ of residence 343, 365, 370, 383, 434–435, 481
 ~ of stay 17, 240, 342–343, 451, 462, 464
- level of formality 19, 288, 399, 618
- lexical
 ~ access 17, 255, 341, 345, 459, 465
 ~ access speed 459
 ~ knowledge 46, 130
 ~ scale 131
- lifespan pragmatics *see* pragmatics
- lingua franca 14, 237, 252, 431, 461
see also English as a lingua franca
- linguistic
 ~ annotation 213
 ~ code 394, 501
 ~ competence *see* competence
 ~ deficit 523
 ~ performance 399
 ~ transfer 363, 365, 395
 ~ utterance 7, 500–502
- literacy 23, 47, 547
- literal 22, 38, 62, 94, 120–121, 129, 139, 149–150, 165, 303, 305, 331, 347, 509, 533, 535, 649
 ~-first model 150, 305
 ~ meaning 10, 17, 130, 132, 140, 240, 304, 339, 533, 658
- literary work 149, 595
- litotes 536
- localised pragmatic feature 461–462
- locutionary act 62–64, 240, 270
- longitudinal 14, 20, 23, 67, 71, 78, 255, 313, 416, 438, 537, 552, 564, 604, 619, 635, 650
 ~ data 101, 248
 ~ research 418
 ~ study 218–219, 314, 341, 352, 369, 442–443, 463, 604
- loss of self 617
- M**
- macrostructure 560, 562
- malignant positioning 617
- manner
 cooperative ~ 45, 64, 530
 ~ implicature *see* implicature
 maxim of ~ *see* maxim
 ~ inference *see* inference
- marital communication 215
- marked 125, 193
 ~ informativeness 17, 347
- maxim 9–10, 27, 64, 120, 150, 241, 305, 331–332, 506, 511, 586, 658, 664
 ~ of manner 120, 122, 125, 134, 241, 332
 ~ of quantity 27, 64, 120–121, 241, 332
 ~ of relevance 120, 122, 241, 331, 333
- meaning
 ~ construction 26, 436, 404
 ~ potential 416
- memory 17, 34, 139–140, 221, 341, 396, 465, 507, 547, 558, 615, 619, 622, 632
 ~ losses 221, 611, 621, 631
 ~ test 341, 619
- metalingual pragmatic function 592
- metalinguistic
 ~ awareness *see* awareness
 ~ comment 124, 222–223
 ~ task *see* task
- metaphor 38, 169, 354, 505, 509–510, 535, 592, 649
 ~ comprehension 11, 49, 126, 129, 158, 535–537
- metaphoric language 595
- metapragmatic
 ~ awareness *see* awareness
 ~ commentary 416
 ~ explanation 15, 249, 285–287, 293, 400, 416
 ~ instruction 290, 400
 ~ instrument 380
 ~ perception *see* perception
 ~ pragmatic skill 49
- metonymy 536–537
- micro- and macro-pragmatics *see* pragmatics
- micro-learning context 464
- microstructure 560, 562
- mindfulness 410–412
- mindreading 9–11, 157, 192
 ~ ability *see* ability
- miscommunication 559
- misunderstanding 79, 408, 414, 614, 659
- mixed modality 74
- modalising language 584
- modularity 515
- monolingual frame 406
- monologue task *see* task
- motherese 215

motivation 20, 80, 95, 251, 287, 383,
457–458, 585

motor

- ~ development 23, 548
- ~ planning 545, 550, 553
- ~ skill 545
- ~ speech 501, 550

multi-competence *see* competence

multilingual mind 407

multilinguals 254

multiple-choice task *see* task

muscle memory 633

muting function of irony 156

mutual gaze 76, 551

N

narration-in-conversation 589

narrative 217, 507–508, 511–512, 524, 528,
535, 556, 560–562, 589, 597–599, 614,
623, 628

- ~ ability *see* ability
- ~ development 528, 560, 562
- ~ scaffolding 631
- ~ task *see* task
- ~ trace 626–627

native norm 399

natural

- ~ codes 186, 197
- ~ meaning 186
- ~ pedagogy 71

naturally

- ~ occurring data 9, 243, 246–248,
604
- ~ occurring discourse *see* discourse

negative

- ~ evaluation 340, 408, 413–414
- ~ feedback 455
- ~ transfer *see* transfer

neologism 649

neuroconstructivism 656

neuroimaging 219

neuropsychiatric model 616

Nicaraguan Sign Language 76

see also sign

see also signed language

non-conventional

- ~ implicature *see* implicature
- ~ indirectness *see* indirectness

non-literal

communication 44

non-literal meaning 63, 305, 354, 666

non-natural meaning 12, 186–187

non-standard use 602

non-structural factors 362–363, 365, 367,
370, 382, 384

see also structural factors

non-verbal

communication 26, 612, 632, 635

non-verbal communicative behaviour 4

non-verbal communicative impairment 525

non-vocal communication 633

normal aging 219

normalcy 415, 594, 620

normative bias 11, 158–160, 162–163,
167–169

noticing hypothesis 290, 396–397, 400

O

offer 20, 271, 340, 365, 408, 439, 441, 460

offline

- ~ knowledge 245, 484, 489
- ~ measure 7, 48–49

see also online measure

off-target verbosity *see* verbosity

online measure 48–49

see also offline measure

opening 211, 247, 292, 450, 485, 487

opting-out 451

ordinary language movement 62

organisational level 20, 433–434, 439, 441,
450, 461

ostensive cue 64, 71–73

others' communicative intentions 70, 72, 76

over-informativeness 128, 664

overly enthusiastic tone 161–162

P

painful self-disclosure 12, 210, 223

paralanguage 589–590

parent perception 547

parodic irony 170

parody 162, 164, 340

passivity 553

pathological 13, 21, 219, 223

pathological aging 219

patronizing speech 12, 211, 224

pause 13, 23, 219–220, 222, 380, 529–531,
586, 630

pedagogical

~ enrichment 404–405

~ intervention 242, 275, 404, 451, 456

peek-a-boo 67, 77

- perception 48, 215, 220, 243, 273, 308, 310,
 361, 365, 381, 405, 410, 479, 618
 ~ of humour 17
 ~ of speech acts 18, 364, 366, 382
 sensory ~ 23, 547
 ~ of irony 169, 351
 social ~ 273, 382, 394, 442, 553,
 563
 ~ of questionnaires 320
 metapragmatic ~ 461
 speech ~ 502
 ~ of stimuli 503
 ~ of relevance 658
 see also parent perception
- performance variability 586–587
 periphrastic verb 126
 perlocutionary act 62, 240, 270
 personal
 ~ comfort zone 415
 ~ narration 589, 596–597, 599
 ~ remark 441
 personality 255, 410, 457–458, 460, 465,
 553, 681
 personhood 615–616, 622, 630
 ~ movement 615–616
 persuasion 79
 pervasive developmental disorder 530
 phonological 7, 11–12, 50, 177, 179, 185,
 189, 191, 362, 502, 546, 549, 623
 ~ awareness *see* awareness
 physical environment 25, 612, 618–621
 plasticity of the brain 224
 poetic function 592, 595
 pointing 23, 36, 42, 49, 68–69, 71, 73, 128,
 192, 527, 653
 politeness 7, 14, 16, 46, 37, 79, 209, 239,
 241–243, 252, 271, 273, 282, 284, 301,
 305, 313, 365, 398, 531, 563,
 615
 polite style 455
 positioning 13, 216–217, 615, 617
 positioning of others 629
 positioning theory 615, 617
 positive correlation hypothesis 18, 367–368,
 370, 373, 381–382
 positive
 ~ effect 250
 ~ politeness strategy 306
 ~ transfer *see* transfer
 post-delayed test 451, 456
 power relation 34, 38, 42, 252, 414
- practice 217, 246, 249, 282, 284–285, 288,
 293, 335, 343, 345, 364, 407, 418, 433,
 448, 463–464, 616, 647–648, 654, 665,
 669
 pragmalinguistic
 ~ awareness *see* awareness
 ~ competence *see* competence
 ~ knowledge *see* sociopragmatic knowledge
 ~ transfer *see* transfer
 pragmalinguistics 3, 14, 17, 238, 248, 273,
 283, 302–303, 312–313, 361, 365, 381,
 432, 479
 see also sociopragmatics
 pragmatic
 ~ action 485, 582, 585, 590, 594, 603
 ~ awareness *see* awareness
 ~ change hypothesis 220
 ~ competence *see* competence
 ~ comprehension 3, 7, 250, 442, 459,
 490
 ~ development 121, 198, 237, 242, 303,
 316, 384, 394, 406, 436, 448, 455
 ~ failure 239, 303, 437, 658
 ~ flexibility 69
 ~ infelicity 19, 398–399
 ~ input 282, 286, 313, 346, 417, 456,
 461
 ~ instruction 15, 250, 270, 273, 287, 292,
 401
 ~ knowledge 238–239, 243, 284, 289,
 302–303, 332, 341, 395, 397, 417, 453,
 490, 666
 ~ marker 463, 528
 ~ performance 255, 404, 477–479, 483,
 486, 536, 655, 666
 ~ production 3–4, 282, 288, 290, 301, 399,
 402, 478
 ~ routine 273, 440, 465
 ~ transfer *see* transfer
 ~ transferability 368
 ~ variables 211
 pragmatics 2, 33
 clinical ~ 652, 656, 669
 corpus ~ 213
 cross-cultural ~ 214, 216, 272, 304, 313
 cyber~ 253
 discursive view of ~ 240
 interlanguage ~ 16, 237, 269, 301, 312,
 398
 L2 ~ 14, 237, 243, 254, 361, 451, 456, 483
 lifespan ~ 210, 214

micro- and macro~ 2
 second language ~ 430
 variational ~ 210, 213, 224, 301–302,
 310–312, 433–434
 Prague School 583
 pre-sequence 21, 484
 presupposition 140, 211, 505, 533, 537
 pretence 11, 152, 154–155, 162–163,
 166
 pretence theory 152
 primary intersubjectivity *see* intersubjectivity
 principle of relevance 189, 193–194, 333,
 514, 658
see also relevance
 prism 26, 623–624
 procedural
 ~ encoding 190
 ~ memory 632
 processing 139, 551
 ~ ability *see* ability
 ~ capacity 319, 341, 354, 459
 ~ effort 17, 189, 193, 333–334, 338
 L1 humor ~ 352
 verbal ~ 545
 visual-spatial ~ 545
see also cognitive processing
 production 47–48, 269, 282, 313, 317, 365,
 369, 395, 439, 479
 ~ questionnaire 18, 244, 366, 380,
 383
see also pragmatic production
 proficiency 15, 18, 21, 239, 248, 339, 367,
 446, 457–458, 475, 477–479, 483, 490,
 560
 profile 26, 430, 453, 457, 460, 464, 546, 549,
 586, 588, 649, 651, 656–657, 661
 promise 7, 34, 40–42, 51, 270
 propositional content condition 41
 prosodic
 ~ meaning 12, 178–179, 185, 196, 198
 ~ production 12, 181
 prosody 6, 11–12, 26, 37, 131, 133, 177–181,
 191, 217, 243, 525–526, 530, 550,
 589–590, 599, 601
 protest 559
 proto-declaratives 8, 67–68, 73–75
 proto-imperatives 8, 67–68, 73–75
 proverb 510, 600–601, 604, 619–620
 psychological appropriateness 485
 psychosocial development 661
 public discourse *see* discourse

Q

quantity 135
 ~ implicature *see* implicature
 maxim of ~ *see* maxim
 ~ inference *see* inference
 ~ of narratives 561
 question 50, 63, 77–78, 121, 135, 515, 555,
 559
 examiner's/test ~ 131, 138, 156, 286, 307,
 339, 506, 511, 531, 561, 662–663, 650
 indirect ~ 305
 pope ~ 338, 340, 342
 rhetorical ~ 11, 153, 163–166, 340, 536
 ~ directives 36, 49
 speech act of ~ 36, 152, 503
 ~ – answer (in adjacency pairs) 65, 554,
 559, 588
 Wh- ~ 8, 69, 555
 Question Under Discussion 121, 133,
 135–136

R

race 248, 630, 635
 raising an awareness *see* awareness
 rapport management (strategy) 242, 411, 414
 real-world performance 491
 reasoning 25, 91, 99, 107, 121, 131, 136–138,
 534, 616
 inferential ~ 34, 43, 51, 127, 134
 psychological ~ 91
 first-order belief ~ 97, 99–100
 general-purpose ~ 513
 recast 284–287, 293
 recognizing 195, 197, 289, 331, 396, 418,
 557–558
 reference 122, 126, 189, 193, 216, 345, 440,
 457, 510, 627–628
 anaphoric ~ 508, 511
 lexical ~ 586, 588, 591, 597–598
 referential 7, 24, 35, 37, 40, 42–43, 48, 64,
 69, 128, 191, 506, 529, 562, 583–586,
 588–589, 593, 596–598, 604, 628, 653
 ~ communication 7, 34–35, 37–38, 42, 562
 ~ expression 7, 37, 128, 529, 584, 597
 ~ function 24–25, 593, 597, 584–585, 588
 ~ language 69, 71, 584, 600
 refusal 18, 20, 240, 247, 249, 251, 253, 255,
 270–272, 305–306, 340, 364–368, 371,
 380, 383, 398, 439, 450, 460, 478
 indirect ~ 17, 338–339, 342–343, 365,
 367–368

- regional variation *see* variation
reinterpretation 348
rejoinder 318, 479–480
relevance 39, 64, 125, 136, 189, 511
 see also principle of relevance
 ~ theory (RT) 12, 17, 22, 26, 39, 64,
 95–96, 179, 188, 196, 333, 500,
 513–516, 548, 658
 ~ implicature *see* implicature
 ~ inference *see* inference
 maxim of ~ *see* maxim
reoffers 450, 460
repair 20, 64–66, 78–79, 383, 433–434, 439,
450, 487, 556, 614, 633
repetition 13, 18, 38, 79, 222–223, 378, 380,
557, 583, 596, 598–599, 632
reported speech 598–601, 604
representational gesture 528
request 36, 240–242, 275, 277, 282–288, 293,
301, 313, 383, 450, 477, 531, 536, 552
 ~ development 314
research
 ~ approach 317
 ~ method 100, 243
responsivity 219
retrospective verbal report 14, 246–247,
318–320, 367, 372
reward and coercive power 413
rhetorical question *see* question
rich pragmatic input 251
right-hemisphere damage 22, 505, 508, 517
role
 ~ model 214
 ~ play 14, 18, 20, 38, 243, 245–247, 250,
 255, 283–285, 288, 308, 319–319, 367,
 375, 380, 476, 482, 484, 656
 ~ relationship 408, 411, 414
routine 21, 34, 45, 67, 74, 77, 80, 243, 273,
342–343, 394, 416, 439, 457, 460–461,
465
 ~ activity 620
 ~ formulae 21, 241, 255, 476, 479–480,
 482
- S**
salient meaning 348
sarcasm 94, 150, 160, 163–164, 340, 509,
649, 666
sarcastic
 ~ comment 159
 ~ tone of voice 156, 160
- scaffolded reflection 403
scaffolding 405, 553, 622, 631
scalar implicature *see* implicature
scenario 129, 245, 285, 307, 380, 398, 483,
506
schizophrenia 150, 502
school-goer mobility 430
secondary intersubjectivity *see* intersubjectivity
second language
 ~ acquisition 431, 437, 457
 ~ pragmatics *see* pragmatics
second-order false-belief task *see* false belief
self-
 ~assessment 255, 476–477, 482
 ~esteem 615, 617, 619
 ~positioning 629
semiotic resources 586, 588, 590, 593, 597,
603–604
sensorimotor challenge 548, 563
sequence organization 65
sequences of action 64, 79
sequential development 94, 248
sex 209–210, 216, 635
shared world knowledge *see* world
 knowledge
shifting attention 552
showing 68, 187, 195
sign 74–75, 186, 195, 546, 554, 558
signals 186
signed
 ~ language 74, 76
 ~ vocabulary *see* vocabulary
 see also Nicaraguan Sign Language
simulationism 516
small talk 254, 529
sociability 552–553
social
 ~ activities 619
 ~ and cultural knowledge 237
 ~ cognition 45, 136, 138, 659, 668
 ~ construction of identity 615
 ~constructivist view 655
 ~ context 429, 431–432, 532, 618,
 659
 ~ detachment 212, 224
 ~ distinctions 408
 ~ function(s) 161, 212, 659
 ~ functioning 545, 655, 668
 ~ interaction 181, 242, 249, 273, 403,
 505, 614, 631, 651
 ~ network analysis 464

- ~ (Pragmatic) Communication Disorder (SPCD) 651
 - ~ status 37–38, 45, 215
 - socialisation 415, 448, 456, 649
 - societal context 600
 - socio-cognitive approach 17, 335–336, 346
 - sociocultural
 - ~ appropriateness 485
 - ~ context 364, 394, 396
 - ~ norms 240, 250, 364, 366–367
 - ~ theory 393, 395, 402–404
 - sociolinguistic
 - ~ appropriateness 485
 - ~ competence *see* competence
 - ~ variables 213
 - sociopragmatic
 - ~ awareness *see* awareness
 - ~ competence *see* competence
 - ~ knowledge 238, 243, 288, 303, 312, 361, 364, 482
 - ~ performance 481
 - ~ reflection 405
 - ~ transfer *see* transfer
 - sociopragmatics 3, 238, 273, 395, 403, 432, 563 *see also* pragmalinguistics
 - sojourn abroad *see* abroad
 - soliloquy 26, 623, 625
 - source
 - ~ information 106
 - ~ monitoring 91, 97, 99, 106, 110
 - ~ of information 92–93, 99, 102, 109, 437
 - ~ of knowledge 92–93, 99
 - space structuring model 348
 - Spanish 238, 242, 251, 307, 314–315, 350–351, 366–369, 381, 445–447, 456
 - Specific Language Impairment (SLI) 502, 514, 657
 - speech accommodation theory 210
 - speech act 3, 36, 42, 62, 152, 162–163, 240–241, 246, 270–271, 274–275, 282, 303, 307, 316, 370, 380, 383, 394, 397, 401, 408, 416, 432–433, 439, 461, 476, 479, 502, 509, 516, 554–555
 - ~ competence *see* competence
 - ~ production 5, 318, 320, 459, 465, 476, 489
 - ~ theory 2, 62, 240, 270, 657, 662
 - speech community 419, 431, 450, 455, 459, 461
 - speech sound
 - ~ development 547, 550
 - ~ production 549
 - spoken discourse *see* discourse
 - standardised
 - ~ questionnaire 662, 664
 - ~ test batteries 663–664
 - standard language variety 461–462
 - stay abroad *see* abroad
 - stereotypes 211, 217, 253, 417, 630
 - storyworld 627–628, 631
 - strange stories task *see* task
 - strategies-based approach 292
 - stream-of-consciousness discourse 621
 - structural factors 362–363, 365, 367, 370, 382, 384
 - see also* non-structural factors
 - student mobility 429
 - study abroad *see* abroad
 - ~ context *see* abroad
 - style of communication 78, 531
 - stylistic level 433, 442
 - successful aging 212
 - suggestion 247, 253, 270, 272, 337, 340, 365, 369, 398–399
 - support group 631
 - supra-segmental regression 182
 - symbolic communication 75
 - symbol-infused 552
 - symmetry in the relationship 618
 - synchrony 599, 604
 - syntactic mitigation 308
 - syntax 34, 42, 47, 183, 222, 555
 - systemic-functional grammar 614
 - systems-social model 602
- T**
- talk-in-interaction 2, 25, 271, 434, 618, 623, 618
 - target, (irony) 156–157
 - target
 - ~ culture 17–18, 240, 250–251, 303, 331, 364, 368
 - ~ form 288–289, 400
 - ~ language 6, 250, 337, 342–343, 362–363, 431, 437, 446, 458, 480
 - ~ norm 14, 241, 249, 252, 294, 438, 460
 - Targeted Observation of Pragmatics in Children's Conversations (TOPICC) 666

task

- awareness-raising ~ 282
- CALL ~ 288
- dialogue choice ~ 481
- discourse ~ 484, 489, 624
- discovery ~ 400
- false belief ~ *see* false belief
- judgement ~ 39, 128–129, 131, 135, 243, 246, 402
- metalinguistic ~ 34, 47, 49–50
- monologue ~ 486–487
- multiple-choice ~ 21, 255, 480, 482, 484
- narrative ~ 528, 562
- role-play ~ 288, 482
- strange stories ~ 94, 666, 669
- ~ development 477–478
- see also* discourse completion task
- teachability 276, 291, 353
- ~ studies 274, 282
- teasing 70, 164, 166–168, 352
- Test of Pragmatic Language-2 (TOPL-2) 665
- theory of mind (TOM) 70, 93–94, 99–100, 104, 111, 137, 499, 505–506, 510, 512, 515, 532, 558, 587, 659
- acquisition of ~ 43–44, 50, 76–77
- ~ abilities 43, 137
- tip-of-the-tongue 218, 222
- tonality 179, 181, 183–184
- tone 179
- ~ of voice 37, 150, 156, 160–162, 187–189–190–191, 196–197, 351, 526, 530, 633
- tonicity 179, 183–184
- top-down 139
- topic 511, 530, 551, 559, 588–590, 613, 630, 656
- ~ level 433, 441
- ~ management 223, 433, 529–530, 547
- transfer 239–240, 345, 361–362–363, 395, 401, 437, 444
- negative ~ 14, 18, 239, 365, 368, 382
- positive ~ 239, 365
- pragmalinguistic ~ 365–366, 370, 374, 380–381
- pragmatic ~ 13, 18, 239, 361, 365, 370, 380, 437
- sociopragmatic ~ 362, 365–366, 381–382
- traumatic
- ~ brain injury (TBI) 505, 507, 517, 647, 661
- ~ experience 594

triadic

- ~ interaction 71, 552
- ~ joint attention 73–75, 78
- tropes 149–150
- trustworthiness 89–93, 97, 99–100, 110
- turn-taking 77, 182, 293, 317, 433, 510, 529–531, 549, 551, 553, 648, 666
- T/V (system) 397, 404, 450, 458
- see also* address

U

- understatement 153, 163–166, 170
- utterance interpretation 188, 334, 502–503, 506, 513–514, 516

V

- validation 478, 480–483, 486–490
- variability 34, 79, 127, 415, 429, 546, 549, 554, 556, 586–587, 621, 625, 635
- variation
- cross-cultural ~ 302, 307–308
- individual ~ 50, 78, 414, 457
- intra-lingual ~ 312
- regional ~ 311, 384
- variational pragmatics *see* pragmatics
- verbal
- ~ and non-verbal 524, 623
- ~ processing *see* processing
- ~ report 318–319, 370, 383
- verbosity 373, 666
- off-target ~ 220
- victim 156–157
- visual-spatial processing *see* processing
- visual support 560, 564
- vocabulary 71, 130, 132, 331, 339, 525, 553–554
- signed ~ 554
- volunteering 463

W

- warmth of reciprocity 630
- weak central coherence (WCC) 508, 658–659
- white lie 666
- whole-part relation 124
- word
- ~ combining 547
- ~ finding difficulty 26, 507, 598, 602, 624
- ~ learning 43, 98, 119, 126–127, 191
- ~ learning by exclusion 126–127, 139–140
- ~ retrieval 586

working memory 10, 17, 34, 139–140, 218,
222, 341, 507, 660
work placement 254, 443, 463
world knowledge 7, 10, 23, 44–45, 129–130,
shared ~ 587–588, 591, 593, 598
written
~ channel of communication 592, 594
~ communication *see* communication
~ discourse *see* discourse

Y

year abroad *see* abroad

Z

zone of appropriateness 415

