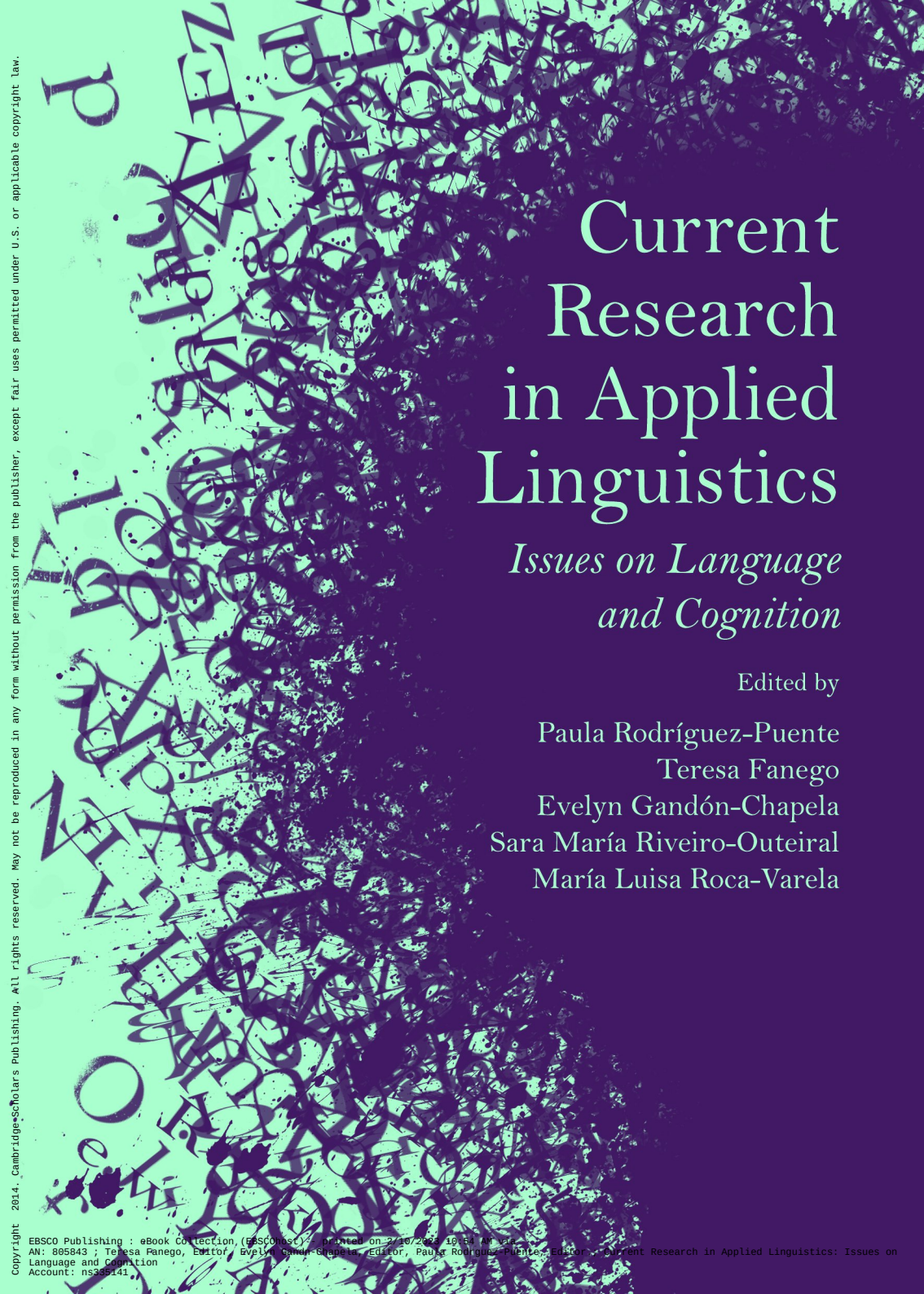

Current Research in Applied Linguistics

Issues on Language and Cognition

Edited by

Paula Rodríguez-Puente
Teresa Fanego
Evelyn Gandón-Chapela
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CAMBRIDGE SCHOLARS
PUBLISHING

Current Research in Applied Linguistics:
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This book first published 2014

Cambridge Scholars Publishing

12 Back Chapman Street, Newcastle upon Tyne, NE6 2XX, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN (10): 1-4438-5354-2, ISBN (13): 978-1-4438-5354-5

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PREFACE

This volume offers a representative collection of the papers presented at the *Third ELC International Postgraduate Conference on Language and Cognition* (ELC3) held at the University of Santiago de Compostela, 21-22 September 2012. It was the third in a series of conferences which began in May 2008 in Santiago de Compostela (ELC1) and was followed by a second in October 2009 at the University of Vigo (ELC2). The conference was supported by these two universities and also by the *English Linguistics Circle*, a research network funded by the Autonomous Government of Galicia and coordinated by Professor Teresa Fanego (University of Santiago de Compostela); it comprises the following research groups: *Variation, Linguistic Change and Grammaticalization* (*VLCG*, University of Santiago de Compostela), *Spoken English Research Team at the University of Santiago de Compostela* (*SPERTUS*), *Cognitive Processes and Behaviour* (*PCC*, University of Santiago de Compostela), *Language Variation and Textual Categorization* (*LVTC*, University of Vigo) and *Methods and Materials for the Teaching and Acquisition of Foreign Languages* (*MMTAFL*, University of Vigo).

The organisation of ELC3 and the completion of this volume would not have been possible without the help and cooperation of a number of individuals and institutions. First, we would like to thank the contributors for sharing their most recent work at the conference and in this volume. We also thank the plenary lecturers María del Pilar García-Mayo (University of the Basque Country), José Manuel Igoa González (Autonomous University of Madrid) and Graeme Trousdale (University of Edinburgh) for their participation in the conference, which enriched the academic quality of the event considerably and contributed in no small way to its success. We also appreciate greatly the insightful suggestions and advice offered by the members of the Scientific Committee who helped us in the difficult task of selecting the papers from the large number of proposals received. Thanks are also due to the *English Linguistics Circle* and to the members of its five research groups for their guidance, support and encouragement, especially to the team leaders Teresa Fanego (*VLCG*), Ignacio Palacios (*SPERTUS*), Isabel Fraga (*PCC*), Javier Pérez-Guerra (*LVTC*) and Rosa Alonso (*MMTAFL*). We are especially indebted to Paula Rodríguez-Abruñeiras and Vera Vázquez-López for their valuable cooperation in the edition of this volume.

We gratefully acknowledge the support of the editorial staff of Cambridge Scholars Publishing. Last but not least, we are grateful to the following institutions for their generous financial support: European Regional Development Fund, Autonomous Government of Galicia (Directorate General for Scientific and Technological Promotion, grant CN2011/011), University of Santiago de Compostela (Facultade de Filoloxía) and University of Vigo (Vicerrectorado de Investigación).

Santiago de Compostela, October 2013
Paula Rodríguez-Puente, Evelyn Gandón-Chapela, Sara Riveiro-Outeiral
and María Luisa Roca-Varela

INTRODUCTION

CURRENT RESEARCH IN APPLIED LINGUISTICS: ISSUES ON LANGUAGE AND COGNITION

PAULA RODRÍGUEZ-PUENTE

The papers in this volume are a selection of the contributions presented at the *Third International Postgraduate Conference on Language and Cognition* (ELC3), held at the University of Santiago de Compostela, 21-22 September 2012. ELC3 was designed and organised by postgraduate students from the English Departments of the Universities of Santiago de Compostela and Vigo and sponsored by the research network *English Linguistics Circle* (ELC). The ELC was established in 2006 and since then its main objective has been to promote cooperation between the teams involved and with other national and international research groups. As a means of achieving this, during the first research seminar back in 2007, the senior researchers of the ELC proposed the idea of organising a postgraduate conference. In May 2008, the *First ELC International Postgraduate Conference* (ELC1) was held in Santiago de Compostela. This was followed by ELC2 in Vigo, October 2009. Both conferences were very successful, with excellent organisation and very high quality papers presented by a large number of participants from a wide variety of national and international universities. In both cases a selection of papers presented at the conferences was published in edited volumes: *New Trends and Methodologies in Applied English Language Research. Diachronic, Diatopic and Contrastive Studies* (Bern: Peter Lang, 2009), edited by Carlos Prado, Lidia Gómez-García, Iria Pastor-Gómez and David Tizón-Couto, and *New Trends and Methodologies in Applied English Language Research II: Studies in Language Variation, Meaning and Learning* (Bern: Peter Lang, 2012), edited by David Tizón-Couto, Beatriz Tizón-Couto, Iria Pastor-Gómez and Paula Rodríguez-Puente.

As with the preceding two conferences, the main aim of ELC3 was to provide postgraduate students with an opportunity to present and discuss their research with other postgraduate and senior academics in an intellectually

stimulating atmosphere. This spirit, it is hoped, is reflected in the present volume. The book is concerned with work in various areas of Applied Linguistics. The eleven individual case studies are organised into four parts. Part I comprises syntactic studies, applying theoretical and practical analyses to the study of *get* + past participle constructions in Indian English (Eduardo Coto-Villalibre), an assessment of the models used for the classification of verbs with or without an object in Contemporary English (Tania de Dios) and isolated *if*-clauses (Beatriz Mato-Míguez). Part II includes two case studies related to the areas of morphology and semantics; more precisely, they deal with the rise and fall of word formation patterns (Stefan Hartmann) and with crosslinguistic influences on motion expression in English and Spanish (Iria G. Romay-Fernández and Samantha N. Emerson). In Part III three studies deal with topics related to second language acquisition, looking at issues such as the difficulties encountered by Spanish speakers in learning English pronunciation (Yolanda Joy Calvo-Benzies), verbal morphology production by adolescent Japanese learners of English (Akiko Muroya) and the effects of elicitation on students' production of English past tense forms in communicative story-telling tasks (Hanne Roothooft). The three papers in Part IV revolve around the areas of discourse analysis and psycholinguistics, and address topics such as automatic sentiment detection in Terry Pratchett's Discworld (Luis Espinosa-Anke), perspectival construal patterns in language, cognition and interaction (Michael Pleyer) and the effect of emotional valence on disambiguation processes (Marcos Díaz-Lago, Sara Riveiro-Outeiral, Javier García-Orza and Ana Piñeiro).

In the opening chapter of the volume, "*Get* + past participle constructions in Present-Day spoken Indian English: Exploring the passive gradient," Eduardo Coto-Villalibre explores *get* + past participle constructions in current spoken Indian English. In particular he discusses the syntactic, semantic and pragmatic characteristics of central *get*-passives (prototypical agentive *get*-passives in his classification, e.g. *The deer got shot by the hunter*; Coto-Villalibre 2013), and examines the extent to which the features distinctive of *get*-passives apply to other constructions with *get*. He also classifies the *get*-constructions on a gradient according to their degree of passiveness, ranging from more to less prototypical. His corpus findings confirm those of Collins (1996) in showing that *get*-constructions in general and *get*-passives in particular are more frequent in Indian than in British English. Coto-Villalibre also shows that *get*-constructions form a gradient with different degrees of prototypicality both in British and in Indian English. Moreover, in Indian English *get*-constructions seem to be more specialised as strategies used to

convey adversative consequences for the subject, to express responsibility on the part of the subject and to refer to inanimate subjects.

In the following chapter, "A comparative assessment of the models used for the classification of verbs used without an object in Contemporary English," Tania de Dios compares existing models for the classification of verbs used without an object in Present-Day English. She reviews the classical models for the transitive vs. intransitive dichotomy, arguing that the traditional view of intransitivity may have negative consequences. For her, a more appropriate way of dealing with the phenomenon is the four-category classification proposed by Liu (2008), though with some modifications. The main advantage of Liu's model, she argues, is the distinction between *transitive-converted intransitive verbs of activity* (e.g. *She is **reading***) and *object-deleting verbs* (e.g. *Each time we met she invited me, and each time I **declined***). The author suggests that Liu's model might be improved in several respects: (i) by shedding light on the anomalous behaviour of *object-deleting verbs*; (ii) through reorganising some of the proposed categories to achieve a higher degree of clarity; and (iii) by providing the framework with an empirical basis to support theoretical assumptions.

Beatriz Mato-Míguez's contribution, "Are isolated *if*-clauses independent clauses? Evidence form spoken British and American English," analyses isolated *if*-clauses (e.g. *Okay if you'd like to get dressed now*) in contemporary spoken British and American English. She discusses several functions of this type of clause, such as the use of conditional clauses to make offers and requests during a conversation. Her corpus analysis reveals new insights into the modality and grammatical status of isolated *if*-clauses. According to her, these clauses cannot be considered elliptical because the omitted material is not present in the context, and they must instead be taken as independent functional clauses. In support of her claims she argues that they are used as standalone clauses with subordinate clauses of reason and time specifying them, that they coordinate with prototypical independent clauses, and also that they alternate with imperative clauses in conversation. Mato-Míguez concludes that isolated *if*-clauses constitute an example of what Evans (2007) has called "insubordination," the independent use of clauses that seem subordinate in form, since they do not require a main clause to express an illocutionary act.

Following this, Stefan Hartmann's "The rise and fall of word formation patterns: A historical cognitive-linguistic approach to word formation change" accounts for word-formation change from the point of view of cognitive linguistics. He focuses specifically on the morphology/semantics

interface, providing evidence from the diachronic development of the German word formation pattern V–*ung*. For him, when the process of change begins at the semantic level, some word formation products undergo lexicalisation. The new meaning variants resulting from lexicalisation can become productive at the morphological level by means of reanalysis, but at the same time established construal options fall out of use, sometimes even becoming ungrammatical. Such theoretical assumptions are complemented by a corpus analysis on the diachronic development of the pattern V–*ung* in German (e.g. *Landung* "landing," *Bildung* "education," *Versicherung* "insurance") which illustrates, first, how due to the lexicalisation of highly frequent word-formation products, new meaning variants arise that become productive by means of reanalysis, and, second, how corpus evidence has shown that *ung*-derivatives fall out of use in the New High German period (1650-Present-Day).

In "Crosslinguistic influences on motion expression in English and Spanish," Iria G. Romay-Fernández and Samantha N. Emerson examine similarities and differences in the expression of motion in a group of fifty native speakers of English and fifty native speakers of Spanish, taking into account manner, path and ground information. Their main finding is that the differences in motion expression between both languages are not as pronounced as could be expected from Talmy's (1991, 2000, 2007) classification of English as an S-language and Spanish as a V-language. Nevertheless, they also acknowledge differences here. Although English speakers express a greater number of manner verbs, they tend to employ neutral verbs, thus producing a relatively low number of manner verb types. By contrast, Spanish speakers produce both a higher rate of path verbs and a greater variety of types. Surprisingly, the total number of manner types produced in Spanish was similar to those in English. Moreover, although occasional examples of multiple paths and grounds in a single motion clause were found in both languages, the general tendency was the use of a single path and ground per clause.

The contribution by Yolanda Joy Calvo-Benzies, "'He was /gəʊɪn/ to have a /bæθ/', 'Twenty /pɒrsent/ of /pɪpel daʊnlɒd mʊsik/'. A preliminary study of the difficulties shown by Spanish students in the learning of English pronunciation," revolves around Spanish learners' difficulties with the pronunciation of English. The paper describes the pronunciation constraints of twenty-five students of different levels of English during the performance of two oral tasks, a description of a photo and the reading out of a text. Her results show that most of the mistakes made by the students were due to the influence of their L1, which lacks some of the specific sounds of English, such as the distinction between long and short vowels

and the phoneme schwa. Her findings show in particular that the most problematic sounds for Spanish speakers learning English are /r/, final /d, t/, the distinctions between /æ/ versus /ɑ:/, /ɪ/ versus /i:/ and /ɒ/ versus /ɔ:/, schwa and the glide /əʊ/. Calvo-Benzies also demonstrates that seeing the written form of a word can often condition its subsequent pronunciation, especially when these words are unfamiliar, in which case they tend to be pronounced following the rules of the students' L1 (e.g. *business* /bʊ'sɪns/). Moreover, her results show that, in the absence of appropriate vocabulary, students tended to use words from their L1 or to make up new words (e.g. *inunded* for *flooded*). According to Calvo-Benzies, this paper illustrates the need to place greater emphasis on pronunciation at all levels of education in Spain as well as to integrate it into speaking and listening activities.

Akiko Muroya's "Selective variability in verbal morphology production by adolescent Japanese learners of English: Testing two current approaches" reports on an empirical study which examines the written and oral production of English verbal morphology in L2 by Japanese adolescent learners. Her aim is to test the Prosodic Transfer Hypothesis and the Feature Reassembly Hypothesis, both of which assume that the entire L1 grammar constitutes the L2 initial grammar, which subsequently undergoes restructuring guided by Universal Grammar. To this end, she elicited affirmative sentences containing verb phrase adverbs (e.g. *She often reads comic books at home*) and single subject *wh*-questions (e.g. *Who wants a bike?*) from a group of 132 participants: 102 junior high school students, to investigate early development, and 30 second-year university students, to explore later development. Muroya's findings show (i) that there is an asymmetry in the frequency of the use between the same affixal forms 3rd person singular present *–s* and past *–d* in obligatory contexts; (ii) that, on the one hand, participants perform better on *–s* of an adverb *always* than on regular inflection *–s*; (iii) that participants made frequent mutual misuses in the production of *–s* and *–d* in obligatory contexts; and (iv) that subject *wh*- questions show a lower rate in the production of verbal morphology than affirmative verb phrase adverb sentences. Her main conclusion is that the pattern of production of verbal inflections by Japanese learners is inconsistent with the predictions of the Prosodic Transfer Hypothesis, since variable production derives from sources other than phonological constraints. Such variability, she argues, is more consistent with reassembly failures resulting from "already-assembled lexical items" in L1 (Lardiere 2009: 213) than with constraints imposed by L1-transferred prosodic representations.

The following chapter, Hanne Roothooft's "The effects of elicitation on students' accurate production of English past tense forms in communicative story-telling tasks," describes an experimental study on the effects of elicitation, a type of corrective feedback, on the acquisition of the English past simple tense. Her results show positive effects of elicitation on students' performance during story-telling tasks, since the production of a structure which has previously been studied, and of which students possess a high, explicit degree of knowledge, can be positively affected by elicitation. The high rate of repair after elicitation focusing on the past tense seems to demonstrate that errors in the past tense are not the result of a lack of knowledge, but rather of the difficulty of applying this knowledge in online communication tasks. Roothooft also notices an improvement in past tense performance during the realisation of the task, even though the subjects were not aware of the focus of the study.

Luis Espinosa-Anke's contribution, "Quantifying irony with sentiment analysis methods: The case of Terry Pratchett's Discworld," presents a novel approach to quantifying irony in language by exploiting emotional discrepancies between human judgement and automatic scores regarding the sentiment conveyed in a text. For this purpose, he examined a corpus of 39 Discworld novels by the British author Terry Pratchett to which he applied three methods of sentiment analysis; he then surveyed 50 respondents acquainted with the Discworld saga in order to identify their feelings when reading the novels. The findings suggest a discrepancy between lexicon-based automatic scores and human judgement, thus confirming the claim that the imaginary world of the novel and its characters have evolved and gained complexity over time. The main conclusions are (i) that sentiment analysis methods, when mainly oriented to short informal texts, fail to capture the sentiment behind a novel; (ii) that such an approach might prove useful for quantifying the degree of explicitness of a text; and (iii) this approach can help identify when Terry Pratchett's style became less ironic.

Following this, Michael Pleyer's "Perspectival construal patterns in language, cognition and interaction: Their acquisition, structure and foundations" proposes that the notion of perspective (the use by speakers of the perspectival potential of language in order to direct attention to specific aspects of a situation while backgrounding others) be treated as an interdisciplinary, integrative concept at the interface of the domains of cognitive linguistics, first and second language acquisition research, developmental psychology and psycholinguistics. This interdisciplinary synthesis, he argues, should be extended to incorporate other fields, such as cognitive neuroscience, evolutionary linguistics and the study of talk-in-

interaction, in which the concepts of perspective, perspectivation and construal play an important role. Most importantly, such an interdisciplinary project will enable the creation of a developmentally sound, cognitively and linguistically grounded theory of the acquisition, structure and foundations of perspectival construal patterns in language, cognition, and interaction.

Last but not least, in their paper "The effect of emotional valence on disambiguation processes: A completion study involving relative clauses in Spanish" Marcos Díaz-Lago, Sara Riveiro-Outeiral, Javier García-Orza and Ana Piñeiro investigate the effect of the emotional dimension "affective valence" (which ranges from *unpleasantness* to *pleasantness*) on ambiguous relative clauses. The main objective of this paper is therefore to highlight how a certain type of semantic interference can change the syntactic processing of a particular structure (relative clauses in this case). Their study takes as a point of departure previous research on the dimension of "arousal" (ranging from *calmness* to *excitation*), which has proved to be significant when participants are asked to complete ambiguous sentences with the structure "...NP-de-NP + RC..." (Fraga, Piñeiro et al. 2012). For this purpose, they conducted an experiment with forty-five participants, who responded to a questionnaire of 97 sentence preambles: 37 fillers and 60 experimental preambles of the kind ". . .NP-de-NP + RC. . .." The latter were ambiguous in nature, so that the participants had to disambiguate them in light of one of two possible nouns (N1 and N2), including 20 pleasant nouns (high valence levels) in NP1 position (e.g. *La niña observó la estrella del póster que...*), 20 pleasant nouns in NP2 position (e.g. *El niño descubrió la historia del libro que...*), and 20 neutral nouns in both NP1 and NP2 (e.g. *El mecánico reparó la llave del motor que...*). Their results show a disambiguation preference for the NP in which the pleasant noun was located. The authors also noted that the number of sentences disambiguated to NP1 when it contained a pleasant noun was significantly higher than that of sentences disambiguated to the NP1 when both contained neutral nouns.

The eleven articles in this volume focus on theoretical and empirical research related to the broad field of Applied Linguistics, providing important new data and suggesting new directions for future research within the field of applied linguistic research.

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PART I:

SYNTAX

CHAPTER ONE

GET + PAST PARTICIPLE CONSTRUCTIONS IN PRESENT-DAY SPOKEN INDIAN ENGLISH: EXPLORING THE PASSIVE GRADIENT[1]

EDUARDO COTO VILLALIBRE

1. Introduction

Taking as a starting point that one of the syntactic peculiarities of Indian English is the high frequency of central *get*-passives (cf. Collins 1996: 54), the purpose of the present paper is to provide a preliminary approach to *get* + past participle constructions in general and central *get*-passives in particular in Present-Day spoken Indian English, to ask whether these are more common in Indian English than in British English and, if so, to look at the factors which determine the highly frequent use of these constructions. As regards the general situation of English in India, the official website of the *International Corpus of English* (ICE) (http://ice-corpora.net/ice/iceind.htm) describes India as one of the largest English-speaking countries in the world, with Hindi as the official and English as co-official language. English is widely used in the domains of administration, commerce, law and the media.

I will first offer a classification of the different *get*-constructions and discuss briefly the syntactic, semantic and pragmatic characteristics of

[1] For generous financial support, I am grateful to the following institutions: Spanish Ministry of Education (grant FPU2009-3554), European Regional Development Fund, Spanish Ministry for Economy and Competitiveness (grant FFI2011-26693-C02-01), and Autonomous Government of Galicia (Directorate General for Scientific and Technological Promotion, grants CN2011/011 and CN2012/012). I am also grateful to Teresa Fanego, Elena Seoane and Paloma Núñez for their feedback on an earlier version of this paper, as well as to the audience of my presentation at the ELC3 conference, who provided me with new ideas that improved the final version of this article.

each one of these subtypes. After describing the corpus analysis and my findings for Indian English compared to British English, I will classify the *get*-constructions identified in the corpus sample on a scale which ranges from central *get*-passives to more peripheral constructions, and will examine the extent to which the features distinctive of *get*-passives apply to the other subcategories.

2. The passive gradient

A number of linguists, among them Granger (1983: 103), Quirk et al. (1985: 167-171), Svartvik (1985: 138) and Collins (1996: 45), agree that the definition of the English *get* passive, that is, the construction *get* + past participle or V*en*, is very broad and that the various *get*-constructions form a fuzzy set.[2] In fact, the term *passive* is misleading, since there is a heterogeneous number of *get* + past participle constructions that involve types of meanings different from the regular passive functions, despite their formal and semantic similarity. In order to classify these constructions, the above authors place them on a gradient according to their degree of passiveness. Although there is no agreement on an exact gradient, the following hierarchy–based on the work of these authors–seems to be fairly comprehensive.

- *Central* get-*passives*

At the top end we find the structures that Collins (1996: 45) calls central *get*-passives (also "true passives," cf. Quirk et al. 1985: 167). *Get*-passives (for short) are best described by comparing this construction with the most widespread passive periphrasis: the *be*-passive. As opposed to *be*-passives, *get*-passives tend to be avoided in formal English and are recurrent in conversation, occur only with dynamic verbs, and do not normally have an overt agent *by*-phrase; if present, though, their referent is typically animate and human (cf. Quirk et al. 1985: 161; Biber et al. 1999: 476; Carter and McCarthy 1999: 52; Huddleston and Pullum et al. 2002: 1442; Alexiadou 2005: 17; McEnery et al. 2006: 112-113). Moreover, the animate subject of the *get*-passive is usually responsible for the action described and is also commonly attributed adversative consequences (cf. Hatcher 1949: 436-437; Collins 1996: 52; Carter and McCarthy 1999: 49-

[2] The *get*-passive has been regarded as a "linguistic puzzle" (Carter and McCarthy 1999: 54), as "a contentious point of discussion" (Chappell 1980: 411) or even as "the subject of widespread disagreement" (Collins 1996: 43).

50). The whole construction is non-gradable and has an equivalent active counterpart, as in the following example:

(1) a. The deer **got shot** by the hunter.
b. The hunter shot the deer.

- *Semi* get-*constructions*

The next type of *get*-constructions, also known as "semi-passives" (cf. Quirk et al. 1985: 168) and "psychological *get*-passives" (cf. Collins 1996: 46), belong to a subclass whose members show both verbal and adjectival properties:

(2) They **got** very **excited** about their new house.

Example (2), for instance, is verb-like in having an agent-like phrase (*about their new house*) and an active analogue (*Their new house excited them*). On the other hand, the past participle shows several adjectival properties including the possibility of, i) premodification by an intensifier like *quite*, *rather*, *very* or *extremely* (*very excited*), ii) coordination of the past participle with an adjective (*They got excited and anxious about…*), and iii) substitution of *get* by a lexical copular verb such as *become*, *feel* or *seem* (*They felt excited about…*). It is worth mentioning that most of the participles in this subclass are stative rather than dynamic, which favours an adjectival analysis, since participial adjectives tend to have a stative meaning, whereas corresponding verbs are usually dynamic. Quirk et al. (1985: 168-169) and Collins (1996: 46) remark that the prepositional phrase in these constructions is usually introduced by a preposition other than *by*, namely *about*, *at*, *over*, *to*, *through* and *with*. These prepositional phrases are not strictly speaking agent phrases and consequently not representative of the passive voice, hence the term "agent-like phrase."

- *Pseudo* get-*constructions*

Further down the scale are pseudo *get*-constructions (also called "pseudo-passives," cf. Quirk et al. 1985: 169-170, and "reflexive" or "reciprocal passives," cf. Collins 1996: 47), which seldom have an active counterpart and the possibility of agent addition is very rare, and where *get* is a copular verb followed by a non-gradable stative past participle, as in *He has to get shaved first thing in the morning* (other examples include *changed*, *washed*, *dressed*, *married*, *started*, *finished*, etc.).

- *Adjectival* get-*constructions*

Close to the periphery we find adjectival *get*-constructions (termed "adjectival passives" by Collins 1996: 48), whose members are adjectives and *get* is a copula rather than a passive auxiliary, as in *The young girl got terribly frightened*. These constructions fulfil criteria such as the ability to be used attributively (*A frightened young girl*), to be premodified by a degree adverb (*terribly frightened*), to be coordinated with another adjective (*The young girl got frightened and restless*), and to replace *get* with a lexical copular verb (*The young girl became frightened*). As with central *get*-passives, this subclass is not homogeneous but represents a scale of degrees of adjectivalisation; the more of the abovementioned criteria that an example fulfils, the closer it is to a prototypical adjective.

- *Idiomatic* get-*constructions*

On the very periphery of the *get*-constructions gradient we find idiomatic expressions where the relationship between the V*en* form and the verb from which it historically derives has been totally lost from sight, as with *get stuck into* in *After a certain stage you just have to get stuck into public life*. Similar idiomatic expressions include *get used to*, *get rid of*, *get fed up with* and *get accustomed to* (cf. Collins 1996: 49; Leech et al. 2009: 156).

- *Reflexive* get-*constructions*

Beyond the periphery of passive *get*-constructions we find reflexive *get*-constructions (also known as "reflexive passives," cf. Chappell 1980 and Sussex 1982, "complex reflexive *get*-constructions," cf. Quirk et al. 1985, "complex reflexive *get*-passives," cf. Collins 1996, and "complex catenative *get*-constructions," cf. Huddleston and Pullum et al. 2002), where *get* is a main verb followed by an intervening NP (reflexive or not) which functions as an object before the participle, as in *He got himself killed* or *She got her hair cut*. These are explicit agentive constructions with the subject-referent being involved very directly and being responsible for the action described. However, they cannot be considered as *get*-passives, since the passive *get* construction is a simple catenative with no intervening NP between *get* and the non-finite complement (cf. Huddleston and Pullum et al. 2002: 1443).

Summarising, we can distinguish six types of constructions with *get*: first, central *get*-passives, with the auxiliary *get* followed by a verbal past

participle; second, semi *get*-constructions, which show both verbal and adjectival properties; third, pseudo *get*-constructions, which have neither an active counterpart nor an agent phrase and are followed by a stative past participle; fourth, adjectival *get*-constructions, whose members exhibit adjectival properties; fifth, idiomatic *get*-constructions; and finally reflexive *get*-constructions, with an intervening NP between *get* and the past participle.

3. A corpus-based analysis of *get*-constructions

3.1. The corpus and the database

Having presented the classification of *get*-constructions and the characteristics of each one of the subtypes, I will now turn to the empirical part of my study, which involves the identification and analysis of the different constructions with *get* in a corpus of Indian English, in light of the characteristics described above. As these constructions feature mainly in conversation, I concentrated on the spoken part of the Indian component of the *International Corpus of English* (ICE-IND). ICE-IND, as with the rest of the individual corpora in ICE, contains 500 samples (both spoken and written English) of approximately 2,000 words each–leading to a corpus of around one million words. The spoken component (300 samples) consists of dialogues (180)–both private (100) and public (80)–and monologues (120)–both scripted (50) and unscripted (70) (files S1A, S2A, S1B and S2B respectively), amounting to circa 600,000 words. The texts in the corpus date from between 1990 and 1993 and the authors and speakers (both male and female) are aged 18 or over and were educated in English.

I began my preliminary research by looking for the different word forms of *get*, namely *get*, *got*, *gets* and *getting*, and in particular these forms followed by a past participle. Both processes were carried out manually. All the relevant examples retrieved were entered into a database, then classified following the passive gradient above and analysed according to a number of variables. Given the compatibility across the individual corpora in ICE–which share a common corpus design and common schemes for textual and grammatical annotation–I used the corresponding part of ICE-GB as a benchmark corpus by comparing the findings for the present study with those from the corpus analysis of *get*-constructions in Present-Day spoken British English (cf. Coto-Villalibre 2013).

3.2. Results

The quantitative analysis of the ICE-IND corpus yielded a total of 312 tokens of *get* (*get*, *got*, *gets*, *getting*) followed by a past participle, whose distribution according to type of construction is shown in Table 1-1:

	ICE-IND		ICE-GB	
Type of construction	Percentage	Number	Percentage	Number
get-passives	40.39	126	23.26	50
semi *get*-constructions	2.56	8	6.05	13
pseudo *get*-constructions	15.70	49	13.49	29
adjectival *get*-constructions	17.31	54	20.93	45
idiomatic *get*-constructions	8.01	25	16.74	36
reflexive *get*-constructions	16.03	50	19.53	42
Total:	**100**	**312**	**100**	**215**

Table 1-1: ***Distribution of* get + *V*en *according to type of construction in ICE-IND and ICE-GB***

As can be seen, although all constructions occur in reasonably large numbers in the corpus sample, the *get*-passive is the most commonly represented of the six subclasses, closely followed by adjectival and reflexive *get*-constructions. Interestingly, a parallel distribution of *get*-constructions has been recorded in ICE-GB, with a predominance of *get*-passives, followed by adjectival and reflexive *get*-constructions, although the total number of tokens of *get* + past participle is slightly lower, amounting to 215 (see Table 1-1 above). Therefore, the data confirm Collins's (1996: 54) assertion that *get*-passives are particularly frequent in Indian English. In fact, it is not only *get*-passives which are more recurrent in the Indian variety (IND: 126/GB: 50), but also pseudo (IND: 49/GB: 29), adjectival (IND: 54/GB: 45) and reflexive *get*-constructions (IND: 50/GB: 42). Semi (IND: 8/GB: 13) and idiomatic *get*-constructions (IND: 25/GB: 36), however, are slightly more frequent in the British component.

I illustrate the gradient from prototypical to peripheral with two examples from each of the six subcategories:

Get-passives

(3) a. Everything starts getting measured in terms of money <,> and then <,> values are turned in prices <,> *People* ***get*** <,> to use Henry <w> Millers' </w> expression <,> <quote> ***Protected*** *by money* <,> ***learnt*** *by money* <,> ***dulled*** *by money* </quote> <,,> <ICE-IND:S2B-040 #32:1:A>

b. Now you have told the honourable court that you saw *one person who* <,> ***got*** <,> ***injured*** <,,> Bullet injury was <,> sustained by him <,,> Uh <,> was he bleeding at the time <,> from the injury <,> in the room <,,> ? <ICE-IND:S1B-064 #172:1:B>

Semi _get_-constructions

(4) a. *I always* ***get confused*** *with these names* When I hear these names I think they are Anglo-Indian names <ICE-IND:S1A-048 #27:1:C>

b. The method <,,> Remove stems from the red chillies <,,> slit them <,,> beseed and soak sixty whole red chillies in a bowl of water <,> for fifteen minutes <,,> Before *you* ***get alarmed*** *at the quantity of red chillies used* <,> here is a reassuring word about red chillies <,,> <ICE-IND:S2A-051 #48:1:B>

Pseudo _get_-constructions

(5) a. Don't think of marriage just now <O> laughter </O> Uh no *you must* ***get married*** because now you are twenty-six or twenty-seven <w> it's </w> time to marry <ICE-IND:S1A-024 #108:1:C>

b. I think some of you who have <,,> seen the last programme would be <,> ready with your sticks <,> So <,,> <w> *let's* </w> ***get started*** <,,> <ICE-IND:S2A-057 #2:1:A>

Adjectival _get_-constructions

(6) a. Hard work is essential <,> To get any success <,> And positive attitude is also very important <,,> *One shouldn't* ***get frustrated*** *or* ***disgusted*** because of this reservation policy <,> <ICE-IND:S1A-089 #138:1:B>

b. The Western critical sensibility <,> loves irony <,> realism concreteness <,,> conflict and rigidity of form <,> and *it* ***gets baffled*** *and* ***frustrated*** <,> when it faces something <,> abstract <,,> apparently formless <,> spiritual <,> and mystical <,,> <ICE-IND:S2B-048 #55:1:A>

Idiomatic *get*-constructions

(7) a. Okay it was nice <,,> and I joined here much later than you so <,,> I think *it takes some time to* ***get used to*** *my work* also <ICE-IND:S1A-014 #23:1:A>

b. Some of the things which science has given us have certainly helped <,> to make our lives happier <,,> *Science has helped us to* ***get rid of*** *many sickness of the body* <,,> <ICE-IND:S2B-045 #32:1:A>

Reflexive *get*-constructions

(8) a. May be you would like to take a small piece of paper and draw a few lines <,> clearly indicating what is a road on which your house is located <,> <w> what's </w> a land mark <,> which is quite simple to identify <,> and how to reach your place <,> Well <,> this sketch <,,> makes <,> the man more confident and *he is able to* ***get*** *himself* ***acquainted*** *with your area* <,> and he will be able to reach home confidently <,> <ICE-IND:S2B-032 #17:1:A>

b. But <,> it is being collected <,> this corpus is being collected <,> <{> <[> uhm uhm <,> all over the world And this is about world English <,> Uhm so this is called an international corpus of English <,> And *he was interested* <,> *in* ***getting*** *some telephone conversation* <,> <{> <[> uhm <,> uh ***taped*** And <,> use it as a part of the corpus <ICE-IND:S1A-099 #154:2:A>

3.2.1. The agent *by*-phrase

Although the prototypical[3] *get*-passive is accompanied by an explicit agent *by*-phrase, the corpus contains just 7 tokens of agent *by*-phrases, 4 of these occurring in *get*-passives and 3 in semi *get*-constructions, as examples (9) and (10) illustrate. This confirms the suggestion of Quirk et al. (1985: 161) and Carter and McCarthy (1999: 52) that *get*-passives–as well as the other subtypes–are generally agentless, mainly because of the low information value of the agent. It is interesting to compare the results for the presence of agent *by*-phrases in *get*-passives with the findings for *be*-passives. McEnery et al.'s (2006: 113) study shows that in *The*

[3] The term *prototypical* should be understood here in the sense of "archetypical" or "ideal," and not as "most common" or "habitual." That is, a *get*-passive taking an overt agent *by*-phrase is the ideal passive construction in that it fulfils all the defining criteria for central *get*-passives, but is not the most frequent construction. In fact, an overwhelming majority of *get*-passives tend to leave the agent phrase unexpressed.

Freiburg-LOB Corpus of British English (FLOB) the short form of the *be*-passive is over eight times as frequent as its long form, while for the *get*-passive the short form is over ten times as frequent as the long form. The contrast in the spoken part of the *British National Corpus* (BNC) is even more marked, where the short forms of *be*- and *get*-passives are over 18 and 37 times as frequent respectively as their long forms. The data show, thus, that short passives are clearly more common than long passives in both spoken and written English, that short passives are also significantly more frequent in spoken than in written English, and that *get*-passives are more likely than *be*-passives to occur without an agent.

Get-passive

(9) Corruption seems to have penetrated <,> in all spheres of life <,> and worse then that <,> it seems that we have accepted <,> that it has come to stay <,> *Work culture gets adversely affected* ***by this*** <,> <ICE-IND:S2B-040 #25:1:A>

Semi _get_-construction

(10) We see nothing wrong in seeking personal <,> favours <,> for gratification <,> Is this in accordance <,> with what we say <,> ? And what impact is it going to have on the young generation <,> *who get bewildered and confused <,>* ***by this discrepancy between action and preaching*** <,,> <ICE-IND:S2B-040 #23:1:A>

I also examined the length of the subject and the agent *by*-phrase in these constructions and found that the choice of the long passive can to a large extent be accounted for by the principle of end-weight, according to which long and heavy elements tend to be placed at the end of the clause, as in example (10) above. As far as the information status of these constituents is concerned, there is a balance regarding *get*-passives, since both subjects and agents tend to provide given information. The general tendency, however, is kept in the case of semi *get*-constructions, where subjects have a higher degree of givenness than agent *by*-phrases, which usually convey new information, retaining the unmarked given-before-new order of constituents in clause structure. With regard to the animacy of the agents, the 7 agent *by*-phrases in the corpus sample portray an inanimate entity, which contradicts Dahl and Fraurud's (1996: 58) expectations that the referent of the agent *by*-phrase be animate, given the strong association between agency and animacy.

These findings are for the most part in accordance with those for ICE-GB, which yielded just 8 tokens of agent *by*-phrases, 3 of these occurring

in *get*-passives, 3 in reflexive *get*-constructions, and 2 in semi *get*-constructions. This is also similar to British English in terms of the principle of end-weight and the arrangement of information in the clause. The difference lies in the animacy of the agents, since the proportion of animate and inanimate agents is the same in British English but not in Indian English, where all agents are inanimate.

3.2.2. The dynamicity of the verb category

Since the semantic type of verb used may favour the use of one particular *get* construction or another, it is important to classify the verbs in my data from a semantic point of view. I have followed Biber et al.'s (1999: 360ff) classification, which distinguishes seven major semantic domains: activity verbs (*buy*, *put*, *send*), communication verbs (*ask*, *tell*, *write*), mental verbs (*think*, *know*, *see*), verbs of facilitation or causation (*enable*, *cause*, *allow*), verbs of simple occurrence (*happen*, *occur*, *become*), verbs of existence or relationship (*seem*, *appear*, *exist*), and aspectual verbs (*start*, *continue*, *finish*). This classification is based on the core meaning of the verb, that is, on the meaning that speakers first associate with a given verb. An analysis of the verb type distribution in my corpus sample according to this classification showed that the overwhelming majority (73%) of the verbs occurring with *get*-constructions are activity verbs (see Fig. 1-1 below). It is worth noting that 110 of the 229 activity verbs in *get*-constructions in the corpus occur in *get*-passives, while 31 of the 64 mental verbs appear in adjectival *get*-constructions. This overwhelming frequency of activity verbs was expected since, in general, the category of activity verbs occurs much more frequently than any other verb category and they are particularly common in conversation (cf. Biber et al. 1999: 365-366). In addition, *get*-passives, as opposed to *be*-passives, tend to occur with activity verbs, which are the dynamic verbs par excellence (cf. Huddleston and Pullum et al. 2002: 1442). On the contrary, mental verbs yield stative participles or adjectival *–ed* forms, which favours an adjectival analysis. The semantic categories of communication, simple occurrence and aspectual verbs were recorded to a lesser extent, while not a single instance of causative or existence verbs was found. This is not surprising, since causative verbs are relatively rare and *get* is not possible with verbs reporting a state of existence or a relationship that exists between entities, such as *seem* or *appear*, *exist* or *live*, as in **He got seemed to be late*.

If we compare these data with the findings for ICE-GB, we see an almost identical picture, with an overwhelming majority of activity verbs

(70%), followed by mental verbs (25%) and to a lesser extent communication (3%) and aspectual verbs (2%) (see Fig. 1-2 below).

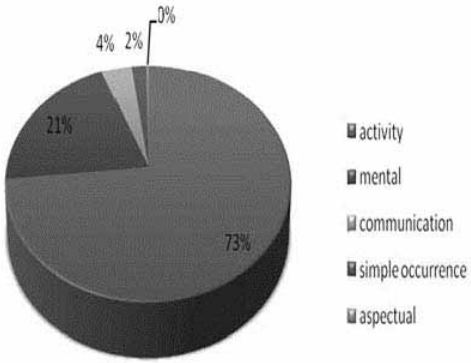

Fig. 1-1: *Distribution of* get + *V*en *according to verb type: ICE-IND*

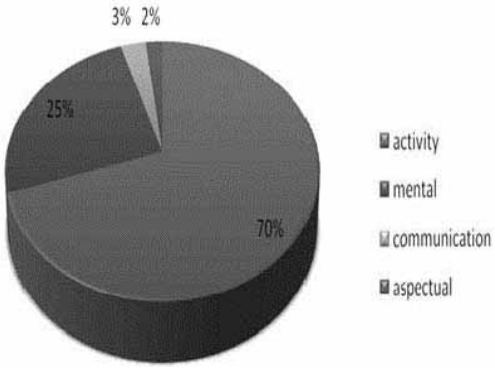

Fig. 1-2: *Distribution of* get + *V*en *according to verb type: ICE-GB*

3.2.3. The adversative semantic nuance

An examination of the semantic nuance conveyed by *get*-constructions in the corpus sample shows a preference for adversative (26%) rather than beneficial (13%) implications for the subject (cf. Carter and McCarthy 1999: 49). This evident predilection for unfortunate consequences is confirmed not only for *get*-passives (12 ben./33 adv.), as in *get killed*, *get hurt*, *get injured*, *get cracked*, *get destructed*, *get burnt*, *get violated* and *get imprisoned*, but also for adjectival *get*-constructions (7 ben./39 adv.), as in *get tired*, *get annoyed*, *get bored*, *get disgusted*, *get frustrated*, *get irritated*, *get frightened* and *get scared*. Nonetheless, the balance is tipped

in favour of beneficial implications in the case of reflexive *get*-constructions (15 ben./2 adv.), as in *get the work done*, *get their leaders elected*, *get his scooter repaired*, *get it completely cured* and *get eighty-five percent of the normal illnesses treated* (see Fig. 1-3 below).[4] As already mentioned, reflexive *get*-constructions, despite their name, are very much on the periphery of the *get*-passive category. As shown in Fig. 1-3, this class is also semantically different from the rest of the constructions. The remaining examples have a neutral value, that is, there are no beneficial or adversative effects upon the subject-referent, or, at least, those effects are not clearly visible, as in *get typed*, *get written*, *get translated*, *get signed*, *get displayed*, *get registered*, *get downloaded* and *get measured*.

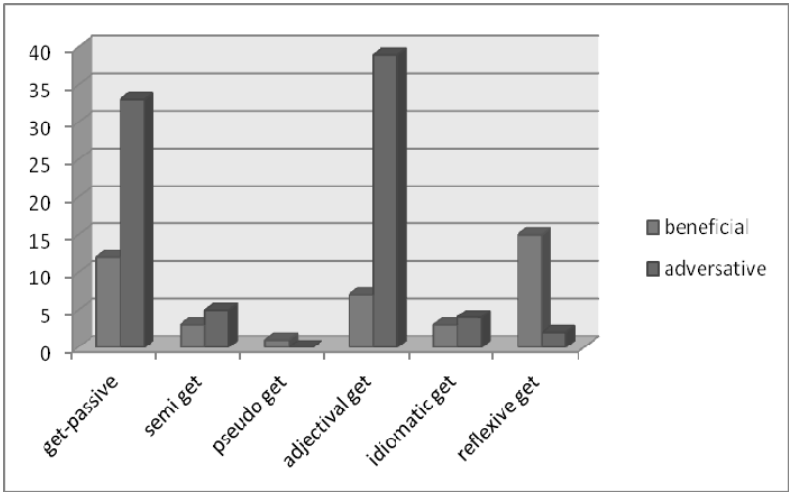

Fig. 1-3: *Distribution of* get + *V*en *according to semantic nuance in ICE-IND*

Similarly, ICE-GB also reveals a preference for adversative (30%) over beneficial (22%) implications for the subject, confirmed again in *get*-passives (8 ben./22 adv.) and adjectival *get*-constructions (5 ben./30 adv.). Beneficial implications also prevail in reflexive *get*-constructions (22

[4] Although not as significant as with *get*-passives and adjectival *get*-constructions, semi and idiomatic *get*-constructions occur slightly more frequently with adversative than with beneficial implications (3 ben./5 adv. and 3 ben./4 adv. respectively). Pseudo *get*-constructions manifest an almost balanced use of favourable and unfavourable situations (1 ben./0 adv.) with a well-defined predominance of neutral utterances (48).

ben./5 adv.), and in semi (5 ben./4 adv.) and idiomatic *get*-constructions (7 ben./3 adv.), though to a lesser extent. Pseudo *get*-constructions once more exhibit a balanced use of favourable/unfavourable situations (1 ben./1 adv.), as can be seen in Fig. 1-4 below.

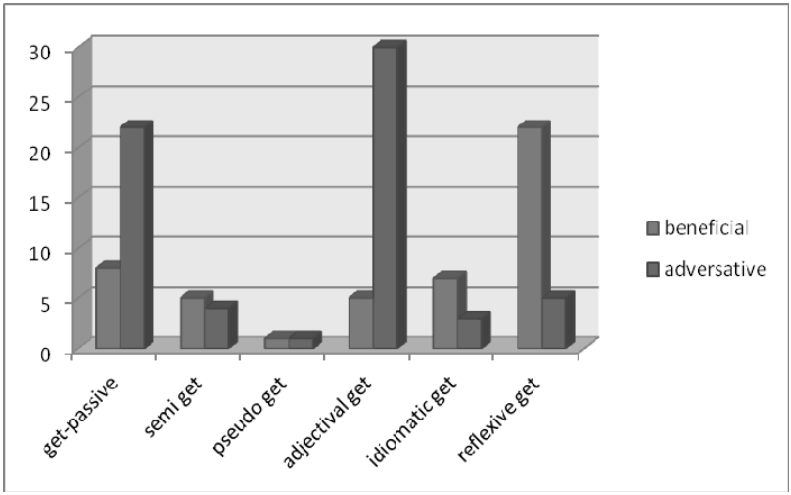

Fig. 1-4: *Distribution of* get + *V*en *according to semantic nuance in ICE-GB*

3.2.4. The subject: Degree of responsibility and animacy features

Two aspects regarding the subject in *get*-constructions have been analysed: whether it can be attributed some degree of responsibility for the action described in the clause, and its animacy features. As regards the former, the results confirm that in almost 53% of the occurrences analysed the subject is definitely responsible for initiating the event (example (11) below), whereas in 45% of cases the subject is clearly not in control (e.g. (12)). The cases in which it is not clear whether the subject is in control and the context is ambiguous were classified as neutral (2%), as in example (13):

(11) She might have done her MA or Ph D <,> but what is ultimate objective <,> *she wants to* ***get married*** <,> <ICE-IND:S1A-011 #53:1:G>

(12) So yes what happens when clay lime and ammonium chloride <{> <-> mixed in a </-> <,> <=> taken in a </=> </{> dry test tube <,> ? When a hard platinium <,> wire is <,,> inserted <,,> when a hard platinum wire is inserted *ammonia* ***gets oxidised*** <,> to form nitric oxide <,,> <ICE-IND:S1B-004 #139:1:A>

(13) And now here is another person <,> who had applied for an interview <,> He informed him <,> that *he had* ***got selected*** <,> and he has got the appointment order to him <,> and he says you have to give me feast <,> because <w> I've </w> <,> brought <,> good news <,> for you <,,> <ICE-IND:S1B-018 #108:1:A>

By concentrating on the individual subclasses of *get*-constructions in ICE-IND, it has been shown that the preference for responsible over non-responsible subjects applies to semi, pseudo, adjectival, idiomatic and reflexive *get*-constructions, while responsible subjects are exclusively and unexpectedly outnumbered (to a great extent) by non-responsible ones in *get*-passives. The data for ICE-GB portray a similar pattern, namely a preference for responsible (67%) over non-responsible subjects (27%). Furthermore, this preference extends to all subtypes of *get*-constructions except for *get*-passives anew and semi *get*-constructions (see Table 1-2).

	ICE-IND		ICE-GB	
Type of construction	responsible	non-responsible	responsible	non-responsible
get-passives	14 (11.57%)	107 (88.43%)	7 (17.07%)	34 (82.93%)
semi *get*-constructions	5 (62.50%)	3 (37.50%)	5 (38.46%)	8 (61.54%)
pseudo *get*-constructions	48 (97.96%)	1 (2.04%)	28 (96.55%)	1 (3.45%)
adjectival *get*-constructions	27 (52.94%)	24 (47.06%)	31 (73.81%)	11 (26.19%)
idiomatic *get*-constructions	24 (96%)	1 (4%)	35 (97.22%)	1 (2.78%)
reflexive *get*-constructions	46 (92%)	4 (8%)	38 (97.44%)	1 (2.56%)

Table 1-2: *Distribution of* get + *V*en *according to subject responsibility in ICE-IND and ICE-GB*

As far as the animacy features of the subject are concerned, *get*-constructions as a whole in ICE-IND appear with an animate[5] subject in

[5] Practically all of the examples are human animates, except for a single instance–the example below–where the referent of the subject is plants:

Like the meat or fish we consume today <,> though <,> uh the the animals or the fish cannot fix nitrogen <,> they live on plants <,> <{2> <[2> right

almost 65% of the tokens (e.g. (14)) and this predominance is maintained in all subclasses except for *get*-passives (see Table 1-3 below). There are, however, 111 examples (35%)–of which 94 (almost 85%) are *get*-passives–where the subject is inanimate, which shows that Lakoff's (1971: 154-155) often-quoted claim that *get*-passives cannot take inanimate subjects does not stand up to scrutiny. In most cases where the subject of the *get* construction is inanimate, some human entity associated with it retains responsibility, is involved in the action, or is affected by the results of the event (e.g. (15)), although there are cases in which the subject-referent does not stand in a direct relationship to any person, as in example (16), where the natural phenomenon of variations in temperature is not subject to human influence. In the case of ICE-GB, the number of animate and human subjects is even higher (87%) and this predominance is preserved in each of the six subtypes, even *get*-passives. However, the number of inanimate subjects is significantly lower, just 28 tokens (13%) (see Table 1-3).

	ICE-IND		ICE-GB	
Type of construction	animate	inanimate	animate	inanimate
get-passives	32 (25.40%)	94 (74.60%)	34 (68%)	16 (32%)
semi *get*-constructions	8 (100%)	0 (0%)	13 (100%)	0 (0%)
pseudo *get*-constructions	48 (97.96%)	1 (2.04%)	28 (96.55%)	1 (3.45%)
adjectival *get*-constructions	40 (74.07%)	14 (25.93%)	36 (80%)	9 (20%)
idiomatic *get*-constructions	24 (96%)	1 (4%)	36 (100%)	0 (0%)
reflexive *get*-constructions	49 (98%)	1 (2%)	40 (95.24%)	2 (4.76%)

Table 1-3: *Distribution of* get + *V*en *according to subject animacy in ICE-IND and ICE-GB*

(14) I don't want to go there because they are <,> physically tortured like uh <,> sometimes they even ask them to go the morgery and <,,> at midnight twelve <w> O'clock </w> whereas everyone is so scared like <,> <O> laughs </O> And thinking about <,,> dissection hall itself ***they*** *really get scared* and that also in the midnight uh <,> <ICE-IND:S1A-090 #100:1:B>

<,> and and the *plants* cannot fix nitrogen <,> so ***they*** *get the nitrogen fixed from the microbe*s <,> <ICE-IND:S1B-046 #46:1:B>

(15) Now <,,> as this rise and fall of the temperature <,> affects <,,> human being our skin for example <,> you find that in the cold season <,> ***your skin*** *get shrivelled* <,,> <ICE-IND:S1B-010 #8:1:A>

(16) ***The rocks*** in the hot summer season <,> *gets expanded* <,> and when the temperature falls in the winter season *gets* <,> <{> <[> *contracted* <,> contracted <ICE-IND:S1B-010 #56:1:A>

These findings on the animacy of the subject in *get*-constructions are particularly interesting from a historical perspective, since unambiguous *get*-passives with inanimate subjects emerged later than those with animate subjects. In *A Representative Corpus of English Historical Registers* (ARCHER), for example, they begin to appear more frequently only in the last period (1950-99), as the following two examples from Hundt (2001: 74) illustrate:

(17) **The dishes** don't get done. (ARCHER 1978ryan.j0)

(18) **Articles** get written about it. (ARCHER 1956flem.f9)

As for twentieth century English, Hundt (2001: 74-75) suggests that the number of *get*-passives with inanimate subjects shows a drastic increase in American English (from 3 in *The Brown University Standard Corpus of Present-Day Edited American English* (Brown) to 20 in *The Freiburg-Brown Corpus of American English* (Frown)) and a slight increase in the British corpora (from 6 in *The Lancaster-Oslo-Bergen Corpus of British English* (LOB) to 8 in FLOB; see also Toyota 2008: 161). Data from Indian English seem to reinforce this tendency towards a widespread use of *get*-constructions with inanimate subjects.

4. Conclusion

This study has shown that *get*-constructions in general and *get*-passives in particular are more recurrent in the Indian than in the British component of ICE, thus confirming findings reported by Collins (1996). The analysis of these constructions shows that most of the syntactic, semantic and pragmatic characteristics attributed to central *get*-passives in the literature (cf. Quirk et al. 1985; Collins 1996; Carter and McCarthy 1999; Huddleston and Pullum et al. 2002) are attested in both corpora and that, more interestingly, many of these features apply only to some *get*-constructions

but not to others, which would seem to confirm the idea that *get*-constructions form a gradient with different degrees of prototypicality both in British and in Indian English. For example, as regards the type of lexical verb, not all *get*-constructions take activity verbs, since adjectival and semi *get*-constructions in both varieties tend to take stative past participles or adjectival *–ed* forms, and make considerable use of mental verbs. As can be seen in Tables 1-4 and 1-5 below, there are some differences between Indian and British English, as follows:

(i) *Get*-constructions in both varieties occur primarily without an overtly expressed agent *by*-phrase; however, if present, its referent is typically inanimate in ICE-IND, but animate and human in ICE-GB (cf. Section 3.2.1.).

(ii) Subjects tend to be animate and human throughout all subcategories in both varieties–except for central *get*-passives in ICE-IND, which tend to occur with an inanimate subject.

(iii) The well-known feature of central *get*-passives, that they involve some responsibility on the part of the subject, only applies to non-central members of the category: in ICE-IND all *get*-constructions except for central *get*-passives have a responsible subject; in ICE-GB responsible subjects do not prevail in central *get*-passives and in semi *get*-constructions.

(iv) From a semantic perspective, central *get*-passives, idiomatic, adjectival and semi *get*-constructions in ICE-IND tend to code unfortunate situations for the subject-referent. In ICE-GB, however, only *get*-passives and adjectival *get*-constructions tend to adopt adversative implications for the subject.

In light of these differences between the two varieties we can conclude that in Indian English *get*-constructions seem to be more specialised as strategies used to convey adversative consequences for the subject, to express responsibility on the part of the subject, and to refer to inanimate subjects. Further research into *get*-constructions in this and other East and Southeast Asian varieties of English (cf. Hong Kong, Singapore) will help us confirm these apparent tendencies.

Type of construction	No agent phrase	Animate subject	Responsible subject	Activity verb	Adversat. semantics
get-passive	+	–	–	+	+
pseudo *get*	+	+	+	+	–
idiomatic *get*	+	+	+	+	+
reflexive *get*	+	+	+	+	–
adjectival *get*	+	+	+	–	+
semi *get*	+	+	+	–	+

Table 1-4: *Overview of* get + *V*en *characteristics in ICE-IND*

Type of construction	No agent phrase	Animate subject	Responsible subject	Activity verb	Adversat. semantics
get-passive	+	+	–	+	+
pseudo *get*	+	+	+	+	–
idiomatic *get*	+	+	+	+	–
reflexive *get*	+	+	+	+	–
adjectival *get*	+	+	+	–	+
semi *get*	+	+	–	–	–

Table 1-5: *Overview of* get + *V*en *characteristics in ICE-GB*

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CHAPTER TWO

A COMPARATIVE ASSESSMENT OF THE MODELS FOR THE CLASSIFICATION OF VERBS USED WITHOUT AN OBJECT IN CONTEMPORARY ENGLISH[1]

TANIA DE DIOS

1. The study of (in)transitivity: Setting the scene

As Bhat (1991: 93) points out, the concept of transitivity has historically been considered a key element for the organisation of sentences in all languages. That said, it comes as no surprise that this grammatical feature has received so much attention in the literature, having been the focus of countless studies over the years. Despite the existence of a wealth of research aimed at shedding light on the nature of this complex phenomenon, some linguists still acknowledge that "there seems to be no clear and universally accepted definition of this linguistic notion" (Martínez-Vázquez 1998: 13; see also Siewierska 1984: 8; Kittilä 2002: 3). Indeed, the concept of transitivity has been extensively discussed from a wide range of perspectives, from formal to cognitive, the very disparate nature of these approaches being a good indication of the complexity of the phenomenon in question. The various models postulated within these different frameworks have constituted significant contributions to linguistic theory, in that they uncover new nuances of this complex notion. It is precisely for this reason that evaluating the extent to

[1] For generous financial support, I am grateful to the following institutions: the Spanish Ministry of Education (grant AP2010-4222), the European Regional Development Fund, Spanish Ministry for Economy and Competitiveness (grant FFI2011-26693-C02-01), and the Autonomous Government of Galicia (Directorate General for Scientific and Technological Promotion, grants CN2011/011 and CN 2012/012).

which each of them offers a more coherent or appropriate vision of this grammatical category seems so problematical. As Kittilä notes, "transitivity is a vast phenomenon that comprises numerous different facets and it is extremely difficult to develop a definition that would take into account all this" (Kittilä 2002: 12). This seems to imply that no complete description of the concept can be achieved without adopting a holistic approach in which relevant contributions from all perspectives are taken into account.

However, among the existing conceptualisations of transitivity, one seems to have been generally privileged over the years, thus gaining the status of a "default" definition in most reference books and grammars. This is the purely syntactic approach, in which the existence of a well-defined dichotomy between transitive and intransitive verbs is based exclusively on the presence or absence of a direct object. This definition of transitivity is the one typically taught to school children, and probably the only one that most adults with no specialised training in linguistics would be familiar with. The pervasiveness of this formal account of transitivity could be seen as an indication that it should indeed be regarded as the most appropriate way of approaching this notion. However, the overwhelming prevalence of this "deeply ingrained, almost archetypal view of grammar" (Langacker 1982: 22) is by no means a direct indication of its precision or accuracy. On the contrary, such a treatment of transitivity entails a number of problems which deserve close attention.

First, it has been argued convincingly that transitivity should not be described in terms of an either-or issue, as traditional formal accounts have tended to do, and that we must be aware that verbs might not necessarily be either transitive or intransitive in every case. Indeed, a specific verbal item may be employed with or without an object on different occasions (e.g. *The children ate an ice cream* vs. *The children ate*). This phenomenon has not gone unnoticed in the literature, where several attempts to describe it, and thus to sustain the validity of formal descriptions of transitivity, have been made. Among them we find the proposals of well-established authors such as Huddleston and Pullum et al., who argue that transitivity, rather than applying to individual verbs, "applies to uses of the verbs"[2] (Huddleston and Pullum et al. 2002: 216). In a similar vein, Biber et al. explain how, given that "many verbs allow more than one [valency] pattern. . . , we should perhaps more correctly speak of verbs being 'used

[2] Huddleston and Pullum et al. call these verbs which can be employed in both transitive and intransitive patterns *dual-transitivity verbs*. However, other terms, such as *ambitransitive verbs* (Dixon and Aikhenvald 2000) and *amphibious verbs* (Visser 1963-1973), have also been used in the literature.

with' particular valencies" (Biber et al. 1999: 141). In turn, Quirk et al. assert that:

> many verbs are versatile enough to allow several complementation types . . . It is therefore likely to be misleading to talk about "intransitive verbs," "monotransitive verbs". . . , etc. Rather it is often better to say that verbs have a "monotransitive use," "monotransitive complementation," etc. (Quirk et al. 1985: 1168).

As we can see, then, the shift of focus from the conceptualisation of transitivity as an inherent property of individual verbs to its consideration as a range of the instantiation possibilities of such verbs in particular contexts of usage appears to constitute the most commonly accepted way of palliating the first important shortcoming of the traditional formal view of transitivity.

Nevertheless this solution is not conclusive, since a second important drawback to such an approach exists, one which has remained almost unaddressed and which, to my mind, renders any attempt to defend the traditional account of transitivity untenable. I refer to the common association of the rather simple idea "verb without object" with the tag "intransitive," which, as Liu (2008: 298) observes, "may be very appealing because it makes the categorisation of English null-object verbs simple, but it ignores the significant semantic and syntactic differences among different types of verbs grouped under this label." This implies that the most widespread use of the word "intransitive" is somehow inaccurate, inasmuch as it seems to serve as an umbrella term encompassing quite a heterogeneous group of constructions. The study of this heterogeneity, then, appears to be necessary in order to (1) achieve a proper description of the distinct classes of the English verbs used without an object, and (2) attain a better understanding of the notion of intransitivity to which these kinds of verbs have been traditionally, and erroneously, related. Currently, very few discussions of this issue are available, and of the accounts that have been proposed, not many can be said to provide a complete description of the nature of these sorts of verbal elements.

The aim of the present study is to carry out an in-depth analysis of the most influential frameworks for the classification of English verbs used without an object, as a means of arriving at an informed evaluation of the suitability of each of these. With this purpose in mind, I will review the treatment that such verbs receive in the three standard reference grammars of English, Quirk et al. (1985), Biber et al. (1999), and Huddleston and Pullum et al. (2002), as well as in more specialised literature, particularly Liu (2008).

2. English verbs used without an object in reference grammars

2.1. Quirk et al.'s (1985) grammar

In their seminal work *A Comprehensive Grammar of the English Language* (1985), Quirk et al. recognise the existence of important differences between the several kinds of verbs used without an object. Indeed, they are among the first scholars to have provided a typology of verbs used in "intransitive function" (cf. Quirk et al. 1985: 1169), whereby they try to highlight the different nature of three types of verbs with which "no complementation occurs." The three categories proposed are:

(1) "PURE" INTRANSITIVE VERBS, which do not take an object at all, or do so only very rarely (e.g. *John has arrived*).

(2) VERBS WHICH CAN ALSO BE TRANSITIVE WITH THE SAME MEANING, and without a change in the subject-verb relationship. Within this group Quirk et al. include those verbs which can be described as having an *understood object*, and which can be further divided into four subgroups (cf. Quirk et al. 1985: 722-723). The first of these includes constructions in which a specific object is recoverable from the preceding linguistic context (e.g. *Show me your essay - I will show you*). The second encompasses constructions where object omission is possible due to the presence of this element in the immediate situational context (e.g. *Shake well before use*). The third set is of instances where a specific reflexive object is understood (e.g. *I'm shaving*). Finally, a fourth group contains cases in which a non-specific object is semantically entailed (e.g. *Are you eating again?*).[3]

(3) VERBS WHICH CAN ALSO BE TRANSITIVE, but where the semantic connection between subject and verb is different in the two cases; that is, the intransitive use has an affected participant as subject whereas the intransitive use has an agentive as

[3] Quirk et al. (1985: 723) note that "the range of understood non specific objects is restricted with some verbs when they are used intransitively." This would explain why constructions like *Do you drink?* and *I'm cleaning* are generally understood as referring to the drinking of alcoholic drinks and the cleaning of household items respectively, and not to other drinkable or 'cleanable' things.

subject (e.g. *The door opened slowly* vs. *Mary opened the door*).

The value of this classification is undeniable, insofar as it can be regarded as one of the first attempts to raise the reader's awareness of the problems of treating English verbs used without an object as a homogeneous group. Nevertheless, there exist two key aspects in which the proposed taxonomy seems to fail. First of all, it could be argued that the use made by Quirk et al. of the label *intransitive* does not seem to be the most appropriate one. Indeed, they persist in employing the term to designate a *verbal class* which they themselves recognise as being composed of elements which exhibit quite different behavioural patterns. The second major weakness here is the confusion that the treatment of instances such as *They are eating* may cause, in that this type of construction is assigned to two different categories. As noted, the verb *eat* in *Are you eating again?* is classified as a verb used with a *non specific object*. However, several paragraphs earlier this kind of verbal usage is categorised as an instance of conversion "whereby a word such as *eat* is transferred from the transitive to the intransitive category" (Quirk et al. 1985: 722).[4]

2.2. Biber et al.'s (1999) grammar

The authors of the *Longman Grammar of Spoken and Written English* (1999) also put forward their own classification of the English verbs that have "both transitive and intransitive uses" (Biber et al. 1999: 147). In their view, such verbs fall into five categories which are established on the basis of the differences that exist between the transitive construction and its corresponding intransitive counterpart (cf. Biber et al. 1999: 147-149). These types are:

(1) ERGATIVE VERBS, with which the relationship between the object and the verb in the SVO_d pattern is the same as that between the subject and the verb in the SV pattern (e.g. *I tried to roll*

[4] Note that Quirk et al. even provide a number of reasons to consider examples such as *They are eating* as cases of conversion: (1) there is, to a greater or a lesser extent, a shift in meaning; (2) it applies to some transitive verbs but not to others (cf. *They're hunting deer - They're hunting* vs. *They're chasing cats - *They're chasing*); and (3) one can find nonce omissions, which points to a word-formation process rather than a syntactic process (cf. Quirk et al. 1985: 722).

boulders into the river to make stepping-stones vs. *Under the seat where it could not roll and break*).

(2) OBJECT-DELETING VERBS, with which the relationship between the subject and the verb is the same in both patterns (e.g. *He wrote his PhD on the climate* vs. *He always writes in capital letters, doesn't he*?).

(3) PSEUDO-INTRANSITIVE VERBS, with which the subject in the SV pattern corresponds to the direct object in the SVO_d pattern. The difference is that the pseudo-intransitive type normally requires an adverbial, very often *easily* or *well*, or the negator *not* (e.g. *Many of the better-quality junk issues will sell easily*).

(4) REFLEXIVE VERBS: some reflexive verbs show the same reflexive meaning whether used intransitively or with a reflexive object (e.g. *In the morning I shaved again and dressed*).

(5) RECIPROCAL VERBS: similarly to what happens with reflexive verbs, some reciprocal verbs can also be used without their expected objects (e.g. *The two women kissed*).

At first sight, the taxonomy proposed by Biber et al. (1999) seems to provide us with a more comprehensive and accurate account of the English verbs used without an object than the one posited by Quirk et al. (1985). First, it makes reference to some types of constructions which Quirk et al.'s taxonomy did not take into account (i.e. those including pseudo-intransitive verbs and reciprocal verbs); and, second, it does not show any kind of inconsistency when assigning these distinct types of verbs to one or another category. However, Biber et al.'s categorisation also brings with it some deficiencies which are worth mentioning. The clearest of these is that the cover term *intransitive* continues to be used to embrace all the types of verbs discussed above, which suggests that the important differences among these classes are still not well established. Moreover, if we were to accept Biber et al.'s classification as valid, this would involve overlooking one main class of English verbs without an object (which Quirk et al. do refer to): those instances of object omission conditioned by the context, either linguistic or situational.

2.3. Huddleston and Pullum et al.'s (2002) grammar

Huddleston and Pullum et al.'s treatment of the verbs which "occur in both transitive and intransitive constructions" (Huddleston and Pullum et al. 2002: 298) differs considerably from those described above. The most significant departure is the range of patterns which these authors label as *intransitive*, given that structures of the type *Subject + Verb + Prepositional Object* are also categorised as such. Following this, the authors discuss alternations of the kind *They shot him* vs. *They shot at him* or *The sun radiates heat* vs. *Heat radiates from the sun* in a section devoted to the consideration of dual-transitivity verbs (cf. footnote 1 above). Nonetheless, these are not cases of intransitivity in the sense understood in my current study, which has led me to exclude Huddleston and Pullum et al.'s discussion of this kind of variation here. Leaving these aside, then, Huddleston and Pullum et al. distinguish two principal groups of transitive verbs converted to intransitive.[5] The first of these major types of verbs[6] agglutinates those contrasts in which the transitive construction contains an object that is lacking in the intransitive, and the subject remains constant. Within this type, several subtypes are distinguished:

(1) OMISSION OF AN OBJECT IN INSTRUCTIONAL REGISTER: *Apply liberally*
(2) UNEXPRESSED DEFINITE OBJECT: *They won*
(3) UNEXPRESSED REFLEXIVE OBJECT: *I must shave*
(4) UNEXPRESSED RECIPROCAL OBJECT: *We had met before*
(5) UNEXPRESSED BODY PART OBJECT: *They clapped*
(6) UNEXPRESSED HUMAN OBJECT: *That dog bites*
(7) SPECIFIC CATEGORY INDEFINITES: *She doesn't drink*
(8) NORMAL CATEGORY INDEFINITES: *He read for a while*

I will not elaborate on each particular subtype proposed by Huddleston and Pullum et al. (2002: 298-308) since the labels provided by the authors are self-explanatory in most cases. However, a more detailed description of the categories (2) unexpressed definite object, (7) specific category

[5] In their description of transitivity alternations involving *transitive vs. intransitive contrasts*, Huddleston and Pullum et al. (2002: 298-308) include both (1) cases of typically transitive verbs used without an object, and (2) instances of intransitive verbs occasionally accompanied by a direct object. I have taken into account only the former class in this section.

[6] Verbs of this kind, labelled as *Type III* in Huddleston and Pullum et al.'s grammar, will be referred to as *Type 1* in the frame of this investigation.

indefinites, and (8) normal category indefinites is warranted here, in order to explore the full implications of each term as well as the fine-grained differences existing among the three subtypes to which they are associated. The label *unexpressed definite object* is employed in those cases in which the unexpressed object of a limited set of verbs is recoverable from the context and has a definite interpretation. Thus, intransitive *win* is interpreted as "win a contest," the contest in question being determined by the context in which a given sentence containing this verb is uttered. In turn, with the term *specific category indefinites* Huddleston and Pullum et al. refer to a reduced number of verbs whose understood objects appear to pertain to a very limited set of entities, as in the case of *drink*, *expect* and *bake*, which, when used without an object, tend to be related to the specific objects *alcoholic drink*, *a baby*, and *cakes*, respectively.[7] Finally, the term *normal category indefinites* is used to describe those instances where the unexpressed object is an indefinite member of the typical, unexceptional category for the verb in question, such as reading matter for *read*, food for *eat*, etc.[8]

The pairs of the second main group proposed by Huddleston and Pullum et al. (2002: 306-308) (*Type 2* here) differ from the ones included in the previous set in that the subject of the intransitive corresponds not to the subject of the transitive, but to its object. Various subtypes of this kind of transitivity alternations are also suggested:

(1) NON-AGENTIVE DYNAMIC INTRANSITIVES: *The vase broke* vs. *They broke the vase.*
(2) NON-AGENTIVE STATIC INTRANSITIVES: *The ladder leant against the wall* vs. *I leant the ladder against the wall.*
(3) AGENTIVE INTRANSITIVES: *The dog walked round the block* vs. *He walked the dog round the block.*
(4) "MIDDLE INTRANSITIVES:" *She doesn't frighten easily.*

Huddleston and Pullum et al.'s classification of the English verbs used without an object appears to have been conceived with the purpose of exploring the differences existing among these sorts of verbs in a very comprehensive way. Indeed, their aim to capture every differential trait is

[7] Cf. Quirk et al.'s discussion of instances of this type referred to in footnote 3.
[8] To this general definition of the so-called *normal category indefinites* Huddleston and Pullum et al. (2002: 304) add that, with a considerable number of verbs, the intransitive construction is characteristically used for an activity, whereas the transitive one is employed for an accomplishment (e.g. *I ironed* vs. *I ironed your shirt*).

reflected in the large number of subcategories into which each major type is divided. Such a seemingly positive aspect of the taxonomy, it might be contended, is in fact a defect. In my view, the presentation of so many distinct subclasses, extremely slight differences in some cases–e.g. *Type I* subclasses (2), (6), and (8)–can easily become a potential source of confusion. In addition, Huddleston and Pullum et al. reproduce the terminological error of their predecessors in using the label *intransitive* for this evidently miscellaneous group of verbs. Finally, it could also be argued that Huddleston and Pullum et al.'s model, like those of Quirk et al. and Biber et al., suffers from a number of conceptualisation problems, which will be better understood once Liu's (2008) proposal has been considered. This will be the focus of the following section.

3. Liu's (2008) taxonomy for the verbs used without an object

3.1. The taxonomy

Making use of semantic, syntactic, and pragmatic criteria, Liu (2008) proposes the division of English verbs used without an object into four major groups, (1) *pure intransitive verbs*, (2) *ergative-intransitive verbs*, (3) *transitive-converted intransitive verbs of activity*, and (4) *object-deleting verbs*.

(1) PURE INTRANSITIVE VERBS. In this category are included those verbs which occur with a single argument in the subject position that typically plays the role of agent, as with *arrive*, *sleep*, *sit*, and *wait*. As Liu explains, this kind of verbal elements never take an object, except a few of them, and in very limited situations (e.g. in constructions with cognate objects like *live a good life*, or when turned into causative transitive verbs, as in *to sit someone down*).

(2) ERGATIVE INTRANSITIVE VERBS. With this term, Liu refers to verbs such as *open* or *break*, which are also employed with a single argument in the subject position, which in this case plays the role of theme. These verbs can be also employed transitively, and, when used so, the subjects in their intransitive or ergative use will play the syntactic role of object (e.g. *The window broke* vs. *They broke the window*). In this group are also included those verbal items like *sell* or *scare* which some authors have termed

pseudo-intransitive verbs (Biber et al. 1999: 148;[9] Downing and Locke 2002: 75) or *middle intransitive verbs* (Rutherford 1998: 191; Huddleston and Pullum et al. 2002: 307),[10] and whose nature differs from that of the first subgroup of ergative intransitive verbs in two main respects: (a) they generally require an adverbial or the negator *not*, and (b) they are normally used to express modality rather than a change in the state of the subject.

(3) TRANSITIVE-CONVERTED INTRANSITIVE VERBS OF ACTIVITY. In this group Liu includes certain uses of verbs such as *eat*, *read*, *drink* and *play*, exemplified in constructions of the type *She is reading* or *The kids are playing*. Such structures seem to show a shift in meaning with respect to their corresponding transitive variants (e.g. *She is reading a book; The kids are playing football*), inasmuch as it is possible to note how the emphasis is transferred from the object to the action itself.

(4) OBJECT-DELETING VERBS. This fourth type includes all those items which admit a deletion of their objects due to the fact that they can be more or less easily retrieved from the context in which they occurr. Moreover, Liu proposes a distinction between objects that can be deduced by looking at the discourse context (e.g. *Each time we met she invited me, and each time I declined*) and those which can be guessed by taking into account the situational context (e.g. *Bake for 45 minutes* in the instructions on a cake mix box) which appear to be common in product labels and warning signs.

3.2. Benefits of Liu's (2008) taxonomy over previous classifications

The above outline of Liu's proposal makes it clear that his model of analysis coincides with those of Quirk et al. (1985), Biber et al. (1999), and Huddleston and Pullum et al. (2002) in some respects, while departing from them in others. The convergences and divergences among these distinct approaches are summarised in Table 2-1:

[9] Cf. section 2.2
[10] Cf. section 2.3

<table>
<tr><th colspan="2">Quirk et al. (1985)</th><th>Biber et al. (1999)</th><th colspan="2">Huddleston and Pullum et al. (2002)</th><th>Liu (2008)</th><th>Example</th></tr>
<tr><td colspan="2">Pure intransitive verbs</td><td>-</td><td colspan="2">-</td><td>Pure intransitive verbs</td><td>He arrived</td></tr>
<tr><td rowspan="8">Verbs which can also be transitive with the same meaning
(verbs with ‘understood’ objects)</td><td>Object recoverable from linguistic context</td><td>-</td><td colspan="2">-</td><td rowspan="3">Object-deleting verbs</td><td>Show me you essay
- I’ll show you</td></tr>
<tr><td rowspan="2">Object recoverable from situational context</td><td rowspan="2">-</td><td rowspan="7">Type I</td><td>Omission of an object in instructional register</td><td>Apply liberally</td></tr>
<tr><td>Unexpressed definite object</td><td>She won [a specific contest]</td></tr>
<tr><td rowspan="2">Understood reflexive object</td><td>Reflexive verbs</td><td>Unexpressed reflexive object</td><td rowspan="6">Transitive-converted-intransitive verbs of activity</td><td>I’m shaving</td></tr>
<tr><td>Reciprocal verbs</td><td>Unexpressed reciprocal object</td><td>They embraced</td></tr>
<tr><td rowspan="4">Non specific object semantically entailed</td><td rowspan="4">Object deleting verbs</td><td>Unexpressed body part object</td><td>They clapped</td></tr>
<tr><td>Unexpressed human object</td><td>The dog bites</td></tr>
<tr><td>Specific category indefinites</td><td>He drinks [alcohol]</td></tr>
<tr><td>Normal category indefinites</td><td>She is reading</td></tr>
<tr><td colspan="2" rowspan="2">-</td><td>Pseudo intransitive verbs</td><td rowspan="2">Type II</td><td>Middle intransitives</td><td rowspan="2">Ergative-intransitive verbs</td><td>These cakes sell well</td></tr>
<tr><td>Ergative verbs</td><td>Non-agentive dynamic intrans.
Non-agentive static intrans.
Agentive intransitives</td><td>The window broke</td></tr>
<tr><td colspan="2">Verbs which can also be transitive, but where the semantic connection between subject and verb is different</td><td colspan="4"></td></tr>
</table>

Table 2-1: ***Convergences and divergences among the different approaches to English verbs used without an object***

As can be seen in the above table, there seem to be no sharp differences as regards the kinds of verbal items taken into consideration by the authors in their classifications. Indeed, the only noticeable discrepancies in this respect are that while Quirk et al. do not mention verbs of the type *to sell* in *these cakes sell well*, Biber et al. (1999) and Huddleston and Pullum et al. (2002) either overlook or only partially cover those cases in which the omission of an object is made possible due to its being present in the surrounding linguistic or situational context.[11] Obviously, Liu's coverage of all the relevant constructions, without exception, points to the greater accuracy of his taxonomy. However, this is not the only innovation in Liu's treatment.

First, it is possible to argue that by characterising his study as an attempt to properly describe the differences in nature of the various *verbs used without an object*, Liu manages to overcome the recurrent terminological deficiencies seen in other approaches to the study of the kind of verbs considered here. Indeed, Liu is able to do without the all-embracing label *intransitive*, and provides us with a fresh conceptualisation of English verbs that lack an object, establishing four well-defined categories "placed in order of their degree of transitivity" (Liu 2008: 298).[12]

Secondly, Liu proposes a very interesting distinction between *transitive-converted intransitive verbs of activity* and *object-deleting verbs* which had not been drawn elsewhere. Thus, he claims that, contrary to what previous studies seemed to suggest, there exist a number of compelling reasons that should deter us from considering constructions like *She was **reading*** and *She invited me, but I **declined*** as instances of the same phenomenon. First and foremost, and as already noted (cf. Section

[11] Another striking divergence of the taxonomies under discussion is that, whereas two of them make reference to *pure intransitive verbs* (i.e. Quirk et al. 1985 and Liu 2008), the remaining two (i.e. Biber et al. 1999 and Huddleston and Pullum et al. 2002) completely ignore this category. Nevertheless, this lack of agreement can be explained in terms of the overall approach adopted by each group of scholars at the time that their classifications were conceived. Hence, while the former have chosen to focus on *distinct types of intransitive verbs*, the latter have preferred to deal with *instances where a verb which is generally employed with an object is used without one*, which makes the discussion of pure intransitive verbs irrelevant for them.

[12] Liu's advance in this respect is praiseworthy. Nonetheless, I consider that the label used to refer to these verbs can be refined even further. A term of the kind *verbs with no complement* would, I feel, be more suitable, in that it leaves aside other types of verbs with which no direct object is employed (e.g. copular verbs) and whose study does not appear to be pertinent here.

3.2), in the case of the first type, "the shift of the verb's function from transitive to intransitive often involves a change in the focus of meaning" as "the focus turns from the object in the transitive to the activity. . .itself in the intransitive use" (Liu 2008: 293; cf. also Allerton 1974: 215; Van Valin and LaPolla 1997: 123; García-Velasco and Portero-Muñoz 2002: 3; Goldberg 2001: 513; Huddleston and Pullum et al. 2002: 304, among others).[13] Second, the allegedly deleted objects of verbs like *read* as used above are often defined as "indefinite objects" (cf. Quirk et al.'s 1985 and Huddleston and Pullum et al.'s 2002 classifications), which already entails that there is in fact no specific direct object in reference. And third, *object-deleting verbs* cannot be employed without a specific context, something which is possible with *transitive-converted intransitive verbs of activity* (cf. ***** *I declined last night* vs. *I ate last night*).

Finally, Liu's great power of synthesis might also be noted here, which has enabled him to devise a very concise system whereby all the possible instances of English verbs used without an object are quite coherently categorised into only four rather clear-cut classes (in contrast, for instance, Huddleston and Pullum et al.'s classification).

3.3. Some shortcomings of Liu's proposal

Despite the greater precision and consistency of Liu's proposal (cf. Section 3.2), his discussion still leaves some room for refinement. Among those aspects which could be improved is his decision to subsume two quite distinct types of verbs–i.e. *ergative verbs* and *middle intransitive* or *pseudo-intransitive verbs*–under the label *ergative-intransitive verbs*. Indeed, there seem to be convincing reasons, as Liu himself admits,[14] to establish a distinction between these two kinds of constructions. In addition, Liu's failure to provide us with a complete and definitive account of the nature of what he calls *object-deleting verbs* can also be considered an important deficiency of his approach; in fact, he acknowledges his inability to justify the surprising fact that most English verbs cannot be used in this way, even when the discursive or situational context clearly

[13] However, not all linguists adopt this perspective. For a criticism of this approach, see Næss (2007: 133).

[14] As a possible argumentation as to why these two types of verbs can be considered as different in nature, Liu (2008: 299) points out that, while *pseudo intransitive* verbs usually (1) require an adverbial or the negator *not*, and (2) express modality rather than the state or change of state of the subject, *ergative verbs* do not show these traits.

indicates the identity of the object in question (cf. **I'll open an account if you open* or **Please give me a book to read if you have*).

This issue has long been debated in the literature, where several ways of dealing with it have been proposed. Some scholars have tried to seek an explanation to the phenomenon by relating it to the existence of specific lexical properties for each individual verb through which the set of arguments inherently *marked for omission* would be specified (cf. Allerton 1974: 224; Herbst and Roe 1996: 185; Huddleston and Pullum et al. 2002: 301; Jackendoff 2002: 134, among others). Others, including Goldberg (2001), have attempted to analyse this sort of object elisions as an essentially discourse-pragmatic phenomenon arguing that, in the right context, just about any transitive verb in English can be used without an object. Finally, considerations of both a lexical and pragmatic nature are taken into account in Groefsema's (1995) study, where it is asserted that:

> On the one hand, an argument can be left implicit if the conceptual representation of a verb contains a selection restriction such that it gives us an interpretation in accordance with the principle of relevance;[15] and on the other hand, an argument may be left implicit if the rest of the utterance makes immediately accessible an assumption (or assumptions) which gives us an interpretation in accordance with the principle of relevance. (Groefsema 1995: 159)

However, among the interpretations of the phenomenon of object omission that have been posited, none has been widely accepted as valid. This may be due largely to the impossibility of providing adequate evidence for a lexical explanation here. In turn, those favouring discourse-oriented accounts have also largely relied on their own intuitions, their proposals having not been supported by the results of an empirical study. Such a lack of proper empirical validity may well be at the core of disagreement among scholars, who are still looking for a definitive answer to the question of why object deletion should be available for some verbs but not for others, even when the semantic similarities between them are highly marked (cf. *He served oneself to another piece of cake and* ***ate*** vs. **The lion leaped on the rabbit and* ***devoured***).

[15] Groefsema (1995: 154-155) explains how "according to Relevance theory a (genuine) communicator tries to be optimally relevant. This means that she intends the utterance to provide the addressee with adequate contextual effects for as little processing effort as possible. This has as a consequence that the communicator must choose the utterance which s/he thinks is optimally relevant."

This same shortcoming is seen in Liu's analysis, where the validity of the proposed typology of verbs used without an object is not properly supported by a comprehensive study of how each class of verb actually behaves in the English language. Thus, although he occasionally resorts to the presentation of real data from the *British National Corpus* (BNC), even providing frequencies of occurrence in some isolated cases, the need for a more systematic and careful empirical test of his model persists. This is even more pressing in the cases of two of the classes advocated by Liu, namely *transitive-converted to intransitive verbs of activity* and *object-deleting verbs*, which are those for which the attainment of an accurate description has been more problematic.

Finally, it is also worth mentioning that Liu's use of the BNC as an occasional source of data might have had a negative impact on the reliability of his perceptions about the nature of the English verbs under consideration, in that only one variety of English is used–British English– and thus any conclusions drawn by Liu from his analysis of the texts contained in the BNC may not be applicable to the language spoken in other varieties of English worldwide.

4. Conclusions

The present investigation has tried to raise awareness of the heterogeneity that exists among the different kinds of English verbs used without an object, as well as of the negative consequences that maintaining the traditional view of *intransitivity* may bring about. As shown in this paper, alternative, more appropriate ways of dealing with this grammatical category should be sought if our aim is to reach a complete understanding of how the English verbal system behaves regarding the absence of complementation. The most notable of current frameworks have here been analysed, and the superiority of Liu's (2008) four-category model described; this superiority is due principally to the introduction of the innovative distinction between *transitive-converted intransitive verbs of activity* (e.g. *She is **reading***) and *object-deleting verbs* (e.g. *Each time we met she invited me, and each time I **declined***). However, this by no means implies that Liu's (2008) taxonomy should be regarded as devoid of weaknesses, as it certainly requires further refinements if a definitive model for the study of English objectless verbs is to be established. Improvement could be achieved, for instance, by (1) shedding light on the anomalous behaviour of *object-deleting verbs*; (2) carrying out a reorganisation of some of the proposed categories in order to endow the classification with a higher degree of clarity; and (3) providing the

framework with an empirical basis which would back up Liu's (2008) primarily theoretical assumptions. However, such tasks must remain the subject of future research.

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CHAPTER THREE

ARE ISOLATED *IF*-CLAUSES INDEPENDENT CLAUSES? EVIDENCE FROM SPOKEN BRITISH AND AMERICAN ENGLISH[1]

BEATRIZ MATO MÍGUEZ

1. Introduction

The present paper aims to analyse so-called directive isolated *if*-clauses in contemporary spoken British English, using data from the *Diachronic Corpus of Present-Day Spoken English* (Aarts and Wallis 2006) and the *Santa Barbara Corpus of Spoken American English* (Du Bois et al. 2000-2005). I will first discuss the existing literature briefly (Section 2), before moving on, in Section 3, to consider the modality and grammatical status of directive isolated *if*-clauses, that is, whether they should be seen as incomplete utterances marked by ellipsis or as constituting a minor clause type. I will provide corpus evidence that they are independent clauses, in view of the nature of the alleged missing material and its recoverability, and of the features they share with prototypical independent clauses. Section 4 discusses the stage of insubordination which directive isolated *if*-clauses seem to have reached. Finally, Section 5 summarises conclusions and proposes some future lines of research.

[1] For generous financial support, I am grateful to the following institutions: Spanish Ministry of Education (grant 2010-4570), the European Regional Development Fund, Spanish Ministry for Economy and Competitiveness (grant FFI2011-26693-C02-01), Autonomous Government of Galicia (Directorate General for Scientific and Technological Promotion, grants CN2011/011 and CN2012/012). I am also grateful to Teresa Fanego and María José López Couso for their feedback on earlier versions of this paper.

2. Isolated *if*-clauses

The term isolated *if*-clause is used to refer to structures such as those in (1) and (2) in which an apparent conditional clause is issued on its own, without a corresponding apodosis or main clause:

(1) *Okay if you'd like to get dressed now.*
(2) *If I'd somewhere to go, some friend's room.*

As far as English is concerned, Stirling (1999) points out that the *if*-clause in (1) expresses a polite request, that is, a directive, whereas (2) shows desiderative value, expressing a wish on the part of the speaker. These two uses of isolated *if*-clauses in English have been mentioned occasionally in the literature. It must be noted, however, that isolated *if*-clauses can also convey either surprise, as in (3), or a warning or threat, as in (4). Such a variety of uses leads us to see this type of structure as a more functional and diverse resource than has typically been suggested.

(3) *If it isn't you again!*
(4) *If you (dare) break the window!*

In what follows, I will discuss directive isolated *if*-clauses in the literature paying special attention to the study of these clause types in Australian English by Stirling (1999).

2.1. Isolated *if*-clauses in the literature

Isolated *if*-clauses have been mentioned by a number of authors, among them Huddleston and Pullum et al. (2002: 945), who refer to conditional fragments as a type of conditional adjuncts that "can be used on their own, with the apodosis left unexpressed," as exemplified here:

(5) *If only you'd told me earlier!*
(6) *Well, if it isn't my old friend Malcolm Duce!*
(7) *If you'd like to move your head a little.*

The construction in (5) with the combination "*if only* + modal preterite indicating conterfactuality" expresses a regret with the implied meaning "how unfortunate you didn't tell me earlier (because if you had done, things would have been better)," the same as in example (2) above. In (6), the construction involves a fixed frame of the form *if it/that isn't X*, which

is used to express surprise at seeing X, so that the meaning conveyed here is "it is my old friend Malcolm Duce." A further type of indirect directive can be seen in (7): "please, move your head a little" (as said by a doctor to a patient); the missing apodosis is understood to be on the lines of "that would be helpful."

Ford (1997) also identifies the possibility of conditional clauses proposing some action on the part of the hearer. As she explains (1997: 401), directives and offers require special handling in the conversation since they involve an imposition on another person's independence and freedom of choice. She also acknowledges that conditional clauses present offers and other moves which make it clear that their realisation depends on the addressee's volition, as in (8).

(8) You can come an' sit'n talk with us *if you want.*

Ford explains (1997: 405) that making an offer through a conditional clause is a way of dealing with the negative face issues of the addressee, the conditional allowing for their freedom of choice. As Traugott et al. recognize, "it is invariably found that some sentences with the formal markers of conditionality are semantically and pragmatically only marginally conditional or not conditional at all" (1986: 7). This is the case with both prototypical conditional clauses with directive meaning, the sentence type from which isolated *if*-clauses seem to have emerged (cf. Section 4), and isolated *if*-clauses, which do not convey conditional meaning but rather serve other purposes, basically forming polite requests, offers and orders. In this respect, it has been shown that conditional clauses serve to soften the strong assertion an imperative would imply. As Brown and Levinson (1987: 65ff) explain, orders, requests (i.e. the speaker's expression of his desire for the hearer to act or not to act) and offers (i.e. the speaker's expectation that the hearer commits himself to whether or not he wants the speaker to do something for him) are acts that threaten the addressee's negative face, in that they express the speaker's intrusion into the hearer's freedom of action. In this context, participants in a conversation will try to avoid these face-threatening acts or, at least, will try to employ some strategy to reduce the threat. Conditionals add to the strategy of acts done on record (i.e., where the communicative intention behind the action is clear to participants) by offering the possibility of redressive action, that is, an action that attempts to go against the potential damage to face that an addressee may suffer, by modifying or adding some element that expresses clearly that it is not the speaker's intention to do so. Acts done with redressive action convey either positive

or negative politeness, the latter consisting of acts intended to maintain the hearer's want of "territory and self-determination" (Brown and Levinson 1987: 70), the speaker avoiding interference with the hearer's freedom of action. Face-threatening acts are redressed with the indirectness that conditionals offer, since they provide the hearer with the possibility of choosing whether or not he/she wants to commit himself to the act proposed by the speaker.

Ford and Thompson (1986) also discuss the use of isolated *if*-clauses in order to express polite requests, and consider that it may be due to "a combination of the softening effect of hypotheticality and the fact that conditionals seem to imply an option with alternatives" (1986: 365). In many of the examples analysed by Ford and Thompson, a consequent clause is very difficult to isolate since this use of the conditional form is one of the least compatible with logical interpretation. The response from the addressee often reflects the understood intent of the utterance: the second speaker responds with assent:

(9) M: *If you could get your table up with your new sketches just soon as this is over* I would like to see you.
T: All right. Fine.

(10) M: But *if you'll call Irey over and get together with him on Tuesday or Wednesday,* whenever you fellows are ready I'm ready.
J: Yes, all right, that's fine.

Ford (1993) also notes that *if*-clauses might present options unconnected to main clauses (1993: 49-50), expressing an offer which is contingent on the hearer's choice, as in (11) and (12) below.

(11) A: Tch! But *if you wanna-uhm come in, an' see.*
B: Tch! I wouldn't know where to look for her(hh) hnhh-hnhh!

(12) A: Well *if you want me (to) give you a ring tomorrow morning*.
B: Tch! Well y-you know, let's, eh- I don't know. I'll see maybe I won't be in.

B's answers here reflect the interpretation of *if*-clauses as offers; A's *if*-clauses are used in contexts where B seems to be hesitant about accepting the offer. The optionality that *if*-clauses convey seems to be used in sequences which involve hesitancy on the part of one participant. Conditional clauses without apodosis are used in these contexts since they encode options; in Ford's words, "when one makes an offer…an *if*-clause

is a workable format for suggesting the plan of action and at the same time displaying a recognition, or conceding to the fact, that the plan is contingent and the other party may prefer another option" (1993: 139). Speakers consider the *if*-clause alone as sufficient for the encoding of a polite offer and, in such contexts, it is not regarded as ungrammatical or incomplete, which Ford sees as an indication of the progressive conventionalisation of this type of clauses.

2.2. Isolated *if*-clauses in Australian English: Stirling's findings

The most detailed discussion of directive isolated *if*-clauses in English was that of Stirling (1999) for Australian English. She examines the uses and features of these clauses using data from the *General Practice Consultations Corpus*, which consists exclusively of conversational dialogue recorded in Queensland in 1980 with the cooperation of the RACGP Family Medicine Program, and the *Macquarie Dictionary Corpus*, which consists of 20 million words covering a range of genres, though mostly from the written language. The subset of genres chosen for Stirling's study aimed at the most conversational-like language possible, taking into consideration that dialogue from plays and dialogue in third person thought in novels, used as examples of actual spoken language, have their obvious limitations.

All the examples Stirling cites from the *General Practice Consultations* corpus were uttered by doctors in one of two phases of consultation: either in the concluding consultation when detailing a treatment and, less commonly, in the examination phase. Examples from the latter express the doctor's request for the patient to move parts of his/her body, while examples from the treatment phase include specifications as to further treatment which the patient will have to perform without the doctor's supervision. These examples usually relate to acts previously mentioned in the consultation, functioning thus as a reinforcement. Both situations require the patient's cooperation to fulfil the acts being requested by the doctor: in the first case, a movement of part of the patient's body and, in the second, the fulfilment of recommendations made by the doctor, where the use of isolated *if*-clauses seems to give the patient the chance to make the decision of whether or not to perform the act.

In her discussion of directive isolated *if*-clauses, Stirling states that "the speaker uses the isolated *if*-clause with the illocutionary force of a directive, most frequently a request (but in some cases more appropriately categorised as a suggestion)" (1999: 278). Consider example (13):

(13) D: Deep breaths…***If*** *you'd like to move your head a little*. Thank you.

In this type of isolated *if*-clauses the subject is normally a second person one and, in those cases where a first person is found, the utterance has the force of a request for permission, as in (14) below.

(14) MR. PETTIT: ***If*** *I could answer that, Mr. Commissioner*. My job in 1988–and it took most of that year–was to consult with communities all around Victoria regarding the concept of the community justice panels.…

Stirling points out (1999: 279) that "directives naturally refer to a future action, and so it is not surprising that the simple past tense only rarely occurs. . .instead one finds either the present form of the main verb, the present tense form of the modal *can*, or the past form of a modal," as in (13) and (14) above. It must be noted, however, that past tense forms of modal verbs are only in some respects classified as such from the point of view of meaning (Quirk et al. 1985: 220), they rather have a hypothetical meaning which implies present or future time reference.

The directive use of isolated *if*-clauses in Australian English fits the general pattern of indirect directives. Ellipsis is identified by Brown and Levinson (1987: 227) as one of the main mechanisms of indirection. In the reconstruction of Stirling's examples, omitted material had to do with "either the speaker's wish for the act or the hearer's ability/willingness to perform it" (1999: 281). Their communicative meaning seems to be something along the lines "I want you to do X, but I don't necessarily believe that you will do it." The *if*-clause allows the possibility of communicating that X may not be performed. As Stirling explains (1999: 281), this has to do with the assumption that part of the difference in meaning of an assertion and an *if*-clause is the difference between *I believe that X* and *I believe that there is some possibility that X*. The use of the *if*-clause allows the expression on the part of the speaker that he/she is not assuming the performance of the act that he/she is requesting, and that the hearer has an option.

With the aim of providing an exhaustive picture of the circumstances under which isolated directive *if*-clauses are used, Stirling also analysed a corpus of Scottish English in which conversations between speakers were controlled for both eye contact and degree of familiarity. Findings showed that directive clauses were used with a higher frequency when participants were unknown to each other, that is, that social distance between the

speakers correlated with the use of an isolated *if*-clause: the less familiar they were with each other, the higher the frequency of isolated *if*-clauses.

3. Corpus study: Modality and grammatical status of isolated *if*-clauses

3.1 Corpus description and results

With the purpose of investigating the uses and characteristics of directive isolated *if*-clauses in British English I carried out a corpus study. Furthermore, previous research points to the fact that conditional clauses are more frequent in spoken English (cf. Biber et al. 1999: 820-825) and that this medium is the preferred one for isolated *if*-clauses (cf. Stirling's findings in Section 2.2). My data were drawn from two corpora: the *Diachronic Corpus of Present-Day Spoken English* (Aarts and Wallis 2006) and the *Santa Barbara Corpus of Spoken American English* (Dubois et al. 2000-2005).

The *Diachronic Corpus of Present-Day Spoken English* (hereafter *DCPSE*) is a parsed corpus of spoken English, containing more than 400,000 words from the *London-Lund Corpus* (*LLC)* and 400,000 words from the British component of the *International Corpus of English (ICE-GB)*, amounting to a 885,000 words of spoken British English covering the period from 1960 to 1990. It yielded a total of 3,019 instances for *if*. Repetitions of the conjunction and *ifs* that did not introduce any clause were discarded leaving a total of 2,867 *if*-clauses. These tokens were then classified according to their status as prototypical conditional clauses, conditional clauses whose main clause is supplied by the context, conditional clauses expressing an offer or directive, isolated *if*-clauses (directive or optative) and other types of *if*-clauses. The latter category includes *wh*-clauses, comparative clauses introduced by *as if, what if*-clauses, verbless clauses introduced by *if* and indirect conditional clauses. Table 3-1 shows the breakdown for these various categories of *if*-clauses in the corpus, as well as their percentages and normalised frequencies per 10,000 words.

Type of clause	Number of occurrences	Percentage	Normalised frequency per 10,000 words
Prototypical conditional clauses	1,843	64.28%	20.82
Prototypical conditional clauses with contextually supplied main clause	14	0.48%	0.16
Prototypical conditional clauses with directive meaning	17	0.59%	0.19
Isolated *if*-clauses	58	2.02%	0.66
Other types of *if*-clauses	935	32.61%	10.56
Total	**2,867**	**100%**	

Table 3-1: *Distribution of* if-*clauses in the* DCPSE

The *Santa Barbara Corpus* (hereafter *SB*), contains around 300,000 words, is based on a large body of recordings of naturally occurring spoken interaction from across the United States. It represents a wide variety of speakers with different regional origins, ages, occupations, genders, and ethnic and social backgrounds. The predominant form of language use is face-to-face conversation, but the corpus also documents many other forms of everyday language such as telephone conversations, on-the-job talk, classroom lectures, story-telling and town hall meetings. Again, *if*-clauses were found and classified following the same criteria as those from the *DCPSE*. The results are shown in Table 3-2. After analysing the 876 clauses containing *if*, I identified 14 instances of directive isolated *if*-clauses.

A comparison of these data solely in terms of number of clauses would yield a figure of 20 isolated *if*-clauses per 1000 clauses in the *DCPSE* and 16 isolated *if*-clauses per 1000 clauses in the *SB* corpus.

The data extracted from the *DCPSE* and the *SB* corpus are low to draw conclusions on British vs. American trends. For this reason, in what follows, examples from both corpora will be used in combination to illustrate the features discussed.

Type of clause	Number of occurrences	Percentage	Normalised frequency per 10,000 words
Prototypical conditional clauses	478	54.57%	15.93
Prototypical conditional clauses with contextually supplied main clause	-	-	-
Prototypical conditional clauses with directive meaning	-	-	-
Isolated *if*-clauses	14	1.6%	0.47
Other types of *if*-clauses	384	43.84%	12.8
Total	**876**	**100%**	

Table 3-2: *Distribution of* if-*clauses in the* SB Corpus

As discussed in Section 2.1, prototypical conditional clauses may also issue commands. Examples (15) and (16) below represent cases of clauses where a conditional softens the effect that an imperative may have, giving the hearer the freedom to fulfil the order or not. In the first case, participant A encourages participant B to hang up his coat, immediately adding a softening *if you'd like to* in order to give the hearer the choice of doing it or not. In (16), participant A is giving a direction to participant B where the *if*-clause clearly has no conditional meaning, for the presence of the shop is not dependent on the hearer's walking in that direction.

(15) A: Oh hello you found your way
A: Emma Smith
A: Do hang your coat up ***if*** *you'd like to* (*DCPSE* DI-A14 0007)
B: Mmm

(16) A: Well you know Chapel Street
B: Yeah up at Islington
A: Yeah
A: ***If*** *you go on a bit* you come to a corner shop a big which used to be a big Lyon's with a (*DCPSE* DI-B06 0008)
A: Oh you don't know oh

Similarly, examples (17) to (20) do not express a conditional relation between the main and the subordinate clause, but rather some sort of request the hearer is expected to accept. In example (17), the main clause *I would be deeply appreciative* expresses nothing but the feeling of gratitude the speaker would have if the request were fulfilled. A similar explanation holds for (18) with the main clause *we would be most grateful*. In other words, these complete conditional clauses seem to establish a causal relation between the two propositions, one providing the reason for the other.

(17) ***if*** *you could get them to me*, I would be d- .. deeply appreciative (*SB* 75.765-78.947)
(18) B: so ***if*** *we could borrow these and have a look through them and uh then let you have them back* we would be most grateful (*DCPSE* DL-B14 0098)
(19) B: I I'll be grateful ***if*** *you lay it on when I do* (*DCPSE* DI A10 0023)
(20) B: *and uh if you can* ***if*** *you can uh uh write to us and ask us for some help* we'd be very glad to give it to you (*DCPSE* DL-A01 0317)

As noted in Section 2, isolated *if*-clauses are formally marked in that they lack a main clause. However, not all occurrences of *if*-clauses without a main clause can be classified in this group. Some examples of *if*-clauses without a main clause simply lack one because it is clearly recoverable from the context, or its presence would be redundant over the course of a conversation. They usually constitute a response. An example is given in (21), where we can easily provide the conditional clause with a main clause along the following lines: "you can still rise above it if you keep it up."

(21) A: Yes exactly
B: But it shows though <u>you can still rise above it</u>
B: try ***if*** *you keep it up* (*DCPSE* DI B36 0312)
B: It's like it's like it's
B: I
A: You can
A: Of course you can if you can place it

As seen in Tables 3-1 and 3-2, the corpus yielded a total of 72 examples which can be considered isolated *if*-clauses. There were only six

examples of the optative type (cf. example 2 above) and 66 of the directive type. In what follows, I will focus on directive isolated *if*-clauses, and their modality and grammatical status will be considered in light of several pragmatic and syntactic tests.

3.2. Verb tense and modality of directive isolated *if*-clauses

One of the formal features associated with the study of directive isolated *if*-clauses relates to the morphology of the verb group, whether present, past or comprising a modal. It is important to notice, however, that in conditional clauses verbs are usually backshifted. This means that the past tense form of the verb is used for present and future time reference, its meaning being counterfactual (cf. Quirk et al. 1985: 1010). This use of the hypothetical is also found isolated *if*-clauses, an issue that deserves future research. There is just one such example in my data, shown in (22). Present tense forms are far more common, as exemplified in (23):

(22) C: ***If*** *you gave it to her Dad* (*DCPSE*: DI-B03)
(23) A: yeah ***if*** *you wish to wash hands etcetera along the corridor on the extreme right-hand right-hand side* (*DCPSE* DL-A07 0513)

However, the majority of examples of directive isolated *if*-clauses in the corpora (56%) show a modal verb, most commonly in the past,[2] Quirk et al. (1985: 219) define modality as "the manner in which the meaning of a clause is qualified so as to reflect the speaker's judgement of the likelihood of the proposition it expresses being true." Nine central modal auxiliary verbs used to express modality are distinguished both by Quirk et al. (1985: 137) and by Biber et al. (1999: 483), namely *can*, *could*, *may*, *might*, *shall*, *should*, *will*, *would* and *must*. From a semantic point of view, modal verbs can be classified into three categories according to the modal meanings they express:

a) volition/prediction: *will*, *would*, *shall, should.*
b) permission/possibility/ability: *can*, *could*, *may*, *might*.
c) obligation/necessity: *must*.

[2] Interestingly, these findings differ from those of Stirling for Australian English since her data showed a preference for present tense verbs rather than auxiliary verbs, an issue to be examined in greater depth in future research.

The meanings of permission, obligation and volition involve some kind of necessity and prediction usually involve human judgement, rather than human control, of the events which are or are not likely to occur (cf. Quirk et al. 1985: 219).

Following this semantic classification, the occurrences of modal verbs in isolated *if*-clauses in my data are distributed as shown in Table 3-3.

Modal		**Number of occurrences**	**Percentage**
Volition	*Will*	4	10.81%
	Would	16	43.24%
Permission/Possibility	*Can*	7	18.92%
	Could	9	24.33%
	May	1	2.71%
Total		37	100%

Table 3-3: ***Distribution of modals according to their semantic value in directive isolated* if*-clauses in the corpora***

As can be seen, most instances include a modal verb expressing volition, commonly in the past, which emphasises the hypotheticality of the illocutionary act. This is not surprising since modals are often associated with particular pragmatic uses, such as requests or offers, where the past forms tend to have implications of politeness (cf. Quirk et al. 1985: 220). Examples (24) and (25) illustrate the uses of *will* and *would*. It is worth noting that almost half of the examples including *would* also contain the softening expression -*'d like to* which helps to emphasize further the freedom of choice on the part of the hearer, as shown in (26) to (28) by means of three different isolated *if*-clauses.

(24) BEN: *Okay folks,* ***if*** *you will please take a look at this picture taken during construction* (*SB* 164.614-168.142)
(25) ***If*** *anyone would like some ice cream* <unclear-words> (*DCPSE* DI-B58 0285)
(26) A: *Now* ***if*** *you'd like to put on you your helmet* (*DCPSE* DI-F22 0017)
(27) A: ***If*** *you'd like to engage neutral* (*DCPSE* DI-F22 0076)
(28) MATTHEW: [***if*** *you'd like to see that*] (SB 700.666-701.620)

Regarding the expression of permission or possibility by modal verbs, they are almost equally distributed between present and past modals. All the examples that follow express a request on the part of the speaker.

(29) A: *uhm uhm **if** you can make it about three* (*DCPSE* DL-C03 0445)
(30) A: and uh *if you **if** you could show them there's enough in what you've studied within your course that would relate to literature and maths and and whatever's taught you might just squeak in* (*DCPSE* DI-A06 0187)
(31) *But **if** we could just for a moment concentrate on the latter years of the nineteenth century (DCPSE* DI-D12 0025)
(32) JUDGE: . . .Okay. ***If** I may look at that*. (*SB* 490.903- 491.511)

In addition to examples containing a modal verb, the corpora also yielded several instances with *want to* or *wanna* (these occurred in 13.64% of all isolated *if*-clauses). Such examples have been classified separately since they cannot be said to show a modal verb proper, although the use of *want to*/*wanna* as a marker of modality is becoming more common in contemporary language (cf. Biber et al. 1999: 484). As Krug (2000: 140) indicates, in a very large majority of cases a "monoclausal modal analysis is superior to a biclasual purposive reading *(in order) to*." Examples (33) and (34) are illustrative of this:

(33) A: Jake ***if** you want to say something immediately* (*DCPSE* DL-A04)
B: uh yes, uh I can foresee a problem here uhi in our department
(34) MARCIA: ***If** you wanna go ahead and do it*.... (TSK) Okay?
KRISTEN: You wanna put this kitty castration [down]? (*SB* 530.875-535.315)

3.3. Grammatical status of directive isolated *if*-clauses

A particularly interesting issue in the study of directive isolated *if*-clauses concerns their grammatical status. In this section, several grammatical tests will be applied in order to check whether they should be classified as incomplete utterances, elliptical sentences or a minor sentence type. As will be seen, I will argue here that we should consider them as full, independent clauses, in the light of grammatical tests such as ellipsis, their ability to govern dependent clauses, their ability to coordinate with main clauses and the fact that they are attested also in written texts.

The fact that isolated i*f*-clauses lack a main clause may lead us to consider them as incomplete utterances or elliptical from full conditional clauses. Incomplete utterances are described by Matthews (1981: 40-42) as utterances in which the speaker stops not because he/she expects the hearer to supply the missing words, but for circumstantial reasons, such as the speaker's reformulation of the utterance in progress, or an interruption by another participant. The resulting fragments have no standing of their own. For Matthews, such utterances are of "no concern to syntax, except a source of confusion in our data" (1981: 41). Examples classified as isolated *if*-clauses in this study were those that were clearly intended to be complete.

Similarly, we cannot consider isolated *if*-clauses as elliptical cases of prototypical subordinate clauses, since they do not fulfil the characteristics considered crucial here by Quirk et al. (1985: 888), namely:

1. The ellipted words are precisely recoverable.
2. The elliptical construction is grammatically "defective."
3. The insertion of the missing words results in a grammatical sentence with the same meaning as the elliptical sentence.
4. The missing expression is recoverable from the neighbouring text (rather than from the structural or situational context).
5. The missing words are an exact "copy" of the antecedent, that is, they are present in the text in exactly the same form.

Let us consider these criteria in the light of example (35) from the *DCPSE* corpus:

(35) A: Now before we start the engines up I would like you all to go to your machines and we will wheel them around the course so that you get the feel of them
A: Right
A: We're going to do this one at a time
A: ***If*** *you'd like to go to your machines* (*DCPSE* DI-F22 0017)
A: *and Gareth* ***if*** *you'd like to lead* (*DCPSE* DI-F22 0018)
A: Right now take the bike off its side stand and hold its weight on the handlebars
A: Keep the bike leaning towards you slightly not on your hip but towards you
A*:* ***If*** *you'd like to take a right-hand circle quite tight quite gently* (*DCPSE* DI-F22 0021)
A: Now use the brake if necessary to stop it
A: Apply it very slowly

A: No not not too jerkily
A: That was too hard a snatch
A: Treat it very gently
A: That's much better
A: That's it

We find here three different instances of directive isolated *if*-clauses. If we look at the context, it is clear that there is no element that could constitute their main clause, since they are performed as independent speech acts. Moreover, considering criterion 3, given that we cannot retrieve from the context any material to fill the main clause slot, we cannot know whether its insertion would result in a grammatical sentence with the same meaning and implications. Rather, we have to assume that the presupposed main clause would be on the lines of the speaker's gratitude or wish for the act requested, as seen in examples (17) to (20) above with the use of prototypical conditional clauses for directive purposes. All the isolated *if*-clauses in my data were classified as such after an exhaustive analysis of their conversational context, in order to ensure that the main clause they lacked was not present in the context in any form.

As regards criterion 2 on the grammaticality of the clause, isolated *if*-clauses cannot be considered as defective because they are treated by speakers as complete, functional clauses. In the case of directives, they have the illocutionary force of an indirect request and they are likely to be understood and receive a response on the part of the hearer. As we can see from our example (35), the requests made by means of isolated *if*-clauses attract the expected response since the speaker continues with more orders and by expressing his satisfaction with the hearers' acts, as expressed by *that's it*. Their meaning, hence, is not ambiguous, and, it, therefore, "shortcircuits inference" (cf. Brown and Levinson 1987: 290) in the way conventionalised structures do, so that where A may be inferred from B, the stating of B with the intention of conveying A can become, by routine and association, an "idiom" for B. Consider in this respect the following examples, in which the hearers clearly consider isolated *if*-clauses as sufficiently informative, as becomes clear from their responses. In the first case, the judge answers affirmatively; in the second, the addressees go on to perform the action proposed by the speaker, as can be gathered from the description of noise and footsteps in the annotation; in the third case, the hearer requests a clarification.

(36) MATTHEW: [***if*** *you'd like to see that*].
JUDGE: ...Okay. (*SB* 700.666-703.624)

(37) BEN: *Okay folks,* ***if*** *you will please follow me now.*
ENV: ((CROWD_NOISE_AND_FOOTSTEPS)) (*SB* 935.014-1035.801)

(38) KAREN: you know *maybe* ***if*** *we could turn the spider plant around.*
SCOTT: ...Which one.
KAREN: ...The one that just looks kinda decrepit. (*SB* 648.262-654.750)

More evidence supporting the status of these clauses as non-subordinate is seen in examples (39) to (43) below, where isolated *if*-directives function as independent clauses taking dependent causal clauses as in (39) to (42) and a temporal clause in the case of (43). There is no material in the context that can be considered as the main clause of these *if*-clauses, yet they are not considered as ambiguous by the speakers who attach to them a subordinate clause. Example (43), for instance, can be paraphrased by means of the imperative clause "Hold on just half a minute while I put these potatoes out."

(39) B: well ***if*** *you can really very handsomely lend me your car on Wednesday* that's me for Wednesday really because I shall go out to Stadlowe and get back a bit late to really go to anything (*DCPSE* DL-B10 0619)

(40) B: *and* ***if*** *you can get here during daylight hours* because of course then the ones that they're just finishing off they haven't got any electrics on <several unclear-syllables> (*DCPSE* DL-C03 0710)

(41) C: *yes well* ***if*** *you could come to our office here* because the flats are just (*DCPSE* DL-C03 0696)

(42) A: ***If*** *we go through some very simple biochemistry* because as I'm a physicist I've got no standing on this (*DCPSE* DI-F21 0018)

(43) A: Yes uhm well ***if*** *you can hold on just half a minute* while I put these potatoes out (*DCPSE* DI-C05 0174)

Examples (44) and (45) go a step further. In the first case we find a second *if*-clause expressing a condition for the fulfilment of the first meaning "Draw it on a bit of paper, in case you have a spare piece of paper." In the second, an initial *if*-clause expresses the uncertainty of the

second fact, as dependent on the first, its meaning being "If you happen to come on Tuesday, come to my house and we'll have a coffee."

(44) A: ***If*** *you draw it on yeah on a bit of paper* if you've got a spare piece of paper (*DCPSE* DI-B72 0094)
(45) C: uhm **if** you come over to Tuesday *if you want to come up to my house and have a coffee* (*DCPSE* DL-C04 0229)

Further evidence of the status of isolated *if*-clauses as independent clauses is provided by the fact that they coordinate with one another thus constituting a sequence without a main clause, as in (46) below, and also with other clauses which are clearly independent in status, as exemplified in (47), (48) and (49).[3]

(46) A: ***If*** *you'd like to go to your machines* (*DCPSE* DI-F22 0017)
A: *and*[4] *Gareth* ***if*** *you'd like to lead* (*DCPSE* DI-F220018)
(47) A: *So* ***if*** *you if you will go downstairs* and then you could look through these two postgraduate guides (*DCPSE* DI-A08 0135)
A: Uhm and then I'll show you where the others are
(48) JUDGE: . . .Okay. ***If*** *I may look at that.*
And,.. have you shown that to uh Mister Collins?
MITCHELL: [Yes please]. (*SB* 490.438-492.381)
(49) . . .So, ***if*** *you want to let him know* and then. . .have him call me back. . . (*SB* 525.545-535.315)

Finally, isolated *if*-clauses can also be used in combination with imperative clauses giving direct commands in order to soften their imposing nature, as in our example (35) above, part of which is repeated here for convenience as (50).

(50) Keep the bike leaning towards you slightly not on your hip but towards you

[3] It is worth mentioning, however, that examples showing the correlation "if…then" are somehow problematic, given that the second element can indicate either a temporal relation, in which case the isolated *if*-clause would coordinate with another independent clause expressing a later event, or a consequent meaning, in which the action of the second clause is dependent on the fulfilment of the condition expressed in the subordinate *if*-clause.

[4] An anonymous reviewer suggests that in this example *and* could be understood as a filler rather than as a coordinating conjunction.

A*: **If** you'd like to take a right-hand circle quite tight quite gently* (*DCPSE* DI-F22 0021)
A: Now use the brake if necessary to stop it

Examples of directive isolated *if*-clauses are also attested in novels. Consider (51) to (53)[5] below, in which the punctuation clearly indicates that they are regarded by the writer to be independent clauses. The presence of isolated *if*-clauses in writing seems to suggest that they have gone, at least, some way towards conventionalisation.[6]

(51) "***If** you could lift up your top*, Mrs Brandon."
(52) "Right, ***if** you'd just all move a bit closer together*," he bellows. "Closer, please!"
(53) Now, ***if** you could please make way for our other guests*?

4. Isolated *if*-clauses as an example of insubordination

In light of the discussion so far, it seems that directive isolated *if*-clauses represent a clear example of what Evans calls "insubordination," that is, "the conventionalized main clause use of what, on prima facie grounds, appear to be formally subordinate clauses" (2007: 367).[7] Insubordinated clauses usually look like subordinate clauses, because they show prototypically subordinate characteristics, such as the presence of infinitive, participial or subjunctive inflections on their verbs, subordinate word order, complementizers and so on. However, as they become reanalysed as standard constructions over time, those features "will no longer be restricted to subordinate clauses, so that the term subordinate

[5] Taken from Sophie Kinsella, *Shopaholic and baby* (2007: 13), Jane Costello, *Bridesmaids* (2008: 168), and Sophie Kinsella *I've got your number* (2012: 157).
[6] As regards the historical development of structures of this kind, optative isolated *if*-clauses, of the type illustrated in (2), have been documented, according to the *Oxford English Dictionary* (s.v. *if* conj. 7) from the medieval period, its variant with *only* (*If only Miss Hawkins would get a job*…) developing later. The remaining three types of isolated *if*-clauses seem to have emerged more recently.
[7] *If*-clauses are not the only type of clauses that insubordinate in the history of English. As Traugott (2010: 104) explains, *because*-clauses without main clauses are attested in seventeenth century plays. In her view, it is likely that spoken English, being less formal than written English, has always allowed *because*-clauses as independent clauses and, as the "colloquialisation" of writing increased, this use was reflected first in drama, then in the representation of speech in novels and finally in writing in general.

means, at best, 'having diachronic origins as a subordinate clause'" (Evans 2007: 370). Evans distinguishes three functions of insubordinated clauses:

i. interpersonal coercion, especially commands but also permissives, abilitatives, threats and warnings. According to Evans, the most common type of insubordination is found in various types of clause concerned with interpersonal control, primarily imperatives and their milder forms, such as hints and requests, but also permissives, warnings and threats. All such clauses are face-threatening acts (Brown and Levinson 1987), and insubordinating ellipsis has the effect of setting the face-threatening act aside. Insubordinated clauses of this type tend to take the form of complements of request, desire or possibility predications; purpose clauses with the implication 'I say this (in order that X)'; and conditional clauses with an implicit 'It would be nice', etc.
ii. modal framing of various types, including the unattributed evocation of quotation or belief, and other kinds of deontic and evidential use.
iii. marking of various discourse contexts, such as negation, contrastive statements and reiteration, all high in presuppositionality.

Our directive examples clearly fall into the first category. As Evans himself recognises, "the most common function of insubordinated conditionals is to express polite requests" (2007: 380). In his view, the more conventionalised *if*-clauses become, the less certain speakers are aware of exactly what has been omitted.

According to Evans (2007), the diachronic formation of insubordinated clauses follows four steps:

STAGE 1 **Subordinate construction with explicit main clause**

STAGE 2 **Ellipsis of main clause**. In this phase, any grammatically compatible main clause can easily be reconstructed by the hearer. Conversational inference is what determines exactly which main clause is restored. More difficult to test, because of the large number of candidate ellipted clauses, is the question of whether there are any limits on which ellipted clauses can be reconstituted acceptably. When there are significant restrictions on this, as a result of the conventionalised use of the construction, we move to the next stage.

STAGE 3 **Conventionalisation of ellipsis with certain syntactically permitted reconstructions becoming excluded by convention.** There is considerable range in the degree to which restoration of material is conventionalised to a subset of the grammatically tolerated possibilities.

STAGE 4 **Grammaticalisation of construction with specific meaning of its own**, missing meaning without the possibility of being restored. The construction now has a specific meaning of its own, and it may not be possible to restore any ellipted material.

The four-stage pathway proposed by Evans first opens up, then closes, the role of pragmatics. In Evans' words (2007: 374-375)

> first a previously syntacticised subordinate clause, made independent becomes available for pragmatic interpretation; in this phase grammatical formatives get opened up to the pragmatics and become less grammatical. Only in the second phase does depragmaticization occur, as the newly independent clause acquires a more specific constructional meaning.

The isolated *if*-clauses analysed in this study seem to be placed somewhere between stages 3 and 4 in the process of insubordination, since it has become clear that directive clauses do not need a main clause to constitute an illocutionary act. In addition, if we were to reconstruct their main clauses, not all types of clauses would be allowed.

The process of insubordination is of great interest for theories of historical morphosyntax. The literature on grammaticalisation and reanalysis tends to focus on diachronic developments in the opposite direction, i.e. the development of subordinate constructions from material in main clauses. It has been asserted that there is a unidirectional pathway from pragmatics to syntax to morphology, one consequence of which is that loose paratactic pragmatic constructions become syntacticised as subordinate clauses. Wherever insubordination is situated, it is clear that it goes against the usual direction of change by recruiting main clause structures from subordinate clauses. Insubordination, thus, seems to be a process of degrammaticalisation, "a composite change whereby a gram in a specific context gains in autonomy or substance on more than one linguistic level (semantics, morphology, syntax, or phonology)" (Norde 2009: 120).

Isolated *if*-clauses of the directive type may be seen as insubordinated from either indirect interrogative clauses or conditional clauses, as exemplified here in (55), since both can serve the purpose of issuing an order or request.

(54) (I wonder) ***If*** *you can open the door* (it would be nice).

In my view, directive isolated *if*-clauses originate from full conditional clauses for three main reasons. First, optative isolated *if*-

clauses have followed a process of insubordination from conditional clauses, which confirms this environment as eligible for insubordination. Consider example (56), where a prototypical conditional clause serves this function of expressing a wish and the consequence it would have if it were fulfilled, and example (57), where an isolated *if*-clause serves the same purpose:

(55) ***If*** *only the Spanish would lower their interest rates to weaken the peseta* then Mr Lamont would have more leeway to lower Britain's without the pound falling out of the Mechanism. (*DCPSE* DI-J03 0051)

(56) uhm and uh I mean that is I mean quite aside from what I I am going I'm now going to Offer you uh we thought you know ***if*** *only we can sort of cast around and find something* I'd thought first of all of some kind of research assistantship in the University of Edinburgh in the University of Birmingham (*DCPSE* DL A02 0047)

Secondly, there is no evidence of indirect interrogative clauses introduced by *whether* being used in isolation. And finally, conditional clauses are a useful device for issuing directives and softening the face-threatening effect of this type of act (cf. Brown and Levinson 1987) to the point that expressions of the type *if I may*, *if you would* have become conventionalised as markers of politeness when trying to avoid a threat to the face of the hearer.

5. Conclusions and suggestions for further research

The present paper has been devoted to the analysis of so-called directive isolated *if*-clauses in contemporary spoken British and American English. Several functions of *if*-clauses in the spoken language have been discussed (cf. Section 2.1.), including the use of conditional clauses to issue offers and requests in the course of a conversation, some of them occurring unconnected to a main clause but yielding the expected response by the hearer. *If*-clauses seem useful for this purpose in that they leave the action as contingent on the other part's preference. The analysis of isolated *if*-clauses in Australian English as reported by Stirling (1999) has also been briefly commented (cf. Section 2.2.), describing their uses and features.

Through the corpus analysis here, the modality and grammatical status of isolated *if*-clauses in contemporary spoken British and American

English have been discussed (cf. Section 3). It has been argued that these clauses cannot be considered as elliptical given that the omitted material is not present in the context (cf. Quirk et al. 1985); rather, they are to be taken as independent functional clauses. Evidence in favour of this interpretation is found in the fact that they are used as standalone clauses with subordinate clauses of reason and time specifying them, and also in the fact that they coordinate with prototypical independent clauses. In addition, they alternate with imperative clauses in conversation.

In view of the data analysed in this study, it seems that isolated *if*-clauses in English represent an obvious example of insubordination, that is, the independent use of clauses that seem subordinate in form (cf. Section 4). These directive isolated *if*-clauses seem to be in the latter stages of this process of insubordination since it has become clear that they do not need a main clause to constitute an illocutionary act. Rather, directive isolated *if*-clauses seem to be well established in the language and hence their meaning is completely conventionalised.

These findings need to be confirmed in future research by expanding the sample used in the present study. Among other things, this will enable us to explore regional variation in the uses and features exhibited by isolated *if*-clauses in British and American English. It also seems necessary to consider the frequency and uses of these constructions in relation to imperative clauses, with which they appear to share illocutionary force. Finally it is important to take into account other types of isolated *if*-clauses, namely optatives, those expressing threats and those expressing surprise, in order to provide a general picture of isolated *if*-clauses in English.

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PART II:

MORPHOLOGY AND SEMANTICS

CHAPTER FOUR

THE RISE AND FALL OF WORD-FORMATION PATTERNS: A HISTORICAL COGNITIVE-LINGUISTIC APPROACH TO WORD-FORMATION CHANGE[1]

STEFAN HARTMANN

1. Word-formation, construal and productivity

Why can we enjoy the *warmth* of a sunny beach but not complain about the **coldth* of last year's winter? Why can love at first be *awesome*, then turn out *gruesome*, leaving us *lonesome*–but no good advice that we get in this most unfortunate situation will ever turn out **helpsome*? Of course, this has to do with the morphological productivity of the respective word formation patterns.

The notion of morphological productivity has been subject to considerable debate. Mayerthaler (1981: 124) has even stated that "productivity" is one of the least clear concepts in linguistics. While there is a broad consensus as to the basic definition that "morphological productivity" refers to the ability of a morphological pattern to be extended to new cases (cf. Booij 2005: 68), it is far from clear what exactly this definition entails. For example, it is a matter of debate whether productivity has to be considered a gradual phenomenon (cf. Baayen 2009: 911) and when exactly a pattern can be seen as productive. Can, for instance, the attestation of coinages such as *coolth* (cf. Rosenbach 2007) or *greenth* (Hohenhaus 2005: 369) be considered as evidence that *–th* suffixation in English is still productive, albeit to a very small degree–or

[1] Acknowledgments. I wish to thank the participants of the ELC3 conference, particularly Graeme Trousdale, for their helpful comments and suggestions. The ideas presented in Section 1.2 are partly based on joint work with Michael Pleyer, whom I also thank for his insightful comments on an earlier draft of this paper.

must these neologisms rather be considered "playful formations" (Bauer 1983: 264; Bauer 2001: 57) that draw their expressivity exactly from the fact that they violate word formation rules?[2] Furthermore, it depends on the respective theoretical framework whether productivity is conceived of as a synchronic or as a diachronic notion (cf. Rainer 1987: 193). Marchand (1955) argues that "word formation. . .should only deal with items that are synchronically analyzable as morphologically complex, that is, motivated" (Kastovsky 1986: 587). A theoretical framework that conceptualises language as a complex adaptive system (CAS, cf. Steels 2000; Beckner et al. 2009) and therefore "intrinsically diachronic" in nature (Frank and Gontier 2010: 48), by contrast, would certainly hold that morphological productivity can only be understood in a diachronic perspective.

This paper outlines a Cognitive-Linguistic and usage-based approach towards word-formation change with the example of German *ung*-derivation. This word-formation pattern is a particularly interesting object of study for a number of reasons. First, it has been studied both synchronically and diachronically in a variety of different frameworks (e.g. Generative Grammar: Esau 1973, Römer 1987; Decompositional Semantics: Ehrich and Rapp 2000, Ehrich 2002; Discourse Representation Theory: Roßdeutscher 2010, Roßdeutscher and Kamp 2010; Cognitive Linguistics: Hartmann 2012, Hartmann to appear). Second, it provides a prime example for a word-formation pattern that has undergone a significant loss in morphological productivity (cf. Demske 2000). Third, its diachronic development can be tracked rather easily with the help of electronic corpora. Last but not least, the decline of morphological productivity and the emergence of constraints affecting this word-formation pattern arguably offer valuable insights as to how language is organised and structured in the mind.

Importantly, the construal approach to word-formation change elaborated on in this paper does not only pertain to this specific pattern but is applicable cross-linguistically to a broad variety of word-formation patterns. In the remainder of this section, the basic notions will be explained mostly with the help of English word-formation patterns. First I will discuss the notion of word-formation change, which can be conceived of as change in word-formation constraints and in morphological productivity (1.1). Then I will turn to the notion of construal, which is

[2] A similar case in point is German *unkaputtbar*, lit. "un-broken-able," which violates the rule that adjectives in *–bar* can only be derived from verbs. While *unkaputtbar* is now established in German colloquial language (cf. e.g. Hohenhaus 2005: 369), there have been no further derivations of adjectives in *–bar* from other adjectives, indicating that this pattern is not productive.

often used in Cognitive Linguistics but, according to Croft (2012: 13), seldom properly defined (1.2). The next section is dedicated to an empirical study of the German word formation pattern V–*ung* (e.g. *Landung* "landing," *Bildung* "education," *Wohnung* "flat," etc.) and its diachronic development. It will be shown that the decrease in morphological productivity is tightly connected to changes in the schematic construal of the word-formation pattern's semantic/functional content (2.1) as well as to an increase in lexical-categorial prototypicality, i.e. in the word-formation pattern's "nouniness" (Ross 1973; Sasse 2001) (2.2). In conclusion, I will outline the possibilities and advantages of accounting for word-formation change in terms of construal and conceptualisation (3).

1.1. What is word-formation change?

According to Scherer (2005, 2006), word-formation change can be defined as change of word-formation constraints, which is mirrored in morphological productivity. For example, the English suffix *–ment*, as in *abandonment, disappointment,* "seems to have been productive between the mid-sixteenth century and the mid-nineteenth century" (Bauer 2001: 181). Strikingly, the first peak of productivity seems to co-occur with a (short-lived) relaxation of word-formation constraints in the second half of the 16th century: for a short period of time, the word-formation pattern could not only take nominal, but occasionally also adjectival bases (OED;[3] e.g. *foolishment, jolliment*, cf. also Hilpert 2011: 72). The prefix *un-* experienced, according to the OED account, a strong increase in word-formation constraints: while it could be "freely applied with a purely negative force to several parts of speech" in Old English, only a few of those coinages survived in Middle English. In the case of *un-* expressing reversal or deprivation, by contrast, about half of the Old English formations survived. It would be interesting to study this pattern in more detail, especially considering recent coinages such as *unfriend* that were previously ruled out due to semantic and/or pragmatic constraints (cf. Schmid 2011: 118). In the case of the above-mentioned *th-* suffix, most word-formation products are "frozen into lexicalisations" (Čermák 2002: 19) by now; some of them, such as *warmth,* are still analyzable, others, such as *strength*, let alone *health*, do not reveal their respective bases as easily. Due to their (apparent) lack of productivity on a synchronic level, patterns such as ADJ–*th* have been treated as "lexically conditioned" and

[3] Oxford English Dictionary: <http://www.oed.com> [Accessed November 2012]

have been accounted for in terms of "redundancy rules" in previous accounts of word-formation (cf. e.g. Plag 2003: 36). That is to say, "we are not dealing with a rule that can be used to form new words, but with a rule that simply generalises over the structure of a set of existing complex words" (ibid.).

In the remainder of this paper I will outline a theory of word-formation that renders such distinctions superfluous. While I will stick to the notion of word-formation rule (WFR), which some scholars have abandoned for various reasons (cf. Plag 2003: 38), I will argue that word-formation constraints (and hence, WFRs) emerge from actual language use, which in turn is determined by a variety of interrelated language-internal as well as language-external factors (cf. Baayen 2009). Consequently, morphological productivity is not only a matter of degree–as is already widely held especially in Cognitive-Linguistic accounts (e.g. Taylor 2012: 174)–but also more dynamic than is usually recognised.

One case in point demonstrating the highly dynamic nature of productivity patterns is Taylor's (2012: 114-119) study of the compound pattern X–*minded,* which enjoyed a short peak of popularity in the middle of the 20th century. Pilch (1985: 428) mentions the paradigm of agent nouns in *–nik* (e.g. *beatnik, peacenik*) that "arose after the *sputnik* scare of 1957" but can hardly be considered productive any more nowadays. Similarly, the suffix *–ish* has become highly popular in colloquial language use in recent years (cf. e.g. Theijssen et al. 2010)–time will tell if it proves more persistent than the boom of X–*minded* or X–*nik* coinages.

Independent of how exactly the notion of morphological productivity is fleshed out in detail, the question arises how productivity can be measured appropriately. Baayen (2009: 901f) distinguishes between

> a) realised productivity (P=V (C,N)), with V (C, N) representing the type count of the members of a morphological category C in a corpus with N tokens;
> b) expanding productivity (P=V (1,C,N) / V (1,N)): V (1,C,N) stands for the hapax legomena (i.e. the words occurring only once in the corpus) belonging to the morphological category C; V (1,N) refers to the total number of hapax legomena in the corpus (irrespective of their respective morphological category);
> c) potential productivity (P=V (1,C,N) / N (C)), with N (C) referring to the number of tokens belonging to the morphological category in question.

We will be mainly interested in the potential productivity of word-formation patterns (labelled "morphological productivity in the narrow sense" in Baayen's earlier work, e.g. Baayen 1992; cf. also Scherer 2006), as it measures the relation of nonce-formations to established derivatives

(and, hence, the potential of a word-formation pattern to coin new words) most comprehensively.

As the example of English *un-* formations demonstrates, diachronic change affects both the "input" and the "output" of the word-formation pattern (cf. also Scherer 2006). Word-formation constraints determine which words or classes of words can serve as "input" for the respective morphological pattern. More specifically, Schmid (2011) distinguishes the following types of constraints:

1. Pragmatic and cognitive restrictions on productivity

- Existence of referents (e.g. **champagne heater*, Kastovsky 1982: 159)
- Exclusion of the naming of the self-evident (e.g. **eyed man*)
- "Nameability" (Ross 1973, qt. by Bauer 1983: 86: no need for a denominal verb meaning "grasp NOUN in the left hand and shake vigorously while standing on the right foot in a 2 ½ gallon galvanized pail of corn-meal-mush")

2. General structural restrictions on productivity

- Blocking by synonym and homonym (e.g. **stealer* because of *thief*, **liver* "someone who lives" because of *liver* "organ")
- Etymological restrictions (e.g. *–ity*, *cy* and *–ize*, which only allow for bases of Roman origin)
- Haplology (adj. *funny* > adv. *funnily*, but adj. *elderly* > adv. **elderlyly*)

3. Word formation model-specific restrictions on productivity

- Phonological restrictions
- Morphological restrictions
- Semantic restrictions (from Schmid 2011: 115ff)

However, Schmid adds that the first four types of constraints can be left out of consideration as they are non-systematic and largely pragmatic in nature. In the following sections, we will mainly be concerned with pattern-specific word-formation restrictions, i.e. phonological, morphological and semantic constraints. Above all, we will be interested in the semantic constraints emerging from the availability of construal options, which is subject to diachronic change (see Sections 2.2 and 3).

We have already seen that, in some cases, word-formation products are not recognizable as such at a synchronic level. This is the result of lexicalisation, which is a notion almost as heavily debated as the term "productivity." As Hohenhaus (2005: 355) points out, "'lexicalization' has to be regarded as the cover term for a range of phenomena." In its prevalent use, however, lexicalisation refers to the "phenomenon that complex words and expressions are often not identical with the sum of their parts" (Sauer 2004: 1626). A more concise definition is offered by Brinton and Traugott (2005: 96):

> Lexicalization is the change whereby in certain linguistic contexts speakers use a syntactic construction or word formation as a new contentful form with formal and semantic properties that are not completely derivable or predictable from the constituents of the construction or the word formation pattern.

Note that Brinton and Traugott "conceive of lexicalization as both a change in form and in meaning" (Trousdale 2008: 164). On this view, a compound such as *wheelchair* would not be considered an example of lexicalisation proper, but rather be treated as a case of institutionalisation (cf. Bauer and Huddleston 2002: 1629; Trousdale 2008: 163). For the purposes of this paper, however, this distinction is not necessary. Instead, I will use "lexicalisation" as referring to the assumption of idiosyncratic meaning elements, which is, however, often accompanied by changes in formal properties.

Lexicalisation can affect all linguistic levels (cf. Sauer 2004: 1628f) and has to be considered a gradual phenomenon (cf. Lipka 1977: 162). This again becomes clear with the example of *–th* suffixation: for *warmth–strength–health*, we can assume a cline of (synchronic) analyzability. As will be shown in our case study in Section 2, lexicalisation can have a strong impact on word-formation and word-formation change in that it can lead to the reanalysis of new meanings of morphological patterns, which then become productive; it can even render morphological patterns opaque (which is probably also the case with English *–th*).

Concerning the interconnection of lexicalisation, word-formation constraints and morphological productivity, we can assume the following chain of events:

> lexicalisation > ... > emergence or loss of constraints > change in productivity

The notion of construal, which is the topic of the next section, provides the "missing link" in this chain of events, labelled "..." here.

1.2. Construal

According to Croft (2012: 13), the notion of construal refers to "a semantic structure for an experience." While some scholars, such as Croft (ibid.), use the terms "construal" and "conceptualisation" interchangeably, others–most prominently Langacker (1987a, 1991a, 2008a)–make a distinction between these terms: "Simply stated, conceptualisation is equated with meaning and construal is the ability humans have to view a scene in alternate ways (for instance, from different perspectives, or with

focus on different elements)" (Matlock 2004: 224). Langacker (1991b: ix) points out that "an expression's meaning consists of more than just conceptual content–equally important to linguistic semantics is how that content is shaped and construed."

More specifically, the notion of construal describes the fact that when conceptualising a scene for purposes of communication, speakers structure the scene in a specific manner and from a certain perspective (cf. Pleyer 2012a: 47). They foreground or make salient certain aspects of a situation while backgrounding others (cf. also Verhagen 2007). Importantly, linguistic construal operations are seen as "instantiations of basic cognitive capacities" (Pleyer 2012b: 289), which is in line with the Cognitive-Linguistic view that language is inextricably connected to domain-general principles of human cognition.

The notion of construal can also be connected with influential theories that have been put forward in Cognitive Linguistics to capture the interconnection between language, thought and culture, e.g. Lakoff's (1987) theory of Idealised Cognitive Models (ICMs), Johnson's (1987) notion of Image Schemas and Fauconnier's (1994) Mental Spaces theory (complemented by his work on conceptual integration, e.g. Fauconnier and Turner 2002). In such a framework, word-formation patterns (most prototypically, of course, word-formation affixes) can be considered carrying conceptual content. Even patterns whose sole function seems, at first glance, to be to syntactically transpose words from one word class to another can, on closer inspection, be found to evoke a certain schematic construal (cf. Ungerer 2007). With Kemmer (2003: 78), schemas can be understood as "essentially routinized, or cognitively entrenched, patterns of experience." We can assume, then, that word-formation patterns have an image-schematic conceptual basis, i.e. they can be seen as construal patterns.

The notions elaborated on in Section 1.1 now imply that word-formation products can diverge from the default construal of their respective word-formation patterns through lexicalisation. This in turn can affect the word-formation pattern's default construal, resulting in the emergence or loss of (semantic) word-formation constraints. These in turn are reflected by changes in morphological productivity:

> lexicalisation > construal change > emergence / loss of constraints (i.e. changes in the availability of construal options) > change in productivity

2. A case study: German *ung*-nominalisation

Nominalisation in the suffix *–ung* is one of the most productive word-formation patterns in German (cf. e.g. Shin 2001: 299)–at least in terms of realised productivity (cf. Section 1.1). Diachronically, however, this pattern has experienced a significant decrease in potential productivity (cf. Demske 2000). According to Demske (2000, 2002), this can be attributed to the emergence of semantic input constraints: certain verb classes (e.g. state verbs, durative verbs, inchoative verbs) cannot function as base verbs of *ung*-nominals any more (e.g. **Tanzung* "dancing," **Erblühung* "blossoming$_{INCH}$"). Some coinages that were felicitous in the Middle High German (MHG, 1050-1350) and Early New High German periods (ENHG, 1350-1650) are ungrammatical today, e.g. *swîgunge* "silence," *murmelunge* "muttering." Relatively new verbs such as *hupen* "(to) honk," which only emerged in the 18th/19th century (cf. Kluge 2002: 427), or *googeln* "(to) google" are also not eligible for this word-formation pattern.

The following two sections address the question how these constraints came about and how they can be accounted for in the Cognitive-Linguistic framework outlined in the previous sections.

2.1. Reification and perspectivation

From a Cognitive-Linguistic point of view, we could go so far as to say that all basic functions of language can be subsumed under the notions of "categorisation" and "perspectivation."[4] Note that these terms can be paralleled with the notions of conceptualisation and construal in Langacker's sense as outlined in Section 1.2: "Categorisation," in its most basic sense, refers to the fact that the world is not perceived as "an unstructured total set of equiprobable co-occuring attributes" (Rosch 1978: 29), but rather as possessing high correlational structure. "Perspectivation," in a general sense, can refer to our view on the perceived world (cf. e.g. Verhagen 2007), i.e. to our specific construal of the world. Intriguingly, the diachronic development of German *ung*-nominalisation can also be accounted for in terms of perspectivation and categorisation.

First, let us consider how the perspective (again, in a very general sense, i.e. not restricted to a visual and/or spatial meaning) that speakers and hearers take on both the word-formation products of the morphological

[4] Cf. e.g. Geeraerts and Cuyckens (2007: 5), who define language as a "structured set of meaningful categories" and emphasize the perspectival nature of linguistic meaning.

pattern in question and on the pattern itself can influence its image-schematic construal. The best starting point for this discussion is perhaps the English progressive, whose similarities to ENHG word-formation products in *–ung* have already been pointed out by Demske (1999). Langacker (2008a: 68), Verspoor (1996: 437) and Verhagen (2007: 53) have described the English progressive in perspectival terms: "the position from which the situation is viewed is contained in the ongoing process itself (so that any boundaries are not 'in view')" (Verhagen 2007: 53). In Verspoor's (1996: 438) terms, the event is viewed from a "close-by" perspective. Support for these theoretical considerations comes from recent psycholinguistic experiments: Matlock et al. (2012) report that when asked *what was happening?*, participants tended to describe the unfolding of an event in significantly more detail than when asked *what happened?*, indicating that imperfective framing–i.e. using the *ing*-form–"expands the temporal window of a situation because it is associated with unbounded, ongoing events in its basic construal" (Matlock et al. 2012: 705).

The "close-by" perspective evoked by the English progressive also seems to be the default construal of (non-lexicalised) ENHG *ung*-nominals. This becomes particularly obvious in the frequent use of Prep. + V–*ung* constructions, e.g. *in grabung* "in / while digging," *in lesung* "in / while reading." Especially the construction *in* + V–*ung* evokes a highly processual reading in that it refers to an undetermined point within a process or an event whose boundaries are–as in Verhagen's characterisation of the English gerund cited above–not "in view." But the same goes for the use of many other prepositions such as *bei* or *mit* (e.g. *bei* ***aufsatzung*** *ditz Sacrament* "in instituting this sacrament," OOBD-1530-KT-019; *aber mit* ***anruffung*** *vnd hilf got des almechtigen griffen wir vnser feind in der stat mit zweien hauffen tro: estlich an* "but with praying to and the help of God Almighty, we confidently attacked our enemy in the city with two armies," WMD-1500-ST-neu). In New High German (NHG, 1650-today), however, this processual construal option is almost entirely ruled out. The most prototypical instances of *ung*-nominalisations, apart from entirely lexicalised formations such as *Bildung* "education," refer to bounded regions in time, i.e. to events that are conceptualised as a whole. *Landung* "landing," for example, while capturing the semantics of its base verb rather comprehensively, tends to refer to the entirety of the landing event; consequently, it is not possible any more to refer to a certain point in the event with the preposition *in* (**in* (*der*) *Landung des Flugzeugs musste der Pilot niesen* "in / while landing / the landing of the plane the pilot had to sneeze"). Instead, we would have to use the

preposition *während* "during," referring to a point during the whole of the (landing) event. In other words, the boundaries of the event do come into view both in this specific construction and in the default construal of NHG *ung*-nominals. This in turn leads to a higher degree of reification: the event is construed as individuated and viewed from a bird's-eye point of view.

The degree of reification that we assign to a specific word-formation product can also be seen as a manifestation of the perspective we take towards the conceptual entities in question.[5] The intriguing capability to conceptualise entities not only as they exist or occur in space and/or time is not limited to the linguistic domain but becomes obvious in the domain-general cognitive processes subsumed under the label "mental scanning" by Langacker (e.g. 2008a: 82ff). For example, we can conceptualise a street by "tracing a mental path along it" (Langacker 2008a: 82)–this cognitive operation called "fictive motion" (cf. Talmy 2000: 99-175; cf. also Matlock 2004 for psycholinguistic evidence) is reflected in language, cf. *The road runs along the river*. While we construe a static object dynamically in the case of fictive motion, we are also capable to construe a dynamic event in a more reified fashion, as outlined above. Langacker's distinction of summary vs. sequential scanning (e.g. Langacker 1987b, 1987a: 141-146) provides a heuristic framework to capture these different modes of construal. While sequential scanning is comparable to a scene from a movie, summary scanning is analogous to a multi-exposed photograph in that it

> is basically additive, each set of events contributing something to a single configuration all facets of which are conceived as coexistent and simultaneously available (Langacker 1987a: 145, emphases mine).[6]

The roots of summary scanning as a way of conceptualising events that unfold over time holistically can be sought in the spatial domain. Here we can summarize over, for instance, an assembly of trees by conceptualising them as a *wood* (which does not prevent us, however, to focus our attention on a single tree within this wood–cf. the psychological discussion

[5] I use "entity" in a very broad sense here, subsuming objects as well as actions, states and events.

[6] Both the psycholinguistic validity and the heuristic value of the notions of summary and sequential scanning have recently been questioned (cf. Broccias and Hollmann 2007). However, Broccias and Hollmann concede that most of their arguments only pertain to a conceptualisation of summary and sequential scanning as discrete categories; but the observations reported on in the course of this paper demonstrate that the most natural way of conceiving of summary and sequential scanning is in terms of poles on a continuum, as is also held by Langacker (2008b).

of local vs. global attention, see Hurford 2007: 104ff for a review). Our ability to construe assemblies of homogeneous entities collectively is also reflected in word-formation devices such as the (unproductive) German prefix *Ge-*, which derives collective nouns such as *Gebüsch* "shrubbery" or *Geäst* "branchwood." As we conceive of time in terms of space, i.e. by means of metaphorical mappings from the spatial domain (cf. e.g. Boroditsky 2000; Evans 2004, 2007), it is no surprise that we can conceptualise dynamic events unfolding in time and space in pretty much the same way in which we conceptualise concrete, static entities.

The different degrees of individualisation/reification become obvious if we consider the different readings of German *ung*-nominals such as *Lesung* "reading / reading event" or *Grabung* "digging/excavation." While the semantically transparent reading of *Lesung*, as in *durch sölich emsig **lesung** guoter und zierlicher gedichten* "through such eager reading of good and delightful poems" (1478WYL), is ungrammatical in Present-Day German, the most salient readings in NHG, namely, "reading of a bill" and "poetry reading," both represent special cases of the "bounded region in time" construal. Corpus searches in the historical and contemporary corpora of COSMAS II[7] reveal that the lexicalisation of the latter reading has been a relatively recent process (Fig. 4-1).

The assumption of a "bounded region in time" reading is of course by no means unique to *Lesung*. Examining the second example mentioned above, namely, *Grabung*, we find that the respective readings oscillate between a rather processual construal as exhibited by the ENHG example in (1) and "bounded region in time" or "bounded region in space" readings, as in (2) and (3), respectively.

(1) e*s geschicht oft, daß in **Grabung** der Fundamenten viel Brunnquellen gefunden werden* "It often happens that many wells are found in digging up the foundations." (1688BAW)
(2) *Und noch eine **Grabung** in vermintem Gelände fand kürzlich statt.* "Yet another excavation on a mined area took place recently." (ZEIT, 23.06.2005)
(3) *Das merken wir auch an den vielen Besuchern unserer **Grabung**.* "We notice that as well with regard to the many visitors of our excavation." (ZEIT, 28.10.2004)

[7] <http://www.ids-mannheim.de/cosmas2/> [Accessed December 2012]

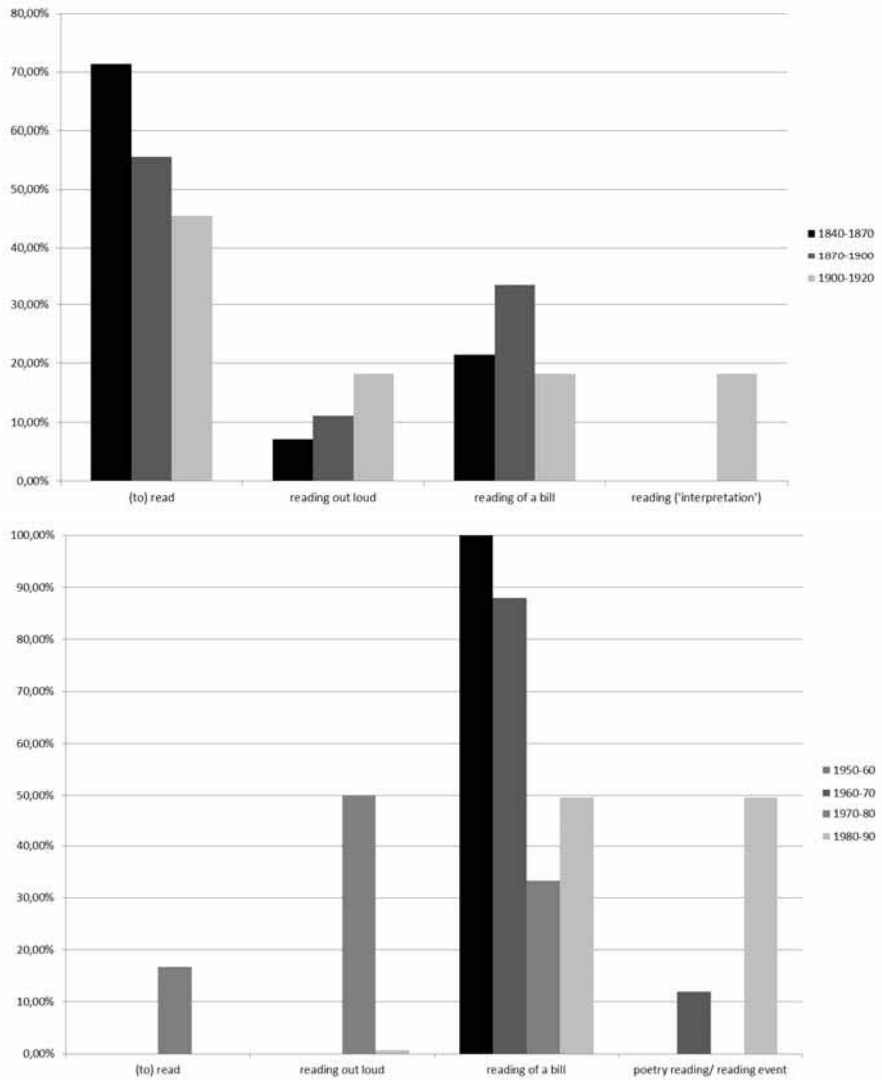

Fig. 4-1: *Different readings of Lesung "reading" in relation to the total number of occurrences of Lesung in the respective time period.*[8]

[8] Basis: All 44 attestations of Lesung from COSMAS II's HIST corpus in the time from 1840 to 1920; all 143 attestations of Lesung from COSMAS II's "W" corpus

From the "bounded region in space" reading it is only a small step towards metonymic transfer, as metonymy is based on close conceptual relations (cf. Blank 1999: 73) or on "some sort of 'nearness'" (Lüdtke 1999: 52), which can in some cases be taken literally. Considering the cognitive foundations of language, metonymy is of special interest as it reflects basic cognitive construal operations such as profiling and figure/ground alignment (cf. e.g. Radden and Dirven 2007: 28-30). Metonymic transfer to the excavated object is precluded in the case of *Grabung*, but it is possible with the near-synonym *Ausgrabung* "excavation," cf. Ehrich and Rapp's (2000: 246) example *Die Ausgrabung ist im Museum ausgestellt* "The excavation is exhibited in the museum."

As *ung*-derivation often derives nouns from verbs that denote human activities, it is not too surprising that some *ung*-nominals assume a person reading by means of metonymic transfer. However, only a few derivatives can refer to an individual (e.g. *Bedienung* "waiter/waitress," *Begleitung* "company (several people or one person only)"). Most *ung*-nominals for which a person reading is available refer to collectives of persons, e.g. *Schulleitung* "school administration."

2.2. Categorisation and prototypicality

The "lexicalisation path" outlined in Section 2.1, which is typical for many *ung*-nominals (especially very frequent ones, further examples including MHG *wonunge* "whereabout" > "region" > NHG *Wohnung* "flat," MHG/ENHG *übung*(*e*) "practice" > "excercise"), is tightly connected to linguistic categorisation. Specifically, I argue that *ung*-nominals, over time, assume more and more features of prototypical nouns.

This is in line with the Cognitive Grammar view that parts of speech have a semantic or conceptual basis (cf. e.g. Langacker 1991a: 14ff; Taylor 2003: 216ff). Consequently, it can be assumed that nominalisation processes do not operate on a merely syntactic level but rather go along with construal modifications such as those outlined in the previous sections of this paper. With regard to *ung*-nominalisation, it has often been argued that the resulting word-formation products can be somewhat "verby" (cf. e.g. Vogel 2000: 269). Schippan (1967: 63), for example, states that *ung*-derivation "constitutes a synthesis of the word classes

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of written language for the time of 1950 until 1990. Note, however, that 114 out of those 143 items come from the decade of 1980-1990, these data thus abeing much more representative than the data from the preceding time periods.

'noun' and 'verb' with shifting dominance of the verbal and substantival features" (my translation). This conforms to the observation that "grammatical categories are very much like everyday categories" (Thompson and Hopper 2001: 47), i.e. there are better and less good examples for each category, they exhibit fuzzy category boundaries, etc. (cf. Taylor 2003). If lexical categories can indeed be regarded as "indicators of pre-linguistic categories" (Dotter 2005: 43, my translation) that reflect the construal of situations (cf. also Talmy, 1988; Hentschel and Weydt 1995: 47; Vogel 1996: 109, 191f; Langacker 2007: 439), it is not too strong a claim that words–especially products of word-class changing word-formation processes–can be "between" categories. Consequently, semantic change can entail a shift on the scale of "nouniness" and "verbiness." Considering this, it might not be accidental that–as Panagl (1987: 146) demonstrates with examples of Latin word-formation–

> nouns of action generally show an inherent tendency toward categorial change of meaning. This development, for which the term "drift," going back to Edward Sapir, seems convenient, tends to proceed through the level of resultative noun (nomen acti) and in many cases reaches the level of concrete noun (interpretable as instrumental or local), in certain cases achieving even an agentive reading.

Importantly, Panagl's observations are in line with the account proposed in this paper. The "drift" from the abstract to the concrete pole as described by Panagl for Latin and attested by the German corpus data can be explained as an increase in (lexical-categorial) prototypicality. Although *ung*-nominals exhibit, to a varying degree, "verbal" features, they have formally always been nouns in filling the NP slot in syntactic constructions and in taking their complements in the genitive case (cf. Demske 2000: 386). Therefore it is not very surprising that the semantics of the word-formation products approach a prototypically nominal meaning by means of lexicalisation.

As Hopper and Thompson (1985: 152) point out, nouns and verbs "have semantic correlates corresponding very approximately to perceived entities in the real world." While nouns denote objects or concepts that exhibit what Givón (e.g. 1979) has called "time-stability" (cf. also Hopper and Thompson 1984: 705; Hentschel and Weydt 1995: 47), verbs prototypically refer to actions, events and states (cf. e.g. Bredel and Töpler 2007: 824), i.e. "percepts which lack time-stability" (Hopper and Thompson 1985: 152). As becomes clear from the considerations in the previous sections, nouns and verbs cannot, however, be treated as completely distinct and homogeneous categories. This is why Nübling et

al. (2012: 38), drawing on Ewald (1992), propose a semantic sub-classification of nouns, arranging the different classes on a scale according to their respective "nounhood." Appellatives such as *dog, car, tree*, representing the prototypical instances of concrete nouns, are maximally contoured and individuated; prototypical abstract nouns such as *joy*, on the other hand, are non-contoured and non-individuated, which is why they are not pluralizable (except if they are used in a reified sense, as in *The joys of youth*). These criteria can also be applied for arranging German *ung*-nominals on a scale of "verb-proximity" (Fig. 4-2) according to their respective meaning, which in turn is motivated by the choice of different construal options.

verb-proximal/"verby" "nouny"

abstract concrete
summary scanning sequential scanning

process/event	**bounded region in time / in space**		**object**	**person**
in Grabung	*Lesung*	*Ausgrabung*	*Heizung*	*Bedienung*
"in/while digging"	"reading event"	"excavation"	"heating device"	"waiter/ waitress"
bei Lesung	*Veranstaltung*	*Ausstellung*	*Kupplung*	*Begleitung*
"in/while reading"	"event"	"exhibition"	"clutch"	"company"

Fig. 4-2: *Scale of "verb-proximity"*

Note that the considerations on construal changes in Section 2.1 and on lexical-categorial prototypicality in this section–roughly assigned to the basic linguistic functions of "perspectivation" and "categorisation," respectively, for the purposes of our investigation–complement each other. As we have seen, many frequent *ung*-nominals diachronically assume a more reified construal by means of lexicalisation. Although the lexicalisation process mostly entails the assumption of idiosyncratic meaning components–compare, for example, the entirely different frames evoked by *Lesung* "reading," *Vorlesung* "lecture," and *Versammlung* "meeting/assembly," respectively–, the "pathways of lexicalisation" (to borrow Blank's (2001) term) are very similar on a higher level of abstraction.[9] Usually, the "lexicalisation path" leads from a process/event reading to a bounded region in time and/or space reading, sometimes proceeding towards an object or even a person reading.

[9] Remember that the construal options prompted by word-formation patterns can be seen as (image-) schematic in nature, cf. Section 1.2.

At first, this semantic development inducing a higher degree of "nouniness" only affects the word-formation products that undergo lexicalisation, i.e. it is restricted to the semantic level. However, the meaning variants thus emerging can themselves become productive, as Scherer (2006: 12) points out:

> In einem Reanalyseprozess wird die gemeinsame neue Inhaltskomponente . . .extrahiert, aus den Einzelwörtern herausgelöst und auf das Wortbildungsaffix bzw. Wortbildungsmuster verlagert.
> [In a process of reanalysis, the common new meaning component is. . . extracted, separated from the individual words, and transferred to the word-formation affix or word-formation pattern, respectively.]

Adopting Dressler's (1987: 99) distinction between lexical enrichment on the one hand and "motivation" of existing words on the other as the two main functions of word-formation, we can assume that the latter, which can be roughly identified with syntactic transposition, is both functionally and temporally primary at least with regard to *ung*-derivatives. In our scale of "verb-proximity," syntactic transposition would have to be allocated at the verb-proximal pole, while lexical enrichment–i.e. the naming of new concepts–could be assigned to the "nouny" part of the scale. This does not mean, however, that word-formation change is an entirely regular process that follows the pattern outlined in Fig. 4-3 without any exceptions. If we take the reasoning behind the complex adaptive systems approach mentioned at the beginning of this paper seriously, we must acknowledge that word-formation change is also influenced by factors that lie outside the scope of this paper but are tightly connected to the processes elaborated on here. For example, phonotactic patterns also seem to play a role with regard to *ung*-nominalisation, which accounts for the irregular occurrence of *–n–* in *Hoffnung* (< MHG *hoffenunge*): while the attestation of regular *hoffunge* in the document archive of the MHG dictionary[10] is relatively sparse, the variant *hoffenunge* perhaps prevailed because of its phonotactic analogy to other highly frequent MHG *ung*(*e*)-formations such as *ordenunge* "order," *bezeichenunge* "meaning; label," which pertain to the trochee pattern that has established itself as the "ideal" syllable structure in German from the MHG period onwards (cf. Szczepaniak 2007: 226). This is in line with Taylor's (2012) hypothesis that language users take record of the linguistic utterances they encounter, thereby compiling a "mental corpus" of constructions at various levels of abstraction–consequently, not only syntactic and morphological patterns can serve as "templates" for the

[10] <http://www.mhdwb-online.de> [Accessed December 2012]

coinage of new constructions, but also, among others, constructional idioms such as *the* X–*er the* Y–*er* or even phonological and phonotactic patterns. Importantly, the (lifelong) acquisition of constructions can also be accounted for in terms of categorisation (cf. Taylor 2012: 185-194).

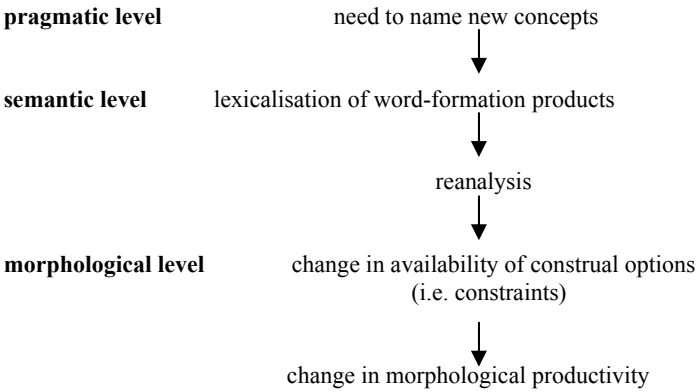

Fig. 4-3: *Overview of major processes constituting word-formation change*

The increase in "nouniness" is reflected by the syntactic patterns in which *ung*-nominals occur. While the Prep. + V–*ung* construction mentioned in Section 2.1 constantly decreases throughout the ENHG period, the rising degree of individuation is reflected in an increasing amount of *ung*-derivatives accompanied by a determiner[11] as well as in the, albeit slight, increase of pluralised forms (Fig. 4-4). Concerning the use of determiners, Langacker (1991a: 97-107) describes the definite and indefinite articles in terms of mental spaces. While the definite article refers to a designated instance t_i of a type T that is unique and maximal in relation to the current discourse space, the indefinite article as well as e.g. *some* and the zero determiner (*Some dogs are cute*; ø *Dogs are mammals*) "suggest that the nominals they ground are insufficient to put [the hearer] in mental contact with a uniquely determined instance of T" (Langacker 1991a: 103). Unlike *some* and the zero determiner, "the indefinite article occurs only with singular count nouns" (ibid.). This corresponds with Brinkmann's (1949: 16) observation that the determiner can be seen as

[11] In accordance with, e.g., Thielmann (2007: 808), I subsumed under the notion of "determiner" not only definite and indefinite articles, but also demonstrative and possessive pronouns, prenominal genitives and quantifiers.

"eigentliches Merkmal des Substantivs" ("actual characteristic of the noun"). Regarding the occurrence of plural forms, Vogel (1996: 115) notes that pluralisation of abstract nouns such as *beauty* automatically entails concretisation: *beauties*, for example, refers to several (human) entities carrying the feature [beautiful]. Consequently, the increase of pluralised forms–which is even more striking if we take the MHG period into account as well: in MHG, hardly any occurrences of pluralised *ung*-nominals are attested, cf. Hartmann (to appear)–can be said to reflect the higher degree of reification.

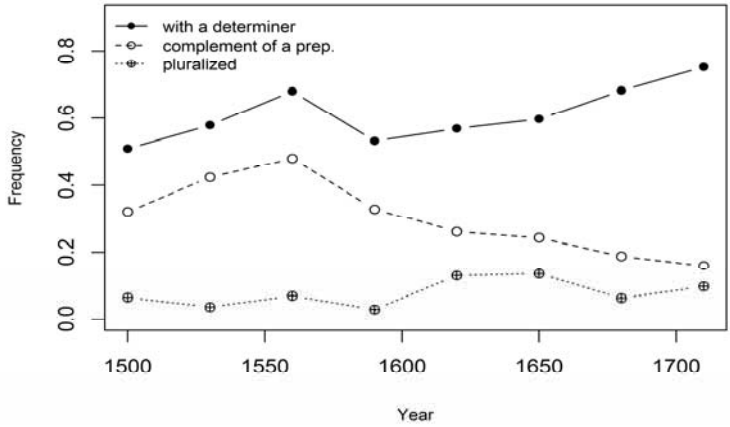

Fig. 4-4: *Use of ung-nominals in Prep.+ V–*ung *constructions, with a determiner, and in the plural form, respectively, as attested by the Mainz ENHG corpus, a compilation of 63 texts (so far) mostly based on PDF scans from a project on German noun capitalisation (Bergmann and Nerius 1989).*

3. Conclusion

In the history of Cognitive Linguistics, the interrelation of language and cognition has mostly been studied with regard to semantics. Word-formation, by contrast, has "remained a fairly neglected branch of study in the field of cognitive linguistics" (Onysko and Michel 2010: 9). This paper aims to contribute to the growing body of research investigating the cognitive foundations of word-formational processes (further efforts in this direction include, among others, Ungerer 1999; Panther and Thornburg 2001; Lampert 2009; Taylor to appear; Booij to appear). To this end, the

interfaces between morphology, semantics and pragmatics as well as extra-linguistic factors have to be taken into consideration.

The investigation presented in this paper focused on the morphology/semantics interface. Adopting the guiding assumption of Cognitive Linguistics that linguistic meaning reflects the cognitive construal of entities and situations, I argued that word-formation patterns carry image-schematic conceptual content, which is subject to diachronic change. The process of change sets out at the semantic level: some word-formation products undergo lexicalisation. The construal options resulting from this lexicalisation process, in spite of their idiosyncratic characteristics, cluster around a couple of core meaning variants. The new meaning variants can become productive at the morphological level by means of reanalysis–given that they are used frequently enough. On the other hand, established construal options can get out of use, thus becoming unproductive and, eventually, even ungrammatical. The availability of construal options determines the emergence or loss of word-formation constraints, which in turn is reflected in the word-formation pattern's morphological productivity.

The diachronic development of the German word-formation pattern V–*ung* can be considered a prime example of word-formation change. As we have seen, the construal changes outlined in the course of this paper are not only obvious in the semantics of the respective word-formation products but are also reflected by the prevalent syntactic patterns in which *ung*-derivatives occur. The interrelation between "cognition, culture and [language] use" (Bybee 2010: 194) becomes obvious in the study of this word-formation pattern. While this paper does not cover the cultural factors determining the coinage of *ung*-nominals (but cf. Wolf 1987; von Heusinger and von Heusinger 1999), the impact of cognitive factors as well as frequency of use should have become clear. However, the analysis presented here is not exhaustive. Further research can provide a more fine-grained picture of the word-formation pattern's development by analysing the constructions in which it occurs in more detail. Moreover, it is conceivable that further methods of corpus exploration such as collocation analyses can give valuable clues as to the semantic development of the respective word-formation products. Regarding the synchronic constraints affecting the formation of *ung*-nominals, the (mostly introspective) grammaticality judgments of the respective researchers should be complemented by psycholinguistic studies. In addition, a cross-linguistic comparison with similar word-formation patterns in other languages could highlight commonalities and differences in the construal variants prompted by the respective patterns.

Despite these desiderata, the construal approach to word-formation change elaborated on in this paper can prove a powerful heuristic tool for explaining morphological change as well as synchronic variation in the use and interpretation of word-formation patterns.

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CHAPTER FIVE

CROSSLINGUISTIC INFLUENCES ON MOTION EXPRESSION IN ENGLISH AND SPANISH[1]

IRIA G. ROMAY-FERNÁNDEZ
AND SAMANTHA N. EMERSON

1. Introduction

The semantic domain of motion and space has been exhaustively studied in the last few decades (e.g. Talmy 1983; Berman and Slobin 1994; Gumperz and Levinson 1996; Slobin 2000; Zlatev and Yangklang 2003), and has been considered a cognitive universal, together with colour terms or terms referring to family members, among others. There are assumed differences between English and Spanish in the expression of motion events. English, for example, makes use of more fine-grained distinctions, especially when considering manner of motion verbs. These verbs show a less restrictive use than their Spanish counterparts and can be employed in a wider number of contexts. Thus, due to lexicalisation patterns, there is a remarkable difference in the variety of verbs expressing manner of motion between the two languages.

The question we address here is whether languages can be easily dichotomised into categories (Talmy 1985, 2000a) or whether the expression of motion between languages can be better described as a continuum as suggested by other scholars (such as Zlatev and Yangklang 2004; Bohnemeyer et al. 2007; Croft et al. 2010). To examine this, we have looked in detail at the expression of path, manner and ground in both

[1] For generous financial support thanks are due to the Autonomous Government of Galicia (grants CN2011/011 and CN2012/012), the Spanish Ministry for Economy and Competitiveness and the European Regional Development Fund (grant FFI2011-26693-C02-01), and the Spanish Ministry of Education (FPU grant AP2008-00876).

English and Spanish (two typologically distinct languages). In particular, we have focused on contrasting patterns between language types for the generalness vs. expressiveness of manner verbs, the frequency and compactness of path segments and the number of grounds expressed in both languages.

2. Theoretical framework of motion events

2.1. Expression of motion events

Motion can be broken down into three major components: path (the only obligatory component), which is the direction or trajectory of the motion; manner, which is the way in which motion is accomplished; and ground, which can be divided into source (i.e. the initial location), goal (i.e. the final location) and milestone (i.e. a location passed along path).

Languages may express these three components through different linguistic means. For example, in a motion event the verb may be used to express the path (e.g. *the dog* ***enters***), manner (e.g. *the dog* ***runs***), or may be neutral (e.g. *the dog* ***goes***). Furthermore, the verb could then be followed by a satellite which could express path and ground (e.g. enter *into the house*), manner and ground (e.g. enter *the house quickly*) or ground by itself (e.g. enter *the house*).

Nevertheless, the most important feature is how languages choose to express path. Accordingly, Talmy (1985, 1996, 2000a) proposes a typological classification of languages according to the expression of path: Satellite-framed languages vs. Verb-framed languages.

In Satellite-framed languages (S-languages), such as English, German and Russian, the path is expressed outside of the verb in a satellite such as a preposition. Because the path in these languages is externalised, the verb is then free to express additional information, namely manner. By contrast, in Verb-Framed Languages, (V-Languages) such as Spanish, Turkish and Korean, path is encoded within the verb; thus, motion events in V-languages are typically expressed by the combination of a path verb and a subordinate adverbial of manner. In S-languages they are expressed by means of a manner of motion verb with a path satellite (see Fig. 5-1).

As can be seen in these patterns, speakers of V-languages and S-languages focus their attention on different components of motion events. Manner is a more salient component to S-language speakers and, as a result, the domain of manner is more widely elaborated in these languages. By contrast, V-language speakers focus less on manner and more on changes of location and settings.

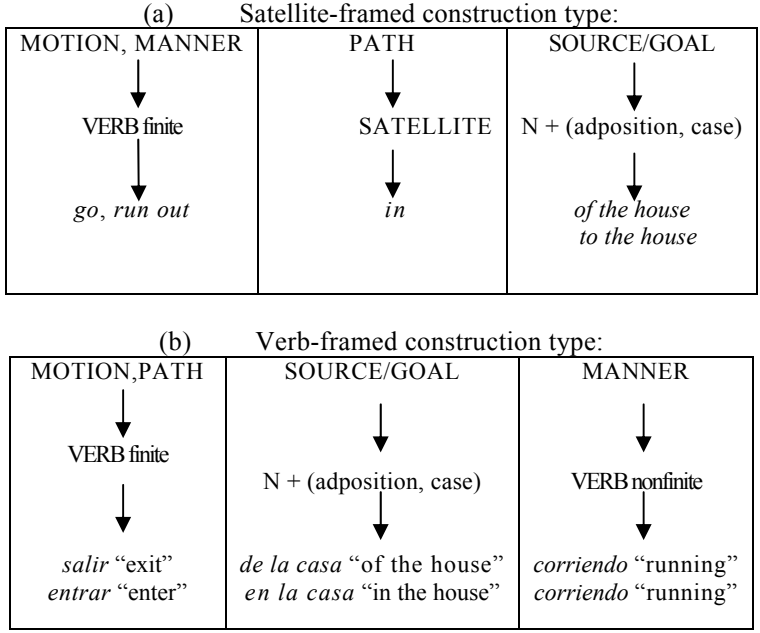

Fig. 5-1: *Satellite and verb-framed constructions from Slobin (2000)*

In recent years, however, the validity of Talmy's classification system has been called into question. This is partly due in fact to the many languages that do not fit easily into either pattern because they have a tendency to express path and manner at equal rates (Zlatev and Yangklang 2004). This category includes not only serial-verb languages (e.g. Niger-Congo, Hmong-Mien, Sino-Tibetan, Tai-Kadai, Mon-Khmer, Austronesian), but also bipartite verb languages (e.g. Algonquian, Athabaskan, Hokan, Klamath-Takelman) and generic verb languages (e.g. Jaminjungan languages).[2] Thus, languages like Thai (e.g. 1a and 1b) exhibit a pattern wherein manner and path are combined in different verbs:

[2] The pattern in serial-verb languages is that of manner verb + path verb, while bipartite verb languages express those notions through [manner + path] verb and generic languages using a manner preverb + path preverb + verb.

1 Thai

(a) *chán* *won* *jɔɔn* *klàp* *khâw* *hɔɔn*
I circle reverse return enter room
"I returned circling back into the room."
(Zlatev and Yangklang 2004: 163)

(b) *chán* *dəən* *won* *klà* *jɔɔn* *khâw* *paj*
I walk circle return reverse enter go
"I am walking in a circle, returning back inside." (Zlatev and Yangklang 2003: 166).

Moreover, it is necessary to bear in mind that no language is "consistently one type or another in the verbalisation of events according to the Talmy typological classification" (Croft et al. 2010). Thus, it may be concluded that it is necessary to place languages on a cline of path salience because, due to their specific morphosyntactic, lexical and cultural features, they may show both V- and S-language behaviour, even though one of the patterns may be preferred when expressing motion.

2.2. Manner, path and ground

First considering the manner component, manner verbs can be divided into two categories: general manner verbs which tend express fairly broad concepts (e.g. *jump* and *walk*) and expressive verbs which tend to be more specific in meaning (e.g. *traipse* and *slink*). This latter category tends to be much more elaborated in S-languages like English, in opposition to V-languages like Spanish and, therefore less likely to have counterparts in V-languages. Moreover, it has been suggested that expressive manner verbs are commonplace in both conversations and written texts (Slobin 1996, 2003).

Unlike manner, path is an obligatory element of motion in both language types and is therefore a highly salient component for all speakers. Therefore, it is not possible to look for a range of accessibility of path as a category, but we should consider path in relation to two different aspects: the number of path components into which a motion event can be divided (i.e. number of sub-trajectories that can form an overall trajectory) and the distribution of these path segments into the different clauses present in the event (i.e. how compacted the path segments are).

According to Talmy's typology, S-language speakers tend not only to encode more path segments but they also do so in a more compacted way

than V-language speakers. Moreover, attention to grounds is influenced by the different ways of encoding path. Slobin states:

> Apparently language typology contributes to a typical level of event granularity. The determining factor seems to be the heavy use of a series of separate clauses in V-languages, as compared to the accumulation of path particles and prepositional phrases with a single verb in S-languages. . . [Even in the case of] English-speaking children, at early ages, [it is possible to see a disposition] to describe complex paths, and in compact constructions. Across ages, the collection of complex locative elements in English exceeds the possibilities provided by path verbs in V-languages. (2004: 239-40)

Therefore S-language speakers usually establish a one-to-one correspondence between ground elements and path segments. Because S-language speakers have an inherent ability to express several path components attached to a single verb, we would expect speakers of these languages to express more ground elements per clause and express them in a more compacted way. V-languages, on the other hand, tend to provide ground information through static descriptions of setting.

Finally, the strategy known as double marking (or "double framing;" Aske 1989; Bohnemeyer et al. 2007; Croft et al. 2010) should be considered, due to its relevance in path codification. In double framing the path frame is expressed twice, both within a verb and a satellite. Therefore, due to this morphosyntactic feature, this strategy can be considered close to that of S-languages. Moreover, the redundancy created by this strategy actually weakens the implied directional information associated with the verb itself and, if such a pattern were continued over time, it would lead to the verb having a more neutral meaning.

3. Motion events in English and Spanish native speakers

3.1. Current study

The current study examined the differences and similarities in the expression of motion in a group of fifty native speakers of English from Georgia, USA and fifty native speakers of Spanish from Galicia, Spain. Participants were asked to view a short cartoon based on the characters *Tweety Bird* and *Sylvester* consisting of six different scenes (approximately five minutes long) and to retell this story to an experimenter. Narrations were video-recorded, transcribed and coded for elements expressing path, ground and manner. Before playing the video, participants were

encouraged to remember as many details as possible. For the present study, only the first scene was examined.

3.2. Motion verbs

As expected, English speakers expressed manner of motion at a significantly higher rate than Spanish speakers ($t(65.23)=8.095$, $p<.001$), while Spanish speakers expressed path at a significantly higher rate than English speakers ($t(59.86)=-7.58$, $p<.001$; see Figure 5-2). Interestingly, English speakers also expressed a significantly higher number of neutral verbs than Spanish speakers ($t(65.98)=5.67$, $p<.001$).

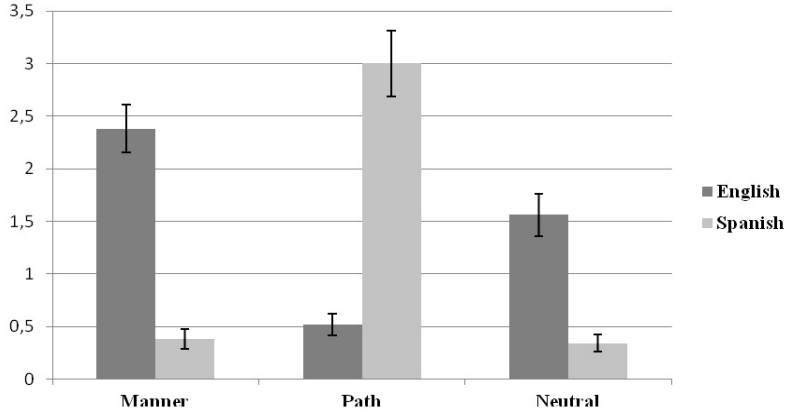

Fig. 5-2: *Mean number of manner, path and neutral verb used by English and Spanish speakers*

Despite having a greater variety of manner types available to them, English speakers expressed general manner of motion tokens at a significantly higher rate than more expressive manner tokens ($t(49)=-6.04$, $p<.001$). In particular 93 (77%) of the verb tokens produced by English speakers were general manner of motion (ex. 1-5) while only 28 (23%) were more expressive manner verbs (ex. 6-8).

(2) . . .um and he **runs** into the bowling lanes. . .
(3) . . .he's **walking** back and forth at the bottom of this building. . .
(4) . . .well he um **climbed** up through the pipe. . .

(5) . . .and then he kind of **rolls** down to the, like rolls down the street. . .
(6) . . .and then he um is like **bouncing** and rolling down the drain pipe and then down into the road. . .
(7) . . .so he **crawls** in a drain pipe and crawls up it. . .
(8) . . .he **paced** back and forth on the curb of the sidewalk. . .
(9) . . .and eventually he goes. . .**squeezes** himself into the pipe. . .

Thus, English speakers preferred to use more general manner expressions—words which are easily translatable into V-languages such as Spanish—instead of more fine-grained distinctions in their motion descriptions.

Our results suggest, therefore, that English speakers are not only choosing to use an elevated number of neutral verbs but also that the manner verbs they use are more general. Both of these elements serve to reduce the salience of manner in this language.

Table 5-1 depicts all the different motion verb types used by participants when describing the scene.

As would be expected, the average number of types that *each individual speaker* produced followed the patterns of expression of type: individual English speakers produced a greater number of manner types ($t(79.93)=10.40$, $p<.001$) and neutral types ($t(79.10)=7.10$, $p<.001$) than Spanish speakers did, while individual Spanish speakers produced a greater number of path types ($t(64.58)=-9.81$, $p<.001$) than English speakers. However, unexpectedly, the *total* number of types that English speakers and Spanish speakers as a group produced overall differed. First, English and Spanish speakers produced a similar total number of manner verb types overall (E.=7 vs. Sp.=8) despite English speakers producing a greater number of manner tokens than Spanish speakers (E.=119 vs. Sp.=19). Second, contrary to the relatively frequent use of neutral tokens by English speakers, it was found that in both languages the expression of neutral motion was almost exclusively restricted to the verb type *go*/*ir*(*se*) (ex. 9-10). English speakers, however, also showed an informal usage of *get* to imply neutral motions (ex. 11-12):

ENGLISH			
	Manner	**Path**	**Neutral**
	roll (42)	come (16)	go (48)
	climb (38)	fall (3) **DM**[3]	get (30)
	pace (20)	fall (5)	-
	crawl (9)	come (1)	-
	walk (5)	-	-
	run (3)	-	-
	bounce (1)	-	-
	squeeze (1)	-	-
TOTAL	**119**	**25**	**78**
SPANISH			
	Manner	**Path**	**Neutral**
	rodar (6)	subir (46)	ir (17)
	colar(se) (5)	bajar (17)	-
	trepar (3)	meterse (13)	-
	dar vueltas (2)	salir (12)	-
	precipitar(se) (1)	caer(se) (12)	-
	pasear (1)	entrar (2)	-
	andar (1)	venir (1)	-
	-	descender (1)	-
	-	marchar[4] (1)	-
	-	ascender (1)	-
	-	llegar (1) **DM**	-
	-	entrar (13)	-
	-	llegar (11)	-
	-	meter(se) (6)	-
	-	salir (4)	-
	-	acceder (2)	-
	-	caer (2)	-
	-	bajar (2)	-
	-	subir (2)	-
	-	introducir(se) (1)	-
TOTAL	**19**	**150**	**17**

Table 5-1: ***Types of motion verbs in English and Spanish***

[3] Double marking.

[4] Galician usage equivalent to Spanish *ir*(*se*) as in the sentence:

Galician:	O	neno	**marchou**	da	rúa.	
Spanish:	El	niño	**se fue**	de	la	calle.
English:	'*The*	*boy*	*go* (3RD P.SG.PAST PRON. VB)	*from the street.*'		

(10) . . .y se **va** calle abajo. . .
"*And go* (3RD P.SG.PRES. PRON. VB) *street down*"
(11) . . .which makes the bowling ball **go** into Sylvester. . .
(12) . . .and when he **get** all the way up to the pipe. . .
(13) . . .to **get** to the bird. . .

Finally, various path verb types were employed more infrequently in English than in Spanish as would be expected in an S-language. Consequently, English speakers used only two of the most recurrent forms (*come* and *fall*) to express path of motion. By contrast, path verb types were highly elaborated in the speech of Spanish participants, as expected in a V-language (148 tokens; 13 types). Moreover, there was a higher occurrence of double marking by Spanish speakers than English speakers (E=6 vs. Sp=38; $t(63.85)=-5.84$, $p<.001$):

English:
(14) . . .that it's **coming** up **to** a windowsill. . .
(15) . . .and he **falls down**…

Spanish:
(16) . . .**sube** **parriba**
". . .*go* (3RD P.SG.PRES.) *up upwards*"
(17) . . .y **cae** **hacia abajo** por una cuesta
"*And fall* (3RD P.SG.PRES.) *downwards through a hill*"
(18) . . .y el gato **baja** rodando calle **abajo**
". . .*and the cat go* (3RD P.SG.PRES.) *down rolling street down*"

Another way in which motion may be expressed is through subordination (generally of a manner verb) to the main verb often in the form of a gerund. This pattern is typically exhibited by V-language speakers (Slobin 1997: 238).

As would be expected of a V-language, Spanish displayed a high number of instances of this pattern (Sp.=22). Nevertheless, English speakers (E.=5) also exhibited instances of this same structure though at a significantly lower rate *(*$t(75.31)=-3.14$, $p=.002$).

ENGLISH			
	Manner	**Path**	**Neutral**
	roll (3)	tumble (1)	-
	bounce (1)	-	-
TOTAL	**4**	**1**	**0**
SPANISH			
	Manner	**Path**	**Neutral**
	rodar (16)	subir (2)	ir (1)
	cagar leches (rushing; 1)	bajar (2)	-
TOTAL	**17**	**4**	**1**

Table 5-2: ***Motion verbs as dependent gerunds***

Moreover, even though this pattern of subordination identified by Slobin (1997: 238) was based primarily on the subordination of manner (ex. 18, 19, 21, 22), it has also appeared in our data in instances of path (ex. 20, 23) and even neutral verbs (ex. 24) in both English and Spanish:

English:

(19) . . .and then goes **rolling** into the bowling alley (MANNER)

(20) . . .after the bowling ball has been coming down **bouncing** around inside the drain pipe (MANNER)

(21) . . .he with the bowling ball in his stomach comes **tumbling** out of the um bottom of the drain pipe (PATH)

Spanish:

(22) . . .va **rodando** el gato calle pabajo (MANNER)
". . .*go* (3RD P.SG.PRES.) *rolling the cat street downwards*"

(23) . . .baja Silvestre **cagando leches** (MANNER)
". . .*go* (3RD P.SG.PRES.) *Sylvester rushing* (SLANG USAGE)"

(24) . . .mientras va **subiendo** (PATH)
". . .*as go* (3RD P.SG.PRES.) *going up*"

(25) En la primera entró **yendo** por una cañería (NEUTRAL)
"*In the first one entered* (3RD P.SG.PAST) *going through a pipe*"

These surprising results could suggest that speakers are generalising this pattern from a primarily manner oriented usage to a broader range of words. The reason that the pattern is more pronounced in narratives produced by Spanish than English participants is probably due to the fact

that manner subordination through gerunds is considered to be more typical of V-languages.

In addition to gerunds, manner was emphasised by other means, such as manner adverbs (E.=1 vs. Sp.=1; ex. 25, 26), prepositional phrases (E.=2 vs. Sp.=12; ex. 27, 28), adjectival phrases (E.=0 vs. Sp.=1; ex. 29) and even ideophones (E.=0 vs. Sp.=1; ex. 30):

(26) Ok um it started off with Sylvester pacing **frantically** back and forth in front of a pipe

(27) . . .rueda calle abajo ee hasta entrar **justo** en una bolera
"*Roll* (3RD P.SG.PRES.) *street down um until enter* (INF.) *just in a bowling alley*
donde, por el sonido, parece que hizo strike
where, according to the sound, seem (3RD P.SG.PRES.) *that do* (3RD P.SG.PAST) *strike*"

(28) . . .and he comes out of the bottom **with the bowling ball inside of him**
. . .entonces baja **con la bola en la barriga**
"*Then go* (3RD P.SG.PRES.) *down with the ball in the belly*"

(29) . . .sale **despedido** de la cañería
"*Go* (3RD P.SG.PRES.) *out shot out of the pipe*"

(30) . . .sube parriba, **tiqui tiqui**
"*Go* (3RD P.SG.PRES.) *up upwards, tiqui tiqui*"

These methods of emphasising manner were more widely utilised by Spanish speakers than by English speakers ($t(58.13)=-2.94$, $p=.005$), thus making their descriptions more vivid in this respect.

3.3. Path segments

Fig. 5-3 displays the mean number of path segments speakers of both languages expressed per motion event:

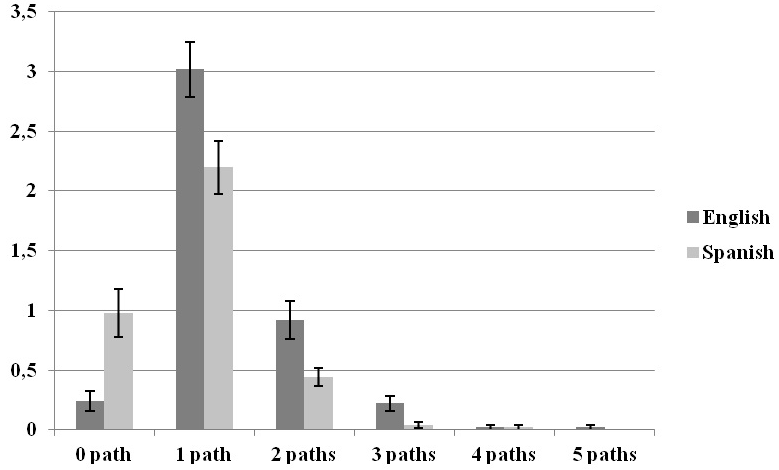

Figure 5-3: *Mean number of path segments per motion event in English and Spanish*

As expected, English speakers encoded a significantly larger total number of path segments than Spanish speakers ($t(71.31)=4.37$, $p<.001$). Due to the small number of multiple path segments produced, clauses with multiple (i.e. more than one) path segments were collapsed into one category for analysis. A repeated-measures ANOVA revealed a significant interaction between Language and number of path segments ($F(1.69, 165.29)=12.83$, $p<.001$). Contrasts show that this interaction was significant between 0 and 1 path segments ($F(1, 98)=18.11$, $p<.001$) but not between 1 and Many ($F(1, 98)=0.13$, $p=.716$). This indicates that Spanish speakers produced a greater number of clauses without path segments than English speakers, whereas English speakers produced a greater number of clauses with one or more path segments than Spanish speakers. Furthermore, a significant main effect was found for path segments ($F(1.69, 165.29)=82.49$, $p<.001$). Contrasts revealed a significant difference between the number of clauses speakers of both languages produced that contained 1 path segment and 0 ($F(1, 98)=119.09$, $p<.001$) and between 1 path segment and Many ($F(1, 98)=85.00$, $p<.001$). This indicates that regardless of language, all speakers tended to express a single path segment per clause than any other number.

Therefore, while speakers of both Spanish (V-language) and English (S-language) displayed instances of clauses containing multiple path segments—some as high as four or even five separate path segments (see

Table 5-3 below)—, speakers of both languages tended to express only a single path segment per motion verb, contrary to typological distinctions which imply a preference for highly compacted and complex constructions in speakers of S-languages but not V-languages (e.g. Slobin, 1996, 1997, 2003, 2004). Thus, our results indicate that both languages lie closer in the cline of path salience.

ENGLISH				
	2PATHS	**3PATHS**	**4PATHS**	**5PATHS**
	50	11	1	1
TOTAL	**63**			
SPANISH				
	2PATHS	**3PATHS**	**4PATHS**	**5PATHS**
	34	6	1	-
TOTAL	**41**			

Table 5-3: ***Complex path segments in English and Spanish***

3.4. Ground elements

Following the results of path segmentation, English speakers produced a significantly higher number of total grounds expressed than did Spanish speakers ($F(1, 98)=5.72$, $p=.019$; Figure 4). While no interaction between language and number of grounds was found ($F(1.23, 120.09)=2.48$, $p=.111$), a significant difference was found in the number of grounds that speakers produce ($F(1.23, 120.09)=207.70$, $p=.000$). Contrasts revealed that the expression of a single ground per motion clause was significantly greater than the expression of two ($F(1, 98)=150.41$, $p=.000$), three ($F(1, 98)=277.19$, $p=.000$), or four ($F(1, 98)=270.26$, $p=.000$) grounds. This suggests that all speakers, regardless of language, exhibited a preference for the expression of a single ground per motion event rather than the more complex patterns Slobin (1996, 1997, 2003, 2004) suggests is typical of S-languages. It is also interesting to note that one Spanish speaker even produced an instance of four grounds for a single motion event, which demonstrates the ability of V-framing languages like Spanish to produce more complex ground constructions, even though that is not the preferred pattern in such languages:

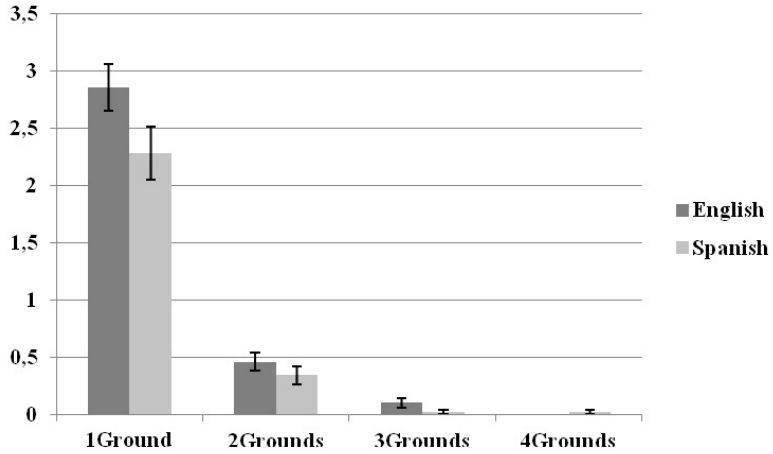

Figure 5-4: *Grounds in English and Spanish*

Considering different types of grounds separately (Table 5-4), both languages chose to express milestones more frequently than any other type of ground and chose to express goals more often than sources:

ENGLISH			
	SOURCE	**GOAL**	**MILESTONE**
TOTAL	9	89	139
SPANISH			
	SOURCE	**GOAL**	**MILESTONE**
TOTAL	7	99	105

Table 5-4: ***Types of grounds in English and Spanish***

While previous research has found that goals are the predominant form of ground to be expressed (e.g. Talmy 1985; Ungerer and Schmidt 1996; Verspoor et al. 1999), our research proves to be an exception. As seen above, milestones are more common in our material, both in English and Spanish. The following examples show speakers in our study emphasising transitional locations (i.e. milestones). It is important to note that in most cases the specific semantics of the verbs do not require the final location to be expressed in order to conceptualise the motion event contributing to the lack of the expression of goals:

English:

(31) He gets an idea to climb up **the drainpipe**. . .
(32) . . .and I guess it went down **his throat** . . .
(33) . . .and he rolled down **the hill**…

Spanish:

(34) . . .subiendose por **una** **tubería**. . .
"*Go up* (GER.) *through* *a* *pipe*"
(35) . . .se cuela por **un** **tubo**. . .
" *Slip* (3RD P.SG.PRES.PRON. VB.) *through* *a* *tube*"
(36) . . .caer por **el** **medio** **del** **tubo**. . .
"*Fall* (INF.) *through* *the* *middle* *of the* *tube*"

The lack of sources and the still high presence of goals may be explained by a constraint labelled by Talmy as *gapping* (1985, 1996). When referring to motion events, Talmy suggests that it is possible to highlight (i.e. window) certain components of the motion event while excluding (i.e. gapping) others that can be inferred:

> . . .[L]anguages can place a portion of a coherent referent situation into the foreground of attention by explicit mention of that portion, while placing the remainder of that situation into the background of attention by omitting mention of it. . .[T]he coherent referent situation with respect to which the windowing must take place is an *event frame*, the portions that are foregrounded by inclusion are *windowed*, and the portions that are backgrounded by exclusion are *gapped*. (Talmy 2000b: 257; italics in the original).

This is the case with milestones and goals (but not for sources), which can be, in Talmy's words, windowed for attention without mentioning other path components. Moreover, the still high presence of goals in our corpus is to be expected. Motion events require a complete path in order to be conceptualised (Talmy 1985; Ungerer and Schmidt 1996; Verspoor et al. 1999). Because other types of path information, such as milestones or sources, may often be inferred from the goal, speakers frequently omit milestones and sources from clauses with goals. In many corpora, this leads to goals being the most frequently expressed type of ground; however, our data prove to be an exception to this rule.

4. Conclusions

The present study was based on elicited narratives from 50 native speakers of English and Spanish in order to examine differences and

similarities when expressing motion considering manner, path and ground information.

As we have suggested through this study, the differences in motion expression between English and Spanish are not as pronounced as could be expected from Talmy's classifications of English as an S-language and Spanish as a V-language. Moreover, even though both languages show some patterns which fall in line with their typological classification, they differ significantly in the following ways: as far as English is concerned and as expected in an S-language, speakers expressed a higher amount of manner verbs than Spanish speakers did. Nevertheless, they produce a relatively low number of manner verb types, mainly using general expressions instead of more fine-grained distinctions with regards to manner. Moreover, there is a strong tendency in English speakers to use neutral verbs, reducing the salience of the manner component in their speech. By contrast, Spanish being a V-language, shows a significantly higher rate of path verbs and a greater variety of types as compared to English. Nevertheless, the narrations produced by Spanish speakers were more manner enriched than one might expect in that (as previously mentioned) the total number of manner types produced by Spanish speakers was similar to those of English speakers and were further enriched by other means than the main verb, which included not only subordinated gerunds (a prototypical pattern of V-languages), but also other linguistic expressions (i.e. manner adverbs, prepositional phrases, adjectival phrases and ideophones). Moreover, it is necessary to point out that subordinated gerunds (V-pattern) were also found in English elicitations, even though they were not as frequent as in Spanish.

Further examination of the path and grounds revealed that while speakers of both languages did on occasion express multiple paths and grounds in a single motion clause, the general tendency in both languages was the use of only one path and one ground per clause despite predictions that English speakers (S-language) would prefer more complex and compacted descriptions. Finally, it is important to consider the significantly higher presence of milestones, over sources and goals in both languages which counters the commonly seen goal biases.

From these results it is clear that English and Spanish actually fall closer together on a cline of path and manner salience than Talmy's typology would suggest. However, further research is required. In particular we plan to expand the current study to incorporate more motion tokens by examining additional scenes of the narrative to include a more diverse array of motion events. Finally, we plan to continue this line of research by examining whether or not our results could be the

consequence of crosslinguistic contamination caused by the increased amount of exposure native speakers of English and Spanish receive from the other language.

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PART III:

SECOND LANGUAGE ACQUISITION

CHAPTER SIX

"He was /gəʊɪn/ to Have a /bæθ/," "Twenty /pɒrsent/ of /pɪpel daʊnlɒd mʊsik/." A PRELIMINARY STUDY OF THE DIFFICULTIES SHOWN BY SPANISH STUDENTS OF DIFFERENT LEVELS OF PROFICIENCY IN THE LEARNING OF ENGLISH PRONUNCIATION[1]

YOLANDA JOY CALVO-BENZIES

1. Introduction

Language teaching has long been one of the major fields of applied linguistics. Within this field, special attention has been paid to the teaching of the so-called four language skills, that is, listening, speaking, writing and reading. Traditionally, the attention of language teaching specialists has been principally focused on the written skills, as well as on the acquisition of grammar and vocabulary, to the detriment of the speaking skills. In this respect, EFL classrooms in Spain are no exception: here too more time is devoted to reading and writing than to listening and speaking, including the teaching/learning of pronunciation.

This inferior situation of speaking–and thus pronunciation–is somewhat surprising since English pronunciation is considered to be one of the most difficult skills to acquire and develop (Martínez-Flor et al. 2006; Aliaga-García 2007) for several reasons: a) the nearly total irregular

[1] For generous financial support, I am grateful to the following institutions: Galician Ministry of Education, grant I2C 2011-2014, European Regional Development Fund, Autonomous Government of Galicia (Directorate General for Scientific and Technological Promotion, grants CN2011/011 and CN2012/081). These grants are hereby gratefully acknowledged.

correspondence between English spelling and pronunciation; b) the fact that personal factors such as motivation, language aptitude or L2 background also influence on the students' learning process; or, c) the fact that, apart from being intelligible, one should communicate with fluency and accuracy. Moreover, Spanish learners of English encounter a further problem, i.e., the notorious differences between the phonological systems of Spanish and English: for instance, the fact that English has twelve distinct vowels whereas the vocalic system of Spanish has only five, which means that many of the English vowel phonemes do not exist in Spanish (such as /ə/, ʌ/, /ɜ:/); the lack of aspiration in the Spanish plosive consonants /p, t, k/ or the differences in manner and/or place of articulation of the consonants /h/ and /r/.

Therefore, it is not surprising that in the last decades, the pronunciation difficulties of Spanish learners of English are starting to interest the specialists (Kenworthy 1987; Sánchez 1994; Alcaraz and Moody 1999; Palacios 2000 or Estebas 2009). All of these studies have identified a series of recurrent problems in the English pronunciation performance of Spanish students: for instance, the distinctions between the so-called short and long vowels, the vowels /ə/ and /ʌ/ and the following consonant pairs: /θ, ð/, /s, z/ and /ʤ, ʒ/. However, all of them focus on general difficulties that Spanish learners of all ages encounter with pronunciation. In contrast, this paper intends to be a contribution to the previous research by considering the particular problems that learners from different levels of proficiency have with regards to pronunciation: secondary school students, post-obligatory school learners and university students studying a five-year degree in English Language and Literature. In this way, the results obtained in this project will provide an outline for secondary school and university EFL teachers on the specific pronunciation problems their learners of a certain level of proficiency will tend to have and those difficulties they will have generally overcome at some stage, thus avoiding the continuous emphasis on certain aspects that no longer entail any difficulties at certain levels of proficiency and focusing on the areas that continue to pose some difficulty on their learners.

Thus, the aims of this study are: (1) to identify and analyse the pronunciation difficulties of a group of twenty-five Spanish EFL learners belonging to different levels of proficiency while carrying out several spoken tasks; (2) to compare the problems identified across the different levels, observing whether the students from the advanced levels of education selected have overcome some pronunciation difficulties typical of previous stages of language learning; and, (3) explicitate the main

pedagogical implications of the study, by identifying those pronunciation problems that need a special focus in the EFL classrooms in Spain.

2. Methodology

2.1. Subjects

A total of 25 subjects, belonging to different levels of education, participated in this study. The participants' age at the time of the interviews ranged from fourteen to twenty-four. The research comprised two phases: a pilot and a main study.

In the pilot phase, a preliminary survey was carried out to test the research materials and to check that the lower-level students would be able to complete the tasks. Five students from different levels of education (secondary, post-secondary and university) participated in this initial study, three of which were males and the remaining two females. Regarding the students' mother tongues, they all shared Spanish and Galician.[2]

In the main study, a total of 20 participants were involved, seven males and thirteen females. They were representative of four specific levels of proficiency: five of them were students of the third year of compulsory secondary school (third year *ESO)*, another five were in the first year of post-obligatory secondary school (first year *Bachillerato*), five were enrolled in the third year of the English Studies degree at the University of Santiago de Compostela (*Filología Inglesa*) and the remaining five were in their last year of this university degree.

2.2. Research materials and methods

Concerning the research materials used in this study, each subject had to complete the following oral tasks: (1) a personal interview; (2) the description of some photographs; and, (3) the reading aloud of a text. However, as will be mentioned below, the results of the first activity were not taken into account in the data analysis.

[2] Apart from these five subjects, a native female RP speaker from Dover (Kent) was also asked to participate as a native speaker informant.

2.2.1. Personal interview

In this first activity, the subjects had to talk about themselves for a few minutes. They were given a list of topics to make the task easier (favourite hobbies, sports, languages they spoke, their ideal job…). This task was not taken into consideration in the data analysis since it was mainly used to calm the subjects down before being recorded, i.e., as an icebreaker.

2.2.2. Photo description

In this task, the participants were asked to describe a story portrayed in a series of pictures that represented "a bad day in a man's life."

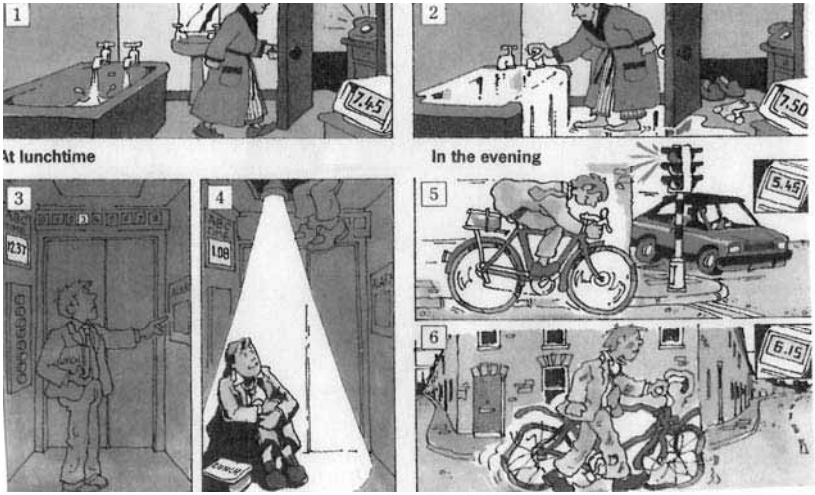

Fig. 6-1: *Pictures used in the oral description task*

2.2.3. The reading of a text

Finally, in the third and last activity the subjects were asked to read aloud a text titled *Downloading music*. The text, consisting of a total of 160 words, was taken from a textbook called *Oxford Spotlight 3*,[3] addressed to students in the third year of secondary school (3rd year *ESO*).

[3] Davies, Paul A. and Tim Falla. 2005. *Oxford Spotlight 3*. Oxford University Press.

This text was chosen for two reasons: a) it contained words with the majority of British English sounds;[4] and, 2) it was thought suitable for all levels of proficiency, since it had been extracted from a textbook addressed to the lower-level students selected.

DOWNLOADING MUSIC: extracted from the textbook *Oxford Spotlight 3*, pp. 100

"Music is big business. Shops in the UK sold more than 150 million CDs in 2003. However, more and more people are starting to download music from the internet.
Quick fact:
- 20% of people only download music.
- 45% buy all their music on CDs.
- 35% download music and buy CDs too.
Is it illegal to download music from the internet?
No, not always. You can download music from shops on the internet, but you have to pay for it. However it's usually illegal to download music without paying, or to put music onto your computer so that other people can download it. The music industry has started taking legal action against people who share music in this way. Brianna LaHara, a 12-year-old girl from New York, had to pay $2,000 after sharing music with her school friends."
Quick fact:
The iTunes Music Store, the world's largest internet download shop, sells four million songs every week."

Table 6-1: ***The text-reading activity***

All the activities were carried out in English. Both a picture description and a reading task were included, since it was believed that the results obtained in these two tasks would support and complement each other as they differed in several ways. On the one hand, the photo description task is more spontaneous as the subjects have to improvise and thus, there is no previous planning of what will be said. Furthermore, in this activity affective factors play an important role as subjects may show anxiety and hesitation. On the other hand, the reading task is a more controlled activity in which students are able to see the written version that may help them but may also have an adverse effect on their pronunciation due to the irregular correspondence between English spelling and pronunciation.

[4] For instance, in the first two sentences of the text, we find examples of ten British English vowels: music /u:, ɪ/, business /ə/, shops /ɒ/, U.K /eɪ/, sold /əʊ/, more /ɔ:/, hundred /ʌ/, CDs /i:/, thousand /aʊ/.

Therefore, it was believed that the mistakes the students made in the readings would support and complement the problems shown in the photo-description task.

Each subject completed all three tasks individually. The whole procedure lasted between ten and fifteen minutes. All the tasks were audio-taped between November 2009 and April 2010.

3. Data analysis

In this section we provide a full description of the procedure followed in the analysis and interpretation of the data obtained from each of the above tasks.

A database was created to enter the information obtained from both the picture description and the short reading tasks of each participant; this data was then transcribed by using the International Phonetic Alphabet (IPA) and taking the variety of Received Pronunciation (RP) as a model. This particular variety was selected for several reasons: (1) students tend to ask for this variety (Hooke and Rowell 1982; Roach 1983; Pennock and Vickers 2000), (2) it is the standard variety that is most widely taught in Spain, (3) the one that can be encountered most frequently in both EFL textbooks and pronunciation dictionaries and, (4) "it is the one that is most frequently recommended for foreign learners studying British English" (Roach 1983: 3).

3.1. Oral description

Our database for this task comprises the following information, including 3 sets of transcriptions: a word transcription, a "normal" transcription and a phonetic transcription. More precisely, the following six steps were taken in the analysis of the picture descriptions.

3.1.1. Step one: Word transcription

First of all, a word transcription was carried out including the following features: (a) audible exhalations or inhalations; (b) pauses between utterances; (c) irregular word length, for instance, indicative of hesitation; (d) laughter; (e) a quieter tone of voice (kind of whisper), different from the one used for the rest of the task; (f) the presence of unintelligible vocabulary (for instance, speaking in their mother tongues); and, (g) interjections. For example, Table 6-2 below shows the word transcription of the data obtained from subject number 7:

Step 1: WORD TRANSCRIPTION (Subject number 7)
Okay well there's ɑ: {{e:}} in the first picture there's a man who: I think (0.5) he was going to take a bath bu:t (1.0) but the phone is ringing so: hhh, (1.0) he close the: the water (1.5) no {{e:}} because of the clock I think that {{eh}} he went to: (0.,5) to take the phone and (0.5) the: water in the bɑ:th {{eh}} (1.0) well it's over all over the: the (0.5) room (1.5) hhh, {{um}} (1.0) the third and the fourth hhh, (0.5) its a well there is also a clock so I think its the important thing hhh, and there is also a man who (0.5) is in ɑ: (0.5) elevator and (0.5) {{um}} I think {{e:}} the elevator broke and the man is closed hhh, so: (0.5) he:: ring he rang the alarm hhh, and somebody is going to save him (0.5) and he spent a lot of time maybe an hour in the elevator heh And in the third no in the five and the seven hhh, (3.5) {{em}} well {{eh}} there is also a clock ɑ:nd I think {{eh}} it's a man in a bike and he's going very fast and maybe he didn't see the (0.5) the red light ɑ:nd a car crashed with him (0.5) so her his bike now is destroyed and he's also destroyed hhh. and this is everything hhh.

Table 6-2: ***An example of a word transcription***

3.1.2. Step two: "Normal" version

Secondly, a normal version of the word transcription was produced, which did not include the annotation of any of the previous-mentioned features. Table 6-3 below illustrates the "normal" version of the previous word transcription.

Step 2: NORMAL VERSION (Subject number 7)
1. Okay well there's a in the first picture there's a man who I think he was going to take a bath but but the phone is ringing so he close the the water no because of the clock I think that he went to to take the phone and the water in the bath well it's over all over the the room 2. The third and the fourth its a well there is also a clock so I think its the important thing and there is also a man who is in a elevator and I think the elevator broke and the man is closed so he ring he rang the alarm and somebody is going to save him and he spent a lot of time maybe an hour in the elevator 3. And in the third no in the five and the seven there is also a clock and I think it's a man in a bike and he's going very fast and maybe he didn't see the the red light and a car crashed with him so her his bike now is destroyed and he's also destroyed and this is everything

Table 6-3: ***An example of a normal text, without manipulation***

3.1.3. Step three: Phonetic transcription

Thirdly, a phonetic transcription was produced for each of the descriptions. For this purpose, we used the International Phonetic Alphabet (IPA). Furthermore, the RP variety was chosen as a model due to the reasons outlined above. The pronunciation mistakes encountered were highlighted in red and each of them was attached a number. Below this transcription, the explanations of each of the mistakes with their corresponding numbers were placed, as illustrated in Table 6-4.

Step 3: PHONETIC TRANSCRIPTION (Subject number 7) /əʊkeɪ wel ðeərz ə ɪn ðə fɜ:st pɪktʃə ðeər ɪz æ *men (1)* hu: ɑɪ *θɪŋ (2)* hi: wɒz *geʊwɪn (3)* tu: teɪk ə *bæθ (4)* *b*ɑ: *(5)* bʌt ðə fəʊn ɪz rɪŋɪŋ səʊ hi: *kləʊs (6)* ðə ðə *wɒtər (7)* nəʊ ɜ: bɪkɒs ɒv ðə klɒk ɑɪ *θɪn (8)* ðæt hi: went tu: teɪk ðə fəʊn *æn (9)* ðə wɔ:tə ɪn ðə *bæθ (10)* wel ɪts ɔ:l *əʊvər (11)* ðə ðə *rʊm (12)*/ (1) "Man" was pronounced with a strange vowel, between /æ/ and /e/. (2) "Think" was pronounced with /n/ instead of /ŋ/**:** the last consonant was not pronounced. Problems with: a. /ŋ/ b. /k/ (3) "Going" was pronounced with /n/ instead of /ŋ/. (4) "Bath" was pronounced with a short /æ/ instead of a long /ɑ:/ (5) "But" was pronounced with long /ɑ:/ instead of /ʌ/

Table 6-4: ***An example of a phonetic transcription***

3.1.4. Step four: Error classification

The next step in our analysis consisted in the classification of the observed errors. For this purpose, we followed an adapted version of Collins and Mees' (2003: 186) classification of pronunciation errors commonly made by non-native speakers of English. This included a number of extra subcategories that we deemed necessary to account for the actual mistakes observed in our own data.

The resulting extended classification includes the following categories:

(1) Group 1: errors leading to breakdown of intelligibility
(2) Group 2: errors which invoke irritation or amusement
(3) Group 3: errors which provoke few reactions and may even pass unnoticed

1a) for confusion of crucial phonemic contrasts in vowels system, such as /ɪ/ versus /i:/, /e/ versus /æ/, /æ/ versus /ɑ:/;
1b) for confusion of fortis/lenis consonants: the subject pronounces the fortis counterpart of a lenis consonant, or viceversa. For instance, confusing /b/ and /p/;
1c) for problems with consonant clusters, such as <spl, str, tr>;
1d) for crucial consonant contrasts, such as /v/ versus /w/, /s/ versus /ʃ/ or /b/ versus /v/;
1e) for deletion of /h/;
1f) for incorrect word stress;
1g) with possible word confusion;
1h) with insertion of consonants: the subjects insert an extra consonant in any position of a word;
1i) for vowel insertion: the speakers insert a vowel before a consonant, also known as epenthesis; and,
1j) for native words: the participants use their native language/s when they do not know a word, sentence… in English.

Table 6-5: ***Type of mistakes: group (1)***

2a) for inappropriate /r/ articulations, such as uvular, trills…;
2b) for problems with fricative consonants;
2c) for less significant vowel contrasts, such as /ʊ/ versus /u:/ or /ɒ/ versus /ɔ:/;
2d) for incorrect allophones of /l/;
2e) for problems with weak and contracted forms; and,
2f) for inappropriate rhoticism/non-rhoticism for articular models of pronunciation: the speakers pronounce /r/ in cases where RP (the variety studied here) does not;

Table 6-6: ***Type of mistakes: group (2)***

3a) for problems concerning intonational patterns;
3b) for lack of syllabic consonants;
3c) for compound stress;
3d) for the lack of final consonants.

Table 6-7: ***Type of mistakes: group (3)***

For instance, the data present in Table 6-8 represents part of the error classification of subject 7:

Step 4: error classification /əʊkeɪ wel ðeərz ə ɪn ðə fɜ:st pɪktʃə ðeər ɪz æ *men (1)* hu: ɑɪ *θɪŋ (2)* hi: wɒz *geʊwɪn (3)* tu: teɪk ə *bæθ (4)* Mistake number 1: 1a (confusion of crucial vowels)/1g (possible word confusion) Mistake number 2: 3d (lack of final consonants) Mistake 3: 1d (crucial consonant contrasts) Mistake 4: 1a (confusion of crucial vowels)

Table 6-8: ***Example of an error classification***

3.1.5. Step five: Comments and conclusions

The data for each individual picture description event also includes a section with the analyst's comments and conclusions on the observed mistakes, as well as possible explanations for such problems.

3.1.6. Step six: Comparisons

The pronunciation mistakes made by each student (those concerning both individual sounds and word stress) were compared, first of all, to the problems the rest of the subjects in the same group encountered and, afterwards to the ones made by the different groups, i.e., by considering all of the subjects, irrespective of their level of proficiency.

3.2. Reading

The data analysis for this activity took place in four stages.

3.2.1. Step one: Tables

Firstly, a table was created for each subject containing a full description of the pronunciation mistakes they made in the course of the task. The table comprised three columns: the first one lists the different words that were pronounced incorrectly; in the second column there figures the phonetic transcription of the corresponding mistake; the last column contains a brief explanation of the observed problems, as illustrated in Table 6-9

MISTAKES	INCORRECT PRONUNCIATION	PROBLEM
Download	/daʊnləʊ/	No /d/ ending
Internet	/ɪntərnet/	Pronunciation of /r/
Computer	/kɒmpju:ter/	Pronunciation of final /e/ + /r/ instead of schwa Distinction between /ɒ/ and /ə / Problems with schwa, /r/ and /ɒ/
Illegal	/ɪlɪgəl/	Distinction between /ɪ/ and /i:/
Songs	/sɒnz/	No velar /ŋ/

Table 6-9: ***Example of step one in the analysis of the readings***

3.2.2. Step two: Error classification

Once again, the errors were classified according to the model suggested by Collins and Mees (2003); the same adaptations mentioned in Section 3.1.4 were also taken into consideration.

3.2.3. Step three: Comments and conclusions

As in the data analysis of the picture descriptions, the data also includes a list of comments and conclusions drawn by the analyst regarding the mistakes observed in the different events.

3.2.4. Step four: Comparisons

After the database was completed, the mistakes made by each subject were compared as in the previous activity, to those made by the participants belonging to the same group and afterwards to all of the participants in the study irrespective of their level, in order to see whether all the levels of proficiency made the same kind of mistakes or whether, as was expected, the lower level groups had more problems than the higher level participants.

4. Results

In the following sections, we will outline the main results obtained in both the oral description and reading tasks in each of the levels of proficiency selected. Furthermore, all of the problems identified across the

different levels will be afterwards considered and analysed together in order to establish comparisons among the lower and advanced levels.

4.1. Oral description

4.1.1. Pilot study subjects

The total number of words uttered by the participants in this phase of the study was 460 and 84 of them contained some type of pronunciation mistake/s. This makes a total of 18.26% of words pronounced incorrectly.

Regarding the English sounds that the subjects in this group had most problems with, the following results were obtained (see Table 6-10): (1) the subjects had difficulties with English /r/ up to 22 times; (2) the alveolar consonant /d/, with 20 mistakes;[5] (3) the distinction between /æ/ and /ɑ:/ caused problems 14 times; (4) schwa, with 10 mistakes recorded; (5) the distinction between /ɒ/ and /ɔ:/ with 5 incorrect pronunciations; (6) the distinction between /ɪ/ and /i:/ with 4 mistakes; (7) the diphthong /əʊ/, with 3 mistakes recorded; (8) the distinction between /e/ and /ɜ:/, /ʌ/, /t/, /ʃ/ and word stress, that caused between 1 and 2 mistakes.

Concerning the error classification followed, the three most common mistakes that the subjects in this group made were the following: 1a, confusion of crucial vowels, with a total of 33 mistakes; 2f, incorrect pronunciations of /r/, which caused 22 problems; and, 3d, lack of final consonants, with 21 mistakes made. Moreover, a few mistakes (between 1 and 5) were made with: crucial consonant contrasts (1d), incorrect word stress (1f), problems with fricative consonants (2b) and less significant vowel contrasts (2c).

[5] The majority of these mistakes were due to the fact that the subjects did not pronounce this consonant in the final position of the past tenses of regular verbs.

PILOT STUDY	S.1	S.2	S.3	S.4	S.6	TOTALS
/æ/, /ɑ:/	4	0	5	3	2	14
/e/, /ɜ:/	1	1	0	0	0	2
/ɪ/, /i:/	0	3	0	1	0	4
/ɒ/, /ɔ:/	0	2	1	1	1	5
/ʌ/	0	0	0	1	0	1
schwa	3	3	1	3	0	10
/əʊ/	0	0	2	1	0	3
/t/	0	1	0	0	0	1
/d/	4	2	0	4	10	20
/ʃ/	0	0	0	1	0	1
/r/	5	3	4	9	1	22
Word stress	0	0	0	1	0	1
TOTALS	17	15	13	25	14	84

Table 6-10: ***Pronunciation mistakes in the description task: pilot study***

4.1.2. Third year ESO students

The total number of words uttered by the subjects belonging to this group was 615 and 254 contained at least one mistake. All in all, 41.30% of the words were pronounced incorrectly.

Third year *ESO* students had problems with the following sounds: (1) /r/, which was incorrectly pronounced 81 times; (2) the alveolar consonant /d/ (most often not pronounced in word final position), 42 mistakes; (3) the phoneme schwa, with 39 incorrect pronunciations; (4) the distinctions between /ɒ/ and /ɔ:/ and between /æ/ and /ɑ:/, with 24 and 20 incorrect pronunciations, respectively; (5) the diphthong /əʊ/, which was incorrectly pronounced 12 times; (6) the consonants /t/ and /ʧ/, which were incorrectly pronounced (or were not perceivable) 11 and 9 times, respectively; (7) the distinctions between /e/ and /ɜ:/ and /ɪ/ and /i:/, the diphthong /aɪ/, /s/, /ŋ/, incorrect stress patterns and the use of inexistent words (calqued from Spanish or Galician),[6] which account for in between 1 and 2 mistakes each.

Concerning the error classification, in this group the three main mistakes made were: 2f inappropriate pronunciation of /r/, with a total of 80 mistakes; 1a confusion of main vowel contrasts (for instance, pronouncing "bathroom" with /æ/ instead of /ɑ:/), 78 problems; and 3d

[6] For example, subject number 15 pronounced /baɪsɪklet/ instead of "bicycle" adapting it from the Spanish word *bicicleta*.

lack of final consonants, especially /d/ and /t/, with a total of 51 mistakes found. Moreover, the subjects in this group made quite a few mistakes concerning: less significant vowel contrasts (2c), 23 mistakes; and, crucial consonant contrasts (1d). Finally, very few mistakes were found related to other subcategories, such as (1h) consonant insertion and (1j) the use of the subject's native language/s, with 3 mistakes each; (1f), the use of a wrong stress pattern, 2 errors; and, both (1c), problems with consonant clusters and (2b), difficulties with fricative consonants, with only one mistake each in the analysed data.

Third year ESO	S.15	S.16	S.17	S.21	S.22	TOTALS
/æ/, /ɑ:/	2	5	3	2	8	20
/e/, /ɜ:/	1	0	1	0	0	2
/ɪ/, /i:/	0	0	0	0	2	2
/ɒ/, /ɔ:/	10	2	7	2	3	24
Schwa	8	7	5	8	11	39
/aɪ/	0	0	1	1	0	2
/əʊ/	1	1	0	10	0	12
/t/	3	2	4	2	0	11
/d/	7	6	20	3	6	42
/s/	0	0	0	1	0	1
/r/	16	11	15	21	18	81
/ʧ/	3	0	0	0	6	9
/ŋ/	0	1	0	0	1	2
/l/	3	0	0	0	0	3
Stress	1	0	0	0	1	2
Invention	0	0	0	0	2	2
TOTALS	55	35	56	50	58	254

Table 6-11: ***Pronunciation mistakes in the description task: third year ESO***

4.1.3. First year Bachillerato students

The total number of words uttered by the subjects belonging to this group was 425 and they made a total of 127 mistakes, i.e., 29.8% of the items pronounced contained some type of pronunciation mistake.

The sounds that caused most difficulties to the subjects of this level were: (1) problems with English /r/ up to 41 times; (2) the phoneme schwa with 28 mistakes; (3) the alveolar consonant /d/, 17 mistakes (in the majority of cases this consonant in final position was not pronounced); (4) the distinction between /ɒ/ and /ɔ:/ with 14 incorrect pronunciations; (5)

/t/, which was pronounced incorrectly 11 times; (6) the distinction between /æ/ and /ɑ:/ posed some difficulty on 6 occasions; (7) other sounds were incorrectly pronounced once or twice, particularly the distinction between /e/ and /ɜ:/, the diphthongs /əʊ/, /aɪ/, /ɪə/ and /eə/, the consonants /θ/ and /ŋ/ and a case of epenthesis.

With regards to the error classification followed, the majority of mistakes made by these students were: confusion of crucial vowels (1a), with a total of 44 errors; the incorrect pronunciation of /r/ (2f), which caused 39 problems; and, the lack of final consonants (3d) with 22 mistakes made. Moreover, 13 mistakes were made with: (2c), less significant vowel contrasts, i.e those that do not entail complete misunderstandings; and could possibly pass unnoticed. Finally, very few mistakes were found related to other subsections: (1d), crucial consonant contrasts with 4 mistakes; (1e), /h/ deletion and (1i), vowel insertion with a total of 2 mistakes; and, (2b), problems with fricatives, caused only one mistake.

First year Bachillerato	S.18	S.19	S.20	S.23	S.24	TOTAL
/æ/, /ɑ:/	3	1	0	2	0	6
/e/, /ɜ:/	0	0	0	0	2	2
/ɒ/, /ɔ:/	6	0	3	3	2	14
Schwa	3	4	8	1	12	28
/aɪ/	0	1	0	0	0	1
/əʊ/	0	1	1	0	0	2
/ɪə/	1	0	0	0	0	1
/eə/	1	0	0	0	0	1
/t/	2	0	1	7	1	11
/d/	1	1	0	14	1	17
/θ/	0	0	0	1	0	1
/r/	8	3	10	6	14	41
/ŋ/	0	0	0	1	0	1
Epenthesis	0	0	0	0	1	1
TOTALS	25	11	23	35	33	127

Table 6-12: ***Pronunciation mistakes in the description task: first year Bachillerato***

4.1.4. Third year English philology students

The total number of words uttered by the subjects belonging to this group was 1,020 and 183 mistakes were made by them; therefore, 17.94% of the items said by these subjects were pronounced incorrectly.

The sounds that students had most problems with were the following; (1) /r/ was incorrectly pronounced up to 43 times; (2) in final position the alveolar consonant /d/ was not pronounced 40 times; (3) the phoneme schwa, with 27 incorrect pronunciations registered; (4) the distinctions between /æ/ and /ɑ:/ and between /ɒ/ and /ɔ:/, with 22 and 19 incorrect pronunciations, respectively; (5) /t/, caused problems on 9 occasions; (6) the velar consonant /ŋ/ with 7 mistakes; (7) the consonant /k/, with 4 incorrect pronunciations; (8) the vowels /e/ and /ɜ:/ with 3 mistakes recorded; (9) the distinction between /ʊ/ and /u:/, the diphthong /əʊ/, /ʌ/, /θ/, /s/, /h/ and an example of epenthesis, which account for in between 1 or 2 mistakes.

The type of mistakes that were mainly found in this group were: confusion of crucial vowels (1a), with a total of 64 mistakes; lack of final consonants (3d), that caused 50 problems; and, inappropriate pronunciation of /r/ (2f), with 35 mistakes made. Furthermore, quite a few mistakes were made concerning subtypes: (2c), less significant vowel contrasts, with a total of 18 mistakes; and, (1d), crucial consonant contrasts, which caused 9 problems. Finally, very few mistakes were made with: (1e), /h/ deletion, (1i), vowel insertion and (2b), problems with fricatives, all with 2 mistakes made; and, (1h), consonant insertion, with a single mistake found.

3rd year EPh.	S.7	S.8	S.13	S.25	S.26	TOTAL
/æ/, /ɑ:/	5	4	5	4	4	22
/e/, /ɜ:/	0	2	0	1	0	3
/ɔ/, /o:/	3	2	6	5	3	19
/ʊ/, /u:/	1	0	0	1	0	2
/ʌ/	1	0	0	0	0	1
Schwa	1	7	3	9	7	27
/əu/	1	0	0	0	0	1
/t/	1	3	1	3	1	9
/k/	2	0	0	1	1	4
/d/	4	5	7	11	13	40
/θ/	2	0	0	0	0	2
/s/	0	0	1	0	0	1
/r/	6	7	8	10	12	43
/h/	0	0	1	0	0	1
/ŋ/	3	2	0	2	0	7
Epenthesis	0	1	0	0	0	1
TOTALS	30	33	32	47	41	183

Table 6-13: ***Pronunciation mistakes in the description task: third year English Philology***

4.1.5. Fifth year English philology students

The total number of words uttered by the subjects belonging to this group was 1,075 and they made 202 mistakes. According to this data, a total of 18.79% of the items were pronounced incorrectly. Regarding the sounds that entailed most difficulty for the subjects, we encountered the following: (1) the alveolar consonant /d/, with 56 incorrect pronunciations; (2) a total of 44 incorrect pronunciations of /r/ were registered; (3) the distinction between /ɒ/ and /ɔ:/ with 18 incorrect pronunciations recorded; (4) the distinction between /æ/ and /ɑ:/, with 17 mistakes; (5) the alveolar consonant /t/ up to 16 times; (6) schwa was incorrectly pronounced 15 times; (7) the diphthong /əʊ/, with 6 mistakes; (8) the distinction between /ɪ/ and /i:/, with 4 incorrect pronunciations recorded; (9) the diphthong /eə/ and the distinction between /ʊ/ and /u:/, with three mistakes; (10) /ʌ/, /ɪə/, /j/, /n/, /ŋ/ and /l/ with one or two mistakes registered.

The participants in this group made the following types of mistakes: lack of final consonants (3d), with a total of 70 mistakes; (1a), confusion of crucial vowels caused 56 problems; and, (2f), inappropriate

pronunciation of /r/, with 56 mistakes made. Furthermore, (2c), less significant vowel contrasts, caused 22 problems. Finally, a few mistakes were made concerning subgroups: (1d), crucial consonant contrasts and, (1i), vowel insertion with 4 mistakes made; (1g), possible word confusion and, (1h), consonant insertion, only caused one mistake each.

5th year EPh	S.9	S.10	S.11	S.12	S.14	TOTALS
/æ/, /ɑ:/	5	3	1	3	5	17
/e/, /ɜ:/	0	0	1	0	2	3
/ɪ/, /i:/	2	1	0	1	0	4
/ɔ/, /o:/	4	2	6	1	5	18
/ʊ/, /u:/	0	0	0	3	0	3
/ʌ/	1	0	1	0	0	2
Schwa	5	2	7	1	0	15
/eɪ/	0	1	0	2	0	3
/əʊ/	1	1	0	1	3	6
/ɪə/	0	0	0	1	1	2
/eə/	1	1	0	1	0	3
/j/	0	0	0	2	0	2
/t/	6	4	1	4	1	16
/d/	10	9	13	13	11	56
/r/	12	7	13	3	9	44
/n/	0	0	0	0	1	1
/ŋ/	0	1	1	0	0	2
/l/	0	0	1	1	0	2
Epenthesis	1	1	0	1	0	3
TOTALS	48	33	45	38	38	202

Table 6-14: ***Pronunciation mistakes in the description task: fifth year English philology***

4.2. Reading text

4.2.1. Pilot study subjects

A total of 161 mistakes were made in this activity by the subjects; i.e., 20.12% of the total 800 words they pronounced (160 words per subject)[7] contained at least one mistake. Regarding the phonemes these subjects had problems with: (1) the sound that caused most problems was schwa, since

[7] The reading by the native speaker was not analysed since her pronunciation was used as a guide.

they made 31 mistakes with this phoneme; (2) 21 mistakes were made with /r/; (3) the distinction between /ɪ/ and /iː/ was pronounced incorrectly on 12 occasions; (4) the alveolar consonants /t/ and /d/ with 10 and 9 incorrect pronunciations, respectively. Moreover, (5) 9 mistakes were encountered with the distinction between /ɜː/ and /e/; (6) the subjects used wrong stress patterns up to 8 times; (7) the distinction between /ɒ/ and /ɔː/ with 7 mistakes registered; (8) the diphthongs /eɪ/ and /eə/ and the consonants /ð/ and /s/, with 5 mistakes; (9) the distinctions between /æ/ and /ɑː/ and between /ʊ/ and /uː/, /ʌ/, the diphthong /əʊ/ and the insertion of an extra sound, all with 4 incorrect pronunciations recorded; (10) /j/ and /ʃ/, with three mistakes; (10) some phonemes were pronounced incorrectly on one or two occasions, particularly /ʤ/ was pronounced incorrectly on two occasions and /aʊ/, /w/, /k/, /g/, /n/ and /l/ were incorrectly pronounced once.

The main mistakes made by this group were: confusion of crucial vowels (1a), with a total of 78 mistakes; lack of final consonants (3d), which caused 24 mistakes; and, incorrect pronunciation of /r/ (2f) with 21 mistakes made. In addition, (1d), crucial consonant contrasts and (1f), the wrong stress pattern, caused 8 mistakes; furthermore, (2c), less significant vowel contrasts, caused 7 problems and a total of 6 mistakes were made related to (1h), consonant insertion. Finally, a few other mistakes were found with (2b), problems with fricatives, that caused 4 mistakes; (1g), possible word confusion, with 2 mistakes made; and, (1c), problems with consonant clusters and (1i), vowel insertion, with only 1 mistake.

PILOT STUDY	S.1	S.2	S.3	S.4	S.6	TOTALS
/æ/, /ɑ:/	1	2	1	0	0	4
/e/, /ɜ:/	2	2	4	1	0	9
/ɪ/, /i:/	2	4	5	1	0	12
/ɒ/, /ɔ:/	0	2	3	2	0	7
/ʊ/, /u:/	0	1	3	0	0	4
/ʌ/	0	2	1	0	1	4
Schwa	9	8	8	5	1	31
/eɪ/	3	0	2	0	0	5
/aʊ/	1	0	0	0	0	1
/əʊ/	1	1	2	0	0	4
/eə/	1	1	3	0	0	5
/j/	0	0	3	0	0	3
/w/	0	1	0	0	0	1
/t/	2	5	2	1	0	10
/k/	0	1	0	0	0	1
/d/	1	2	2	3	1	9
/g/	0	0	1	0	0	1
/ð/	0	1	4	0	0	5
/s/	1	0	3	1	0	5
/ʃ/	1	0	2	0	0	3
/r/	5	5	5	6	0	21
/ʤ/	0	1	1	0	0	2
/n/	0	0	1	0	0	1
/l/	0	0	1	0	0	1
Stress	3	2	1	2	0	8
Insertion	0	3	1	0	0	4
TOTALS	33	44	59	22	3	161

Table 6-15: ***Pronunciation mistakes in the reading task: pilot study***

4.2.2. Third year ESO students

A total of 128 mistakes were made in this task by third year ESO students. Thus, out of the total 800 words they pronounced (160 each subject), 16% of them were pronounced incorrectly. The most problematic sounds for the students of this particular group were the following: (1) schwa; and, (2) /r/, 24 and 21 mistakes, respectively; (3) the distinction between /ɪ/ and /i:/, with 14 incorrect pronunciations; (4) the distinction between /ɒ/ and /ɔ:/ and the phoneme /s/ with 10 mistakes registered; (5) the alveolar consonant /d/ was pronounced incorrectly or rather not pronounced in final position on 9 occasions; (6) the distinction between /e/

and /ɜ:/, with six mistakes; (7) the diphthongs /aʊ/ and /əʊ/ and the wrong stress pattern, with 4 incorrect pronunciations; (8) the diphthongs /eɪ/ and /eə/ and final /t/, with three mistakes recorded; (9) finally, the distinctions between /æ/ and /ɑ:/ and /ʊ/ versus /u:/, the vowel /ʌ/, the consonant /ʤ/, the diphthong /aɪ/, the semivowel /j/ and the consonants /k/, /ʃ/, /n/ and /ŋ/, which account for in between 1 and 2 mistakes.

Concerning the error classification followed, the main mistakes found in this group were: confusion of crucial vowels (1a), which caused a total of 67 mistakes; incorrect pronunciation of /r/ (2f), with 22 mistakes found; and, lack of final consonants (3d), with 18 problems. Moreover, a few mistakes were made with: (2c), less significant vowel contrasts, that caused 6 problems; (1d), crucial consonant contrasts, with 5 mistakes; (1f), the wrong stress pattern, with 4 mistakes; (2b), mistakes with fricatives, caused 3 problems; (1g), word confusions, with a total of 2 mistakes registered; and, (2d), incorrect allophones of /l/, which only caused 1 problem.

Third year ESO	S.15	S.16	S.17	S.21	S.22	TOTALS
/æ/, /ɑ:/	1	0	0	1	0	2
/e/, /ɜ:/	2	0	1	2	0	5
/ɪ/, /i:/	3	3	2	3	3	14
/ɒ/, /ɔ:/	3	0	1	4	2	10
/ʊ/, /u:/	2	0	0	0	0	2
/ʌ/	0	0	1	0	1	2
Schwa	3	5	5	4	7	24
/aɪ/	0	0	0	1	0	1
/eɪ/	0	1	0	0	2	3
/au/	0	0	1	2	1	4
/əʊ/	1	1	0	1	1	4
/eə/	1	1	0	1	0	3
/j/	1	0	0	0	0	1
/t/	0	1	0	2	0	3
/k/	0	0	0	0	1	1
/d/	2	2	0	3	2	9
/s/	2	0	1	5	2	10
/ʃ/	0	0	0	1	0	1
/r/	3	4	4	6	4	21
/ʤ/	1	0	0	1	0	2
/n/	0	0	0	0	1	1
/ŋ/	0	0	1	0	0	1
Stress	1	0	0	2	1	4
TOTALS	26	18	17	39	28	128

Table 6-16: ***Pronunciation mistakes in the reading task: third year ESO***

4.2.3. First year Bachillerato students

A total of 141 mistakes were encountered in the reading task by the participants in first year Bachillerato out of a total of 800 words pronounced by them (i.e., 160 words per student). Thus, 17.62% of the words were pronounced incorrectly. The sounds with which these students had more problems were: (1) schwa, with 33 mistakes recorded; (2) English /r/, with 22 incorrect pronunciations; (3) the distinction between /ɪ/ and /i:/ was confused 13 times; (4) the alveolar consonant /d/ was incorrectly pronounced (or rather not pronounced in final position) 11 times; (5) /s/, with 9 mistakes registered; (6) the distinction between /ɒ/ and /ɔ:/, with eight mistakes; (7) the diphthong /eə/, with six incorrect pronunciations; (8) the alveolar consonant /t/ and word stress, with five incorrect pronunciations; (9) /ʌ/ and /eɪ/ were incorrectly pronounced four times; (10) the distinction between /e/ and /ɜ:/ and the consonants /ʃ/ and /ʤ/, with three mistakes each; (11) the distinction between /ʊ/ and /u:/, /j/, /w/ and /n/, the distinction between /æ/ and /ɑ:/, the diphthongs /aʊ/ and /əʊ/ and the consonant /h/, with one or two mistakes registered.

Regarding the error classification followed, the main problems students in this group had were concerned with subgroups: 1a, confusion of crucial vowels, with a total of 71 problems; incorrect pronunciation of /r/ (2f) caused 20 mistakes; and, lack of final consonants (3d), with 18 mistakes. Moreover, some mistakes were made with: (1d), crucial consonant contrasts, which caused 7 problems; (2c), less significant vowel contrasts, with 6 errors; (2b), mistakes with fricative consonants and (1f), incorrect word stress, with 5 problems; (1g), possible word confusion and (1j), the use of native words, caused 4 mistakes; and, (1e), /h/ deletion with 1 mistake made.

First year Bachillerato	S.18	S.19	S.20	S.23	S.24	TOTALS
/æ/, /ɑ:/	0	0	0	0	1	1
/e/, /ɜ:/	0	2	0	0	1	3
/ɪ/, /i:/	2	3	5	0	3	13
/ɒ/, /ɔ:/	1	1	3	1	2	8
/ʊ/, /u:/	0	2	0	0	0	2
/ʌ/	0	1	1	1	1	4
Schwa	7	8	6	5	7	33
/eɪ/	0	2	1	0	1	4
/au/	0	1	0	0	0	1
/əʊ/	1	0	0	0	0	1
/eə/	0	2	2	0	2	6
/j/	0	2	0	0	0	2
/w/	0	0	1	0	1	2
/t/	0	2	1	0	2	5
/d/	1	3	3	2	2	11
/s/	0	4	2	0	3	9
/ʃ/	0	1	1	0	1	3
/r/	4	5	5	3	5	22
/h/	0	1	0	0	0	1
/ʤ/	0	1	1	0	1	3
/n/	0	1	0	0	1	2
Stress	2	1	1	0	1	5
TOTALS	18	43	33	12	35	141

Table 6-17: ***Pronunciation mistakes in the reading task: first year Bachillerato***

4.2.4. Third year English philology students

The participants in this group made a total of 68 mistakes out of the 800 words they pronounced in total (160 words per subject). This makes 8.5% of the items pronounced incorrectly. The particular sounds that these subjects had problems with in this task were: (1) schwa, with 15 mistakes recorded; (2) /r/, with 13 incorrect pronunciations; (3) 7 mistakes were identified regarding the distinction between /ɒ/ and /ɔ:/ and final /d/; (4) the distinction between /ɪ/ and /i:/, with 5 mistakes recorded; (5) /aʊ/, with 4 incorrect pronunciations; (6) the diphthong /əʊ/ and the alveolar consonant /t/, with 3 problems; (7) the distinctions between /æ/ versus /ɑ:/, /ʊ/ versus /u:/ and /e/ versus /ɜ:/, the diphthong /eɪ/, the semivowel /j/, the consonants /ð/ and /s/ and the wrong stress pattern account for in between one and two mistakes each.

The main problems caused in this group were the following: confusion of crucial vowels (1a), with a total of 32 problems; and, incorrect pronunciation of /r/ (2f), with 13. Moreover, quite a few mistakes were made concerning (3d), lack of final consonants, with 11 mistakes; and, (2c), less significant vowel contrasts, which caused 10 problems. Finally, (1f), incorrect stress pattern and (2b), problems with fricative consonants, only caused one mistake.

3rd year EPh.	S.7	S.8	S.13	S.25	S.26	TOTALS
/æ/, /ɑ:/	0	0	0	1	1	2
/e/, /ɜ:/	1	1	0	0	0	2
/ɪ/, /i:/	2	0	0	1	2	5
/ɒ/, /ɔ:/	1	2	1	2	1	7
/ʊ/, /u:/	1	0	0	0	0	1
Schwa	2	2	1	6	4	15
/eɪ/	0	0	2	0	0	2
/au/	0	0	3	0	1	4
/əʊ/	1	1	0	0	1	3
/j/	1	0	0	0	0	1
/t/	0	0	1	1	1	3
/d/	1	1	0	3	2	7
/ð/	1	0	0	0	0	1
/s/	1	0	0	0	0	1
/r/	2	2	1	5	3	13
Stress	0	0	1	0	0	1
TOTALS	14	9	10	19	16	68

Table 6-18: ***Pronunciation mistakes in the reading task: third year English philology***

4.2.5. Fifth year English philology students

The subjects belonging to this group made a total of 55 mistakes out of the 800 words they pronounced in total (160 words per subject). This makes 6.875% of the words pronounced incorrectly. Concerning the mistakes made by the students in the reading task (see Table 6-19 below), once again the three sounds that the subjects had the highest number of difficulties with were: (1) /r/; (2) schwa; and, (3) final /d/ (with 14, 10 and 6 mistakes, respectively); (4) furthermore, in this activity a total of 4 mistakes were made concerning the diphthongs /aʊ/ and /əʊ/; (5) the distinction between /ɪ/ and /i:/, with 3 mistakes; (6) the distinctions between /e/ versus /ɜ:/, /ʊ/ versus /u:/, /ɒ/ versus /ɔ:/ and /æ/ versus /ɑ:/,

the diphthong /eɪ/, the consonants /ð/, /ʤ/, /ʌ/, /ŋ/ and the wrong stress pattern, with between one and two mistakes registered.

Concerning the model of error classification followed, these subjects had problems with mainly two subgroups: confusion of crucial vowels (1a), with a total of 27 problems; and, inappropriate pronunciation of /r/ (2f), with 13 mistakes. Moreover, other mistakes were related to: (3d), lack of final consonants, with 6 problems; (1d), crucial consonant contrasts, with a total of 4 mistakes; (1f), use of the wrong stress pattern and (2c), less significant vowel contrasts, caused 2 mistakes; and, (2b), problems with fricative consonants, with just 1 error.

5th year EPh.	S.9	S.10	S.11	S.12	S.14	TOTALS
/æ/, /ɑ:/	0	1	0	0	0	1
/e/, /ɜ:/	0	1	1	0	0	2
/ɪ/, /i:/	1	0	2	0	0	3
/ɒ/, /ɔ:/	1	0	0	0	0	1
/ʊ/, /u:/	0	0	1	0	0	1
/ʌ/	0	0	1	0	0	1
Schwa	1	0	4	3	2	10
/eɪ/	0	0	2	0	0	2
/aʊ/	0	0	1	1	2	4
/əʊ/	0	1	2	0	1	4
/d/	1	1	1	2	1	6
/ð/	0	0	0	1	1	2
/r/	2	3	4	2	3	14
/ʤ/	0	0	1	0	1	2
/ŋ/	1	0	0	0	0	1
Stress	0	0	0	0	1	1
TOTALS	7	7	20	9	12	55

Table 6-19: ***Pronunciation mistakes in the reading task: fifth year English philology***

4.3. Comparisons

After analysing the data obtained in each of the activities, we can (a) outline the main pronunciation difficulties that students of all levels of proficiency had and (b) establish some comparisons throughout the different groups of students.

4.3.1. Main pronunciation problems present in all levels of education

Regarding the most important pronunciation problems detected in all the levels, no matter their degree of proficiency:

- Firstly, concerning consonants, the majority of participants had problems with: (1) the correct pronunciation of English /r/[8] in all positions; (2) /d/ and /t/ in final position[9] and (3) /ŋ/.
- With regards to vowels, the ones that entailed most problems were: (1) the distinctions between several short and long vowels; more specifically, between /æ/ and /ɑ:/, /ɪ/ versus /i:/ and /ɒ/ versus /ɔ:/; (2) moreover, the subjects of all levels of education had serious problems with the pronunciation of the most frequent vowel in English, i.e., schwa, /ə/.
- Finally, regarding diphthongs, most students had problems with /əʊ/.

4.3.2. Comparisons among the different levels

As was also expected at the beginning of this project, some sounds posed more difficulties for the lower levels and therefore, these problems seem to have been overcome in the advanced levels of education:

- Concerning consonants, the students in the advanced levels did not show serious problems with (1) /s/; (2) /ʃ/; nor with (3) /j/. Nevertheless, the subjects from secondary and post-obligatory education, tended to make quite a few mistakes with these previous sounds.
- In the case of vowels, the participants from the university degree in English Language and Literature seem to no longer have serious problems with: (1) the distinction between /e/ and /ɜ:/; (2) /ʊ/ versus /u:/; and (3) /ʌ/.[10]
- Regarding diphthongs, not many mistakes were found in the advanced level students recordings with (1) /eə/; (2) /aɪ/; and, (3) /eɪ/.

[8] More precisely RP /r/, the variety taken into consideration here.
[9] Especially in the past participles of regular verbs.
[10] However, the subjects from both third and fifth years of English Philology did make a few mistakes with these vocalic sounds. Therefore, we could say that they have partially overcome major problems with these sounds in comparison to the students in secondary and post-obligatory education.

- Finally, the subjects in the two lower levels of proficiency made a few mistakes with word stress; however, the participants at university level seem to have overcome major difficulties with this suprasegmental feature.

5. Discussion and conclusions

In the following paragraphs we put forward a series of conclusions that can be drawn from the analysis of our data and the results presented in the previous sections. As suggested in the introduction, we shall try to emphasize the pedagogic relevance of our findings for the teaching of pronunciation to Spanish EFL students.

Firstly, as expected, it can be claimed that almost all the mistakes made by the students, irrespective of their level of proficiency, were due to the influence of their L1 (or L1s) on their pronunciation. For instance, they showed problems with some English sounds that do not exist in Spanish or Galician (such as, long vowels and schwa).

As mentioned in the introduction, previous studies carried out to identify the problems Spanish learners of English tend to have with pronunciation, mainly outlined the following features: the so-called short and long vowels, the vowels /ə/ and /ʌ/ and the following consonant pairs: /θ, ð/, /s, z/ and /ʧ, ʒ/. However, this study has demonstrated that certain pronunciation problems are more common in some levels of proficiency than in others. More specifically, the results obtained in this study show that the sounds that teachers should focus on more (due to the fact that subjects from all the levels selected had several problems with these areas) are /r/, final /d, t/, the distinctions between /æ/ versus /ɑ:/, /ɪ/ versus /i:/ and /ɒ/ versus /ɔ:/, schwa and /əʊ/.

Regarding the more advanced participants, i.e., those from either the third or fifth year of the university degree English Philology, although they seem to have overcome some difficulties with certain English sounds (mainly the distinctions between /e/ and /ɜ:/, the diphthongs /aɪ/, /eɪ/, /eə/ and the consonants /s/, /ʃ/), there are still several aspects with which they continue to have problems, namely schwa, /r/, final /d, t/, the diphthong /əʊ/ and the distinctions between /æ, ɑ:/, /ɒ, ɔ:/ and /e, ɜ:/. Therefore, pronunciation should not only be emphasised at lower levels of proficiency but also in English Philology since the latter students are expected to complete their degree with a high knowledge of English at all levels: in grammar, lexis, literature, culture, history. . . including that of a high level of both written and spoken English.

All three general types of errors in Collin and Mees' (2003) taxonomy were shared by all the groups, irrespective of their degree of proficiency: (1) breakdown of intelligibility, (2) irritation or amusement and (3) those that could pass unnoticed. Regarding the specific types of mistakes they made, the most problematic ones throughout the different levels were: (a) the distinctions between long and short vowels (a type 1 mistake), (b) the incorrect pronunciation of /r/ in the standard variety RP (of type 2) and (c) the lack of final consonants[11] (type 3).

Concerning the two types of research materials used for this study, we can conclude that having the written text in front of them in the reading-aloud activity helped the students on some occasions (with items such as, *school, friends* or *people*) since they were possibly familiar with such written forms, facilitating their pronunciation; however, on others, the spelling greatly conditioned them, mainly with more uncommon words (for instance, with *business and largest*, pronouncing them in a similar way to the orthographical form, /bʊ'sɪns/, /'lærgest/). On the other hand, in the oral description task (in which they did not have the written form but rather had to improvise what to say with the aid of simple photographs) when the students did not know how to say a particular item (especially those belonging to the two lowest levels selected), they tended to either switch to their native language (for instance, a subject from first year *Bachillerato* directly said "150 millón" in Spanish, i.e., *ciento cincuenta millón*) or adapt a Spanish/Galician word to a possible English pronunciation (for example, a third year *ESO* student did not know how to say *flooded* and thus, opted for an adaptation of the Spanish adjective *inundado* by saying "inunded." The latter finding is important since it demonstrates that Spanish EFL learners, especially those in obligatory secondary and post-obligatory education, have serious problems not only with English pronunciation, but also with vocabulary. EFL teachers could take advantage of their students' abilities to create "new" English words (by adapting ones from their mother tongues into English, such as the example mentioned above, "inunded") by suggesting a game in which they give their students difficult (and uncommon) words in Spanish/Galician and ask them how they would say that word in English. Although the students will probably fail to say a correct answer, they will still be practising aspects of English pronunciation. For instance, if someone says that the Spanish item *papel para calcar*, could be /ˈkælkɪŋ peɪpə/, "calking paper" in English, they would be practising both pronunciation aspects (the sounds /ɪ, æ, ŋ/, word stress) as well as revising types of word-

[11] Mainly final /d/ and /t/ in past participle *–ed* endings.

formation, in this case some verb to noun conversions.[12] Nevertheless, the teacher should always give the students the right answers afterwards or at least make them investigate and look for the correct items in order to avoid them using the wrong words on more formal occasions.

Perhaps the most important conclusion we can draw form this study would be the following: due to the serious pronunciation problems that Spanish learners (even those with an advanced level of English) have,[13] as mentioned above, it is extremely necessary to emphasize pronunciation in all the levels of education in Spain as well as integrating it as much as possible into speaking and listening activities since, the best way of obtaining an intelligible level of spoken English, is to perceive and produce as much spoken English language as possible. Moreover, EFL teachers in Spain need to become familiar with the main pronunciation problems their specific students have in order to help them overcome such difficulties and be intelligible when interacting with other speakers of English (both native and non-native).

To conclude, we believe that this study has contributed positively to the existing research on the topic mentioned in the introduction, in the sense that it has identified specific pronunciation problems of Spanish learners of different levels of proficiency. Some of these problems, it has been shown, seem to be especially persistent, being found in the spoken production of even the most advanced students. In this sense, it seems clear that these lingering problems would deserve special attention from the early stages of the learning process.

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[12] Such as: from the verb "to trace," we get the noun "tracing paper," or from the verb "to wrap something up," we get the noun "wrapping paper."

[13] According to the results obtained in this study.

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CHAPTER SEVEN

SELECTIVE VARIABILITY IN VERBAL MORPHOLOGY PRODUCTION BY ADOLESCENT JAPANESE LEARNERS OF ENGLISH: TESTING TWO CURRENT APPROACHES[1]

AKIKO MUROYA

1. Introduction

Variability in the production of inflectional morphology is a widely-attested and well-documented area in second language (L2) research. Researchers have reported the apparent failure of most L2 learners to produce inflectional morphology, regardless of differences in first language (L1) background, L2 proficiency level and age. There is a clear consensus that the production of morphology poses problems for L2 learners, but little agreement as to the sources of such variable forms in L2 acquisition. Generative L2 research has provided diverse accounts of morphological variability, focusing on the interfaces between syntactic knowledge and other linguistic (semantic/phonological) components. This article will test the claims of two recent approaches to morphological variability: the Prosodic Transfer Hypothesis (Goad et al. 2003; Goad and White 2006, 2008, a.o.) concerning the interface between syntax and phonology and the Feature Reassembly Hypothesis (Lardiere 2008, 2009),

[1] First of all, I would like to extend my sincerest and deepest gratitude for the patient and consistent supervision Professor Roge Hawkins has offered. Also, I heartily thank Professor Nasukawa for invaluable advice on the prosodic structures of Japanese verbal inflections, as well as anonymous reviewers for helpful comments. Further special thanks go to all of the participants, the teachers, the headmasters and the dean who kindly provided cooperation in my study. All remaining errors and oversights are my own.

which implicates features at the interfaces between syntax and morphology, morphology and phonology, and syntax and semantics.

Both generative accounts assume the absence of deficit in syntactic knowledge and the presence of L1 effects in interlanguage grammars, based on the Full Transfer Full Access Hypothesis (henceforth, the FTFA) (Schwartz and Sprouse 1994, 1996) which claims L1-transferred initial and UG-guided subsequent interlanguage grammars. This suggests that both hypotheses attribute variable morphological performance to other L1-based linguistic components than syntactic competence. The PTH claims that morphological errors result from L1 prosodic representation for inflectional morphology: L2 learners face difficulty in building prosodic representations disallowed in the L1. On the other hand, the FRH proposes that the way that features have been assembled in lexical items in the L1 can be the source of variable realisation: L2 learners have problems reassembling features in different combinations in the target language.

This article aims to probe possible determinants of morphological variability, by examining which of the two current approaches could better account for the selective variability in English verbal morphology produced in two kinds of obligatory contexts: affirmative-with-VP-adverb sentences and single subject *wh*-questions. Written and spoken production data elicited from Japanese adolescent classroom learners show patterns of use which are both similar to and different from those found in previous research involving L2 speakers of English with different L1s, ages and proficiency levels. The findings replicate those of earlier studies in confirming full access to UG, full transfer from L1 grammar and a dissociation between syntax and morphology. On the other hand, the findings characteristic of the present study are inconsistent with the predictions of the PTH, but can be well explained by the claims of the FRH.

The structure of the article is as follows: the next two sections review the claims of the two recent approaches tested. This is followed by the methodology used. The results obtained are presented in detail and are then discussed, focusing on the theoretical implications of the two hypotheses in question.

2. The Prosodic Transfer Hypothesis

Studies that have adopted the PTH have proposed an account for variable production of both tense and agreement inflection and articles, examining L2 English spoken data obtained from speakers with different

L1s.[2] In this section, the focus is on three studies which offer an account of why Mandarin speakers exhibit variability in oral production of L2 verbal inflection (Goad et al. 2003; Goad and White 2006, 2008). Goad et al.'s earliest work proposes that the difficulties L1 Mandarin speakers have with the acquisition of English tense and agreement morphology are attributed, "at least in part" (2003: 244), to the unavailability of L2 prosodic structure in the L1, not to underlying representational deficits in features; Goad et al. suggest in 2006 that learners can ultimately acquire L2 prosodic structures, regardless of being different from the L1. This modifies their 2003 view: L1 prosodic structures "initially" cause difficulties in L2 representations, but interlanguage grammars can incorporate L2 prosodic structures "by combining existing representations from the L1" (2006: 15), such as Mandarin three-syllable words and compounds, as predicted.

The PTH adopts a hierarchical approach to prosodic structures.[3] The hypothesis focuses on how inflections of English and Mandarin are prosodically structured, based on two (potentially violable) constraints from the Strict Layer Hypothesis, which assumes that each prosodic constituent is controlled by an "immediately higher category" (2003: 247).

It is argued that English verbal morphology displays a difference in prosodic structure between regular inflection and irregular inflection. This follows from a restriction on syllable rhymes: English prosodic words (PWds) may consist of a maximum of three segments: VXC, where X is a consonant or a vowel (2003: 580, 2006: 3). Regular inflection is assumed to be PWd-external because it is in the fourth position, as shown in (1).[4] The structure in (1) not only violates the NONRECURSIVITY constraint because a PWd is an immediate constituent of a larger PWd, but also the EXHAUSTIVITY constraint because the right branch of the tree involves a syllable being immediately dominated by a PWd when syllables are normally the immediate constituents of the *foot*.[5]

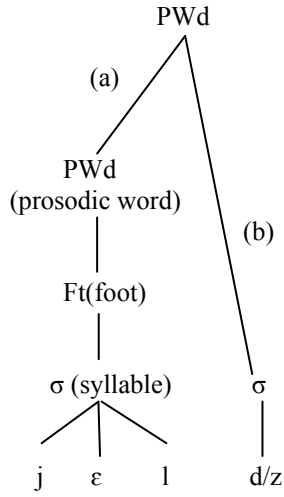
[2] Turkish (Goad and White 2004); French (Goad et al. 2010).

[3] Phonological phrases> Prosodic words> Foot (Feet)> Syllables> Onset/Rhyme> Nucleus/Coda (e.g. Nespor and Vogel 1986; Selkirk 1986).

[4] From Goad, White and Steel (2003: 248).

[5] Two potential violable constraints from the Strict Layer Hypothesis (Selkirk 1996): the NONRECURSIVITY constraint prohibits a prosodic category from immediately dominating a category of the same type; the EXHAUSTIVITY constraints prohibits it from immediately dominating another category that is not adjacent to it.

(1) English regular inflection *–d/s* (PWd-external)



"yelled"/"yells"

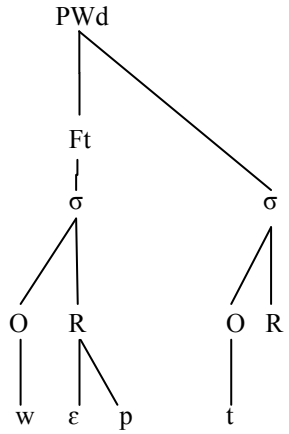
On the other hand, English irregular inflection is assumed to be PWd-internal because it has no fourth position at the right edge, as given in (2):[6] the final consonant in CVVC/CVCC words is syllabified as the onset of an empty-headed syllable (OEHS) (Goad and Kang 2003),[7] which triggers rhyme shortening[8] (2003: 248) in the form of "vowel shortening (e.g. *keep-kept*), obstruent devoicing (e.g. *leave-left*) and [d] deletion (e.g. *build-built*)" (2006: 4).

[6] From Goad et al. (2003: 25).

[7] There are three options for word-final consonant syllabification: coda, onset (1) ON sharing (2) OEHS. English has two options: coda and onset (OEHS): the final consonant in CVC words is syllabified as a coda (Goad and Kang 2003: 122).

[8] "Most languages, including English, do not permit three-position rhymes PWd-internally" (Goad and White 2006: 3).

(2) English irregular inflection



"wept"

In Japanese, verb morphemes share the same verbal root[9] (3).

(3) *taberu* "eat"
tabe –ru (non-past)
–nai (negative)
–ta (past)

According to an established view,[10] the Japanese verbal roots have two kinds of endings (vowel-ending or consonant-ending), on which phonological changes in both verb stems and verb morphemes depend: "the lexicon contains more C-ending stems than V-ending stems" (Nasukawa 2010: 2329). With regular past tense morphology *–ta/da*, which is the counterpart of English past tense verbal morphology, vowel-final verb stems are followed by *–ta* with neither phonological changes in the stems nor the morpheme (4).[11]

[9] The base form of the verb is called a verbal root (Tsujimura 2007) or a verb stem (Nasukawa 2010: 2329).
[10] This is a widely accepted, traditional view proposed and developed by Bloch (1946); McCawley (1968); Ashworth (1976/1977); Maeda (1979); Tabata (1983); Poser (1986); Vance (1987); Ito (1988); Davis and Tsujimura (1991); Tsujimura (1996); Nasukawa (2010: 2329).
[11] From Nasukawa (2010: 2339).

(4) Vowel-final verb stems + past morpheme (*–ta*)

mi	"watch,see"	*mi-ta*
ki	"wear"	*ki-ta*
ne	"sleep"	*ne-ta*
tabe	"eat"	*tabe-ta*
tazune	"ask"	*tazune-ta*

On the other hand, except for final /t/ stems in which the phonemic representation /t/ + /ta/ is phonetically realised as gemination [t:a] (5),[12] consonant-final verb stems exhibit phonological changes in both stems and morphemes (Table 7-1).

(5) Consonant /t/-final verb stems + past morpheme (*–ta*)

kat	"win"	*kat-ta*
mat	"wait"	*mat-ta*
ut	"hit"	*ut-ta*
tat	"stand"	*tat-ta*

	Final consonant in verb stems		Initial consonant in past morpheme		Examples	
					Verb stems	Distribution
1	**/r/**	**→[t]**	**/ta/[t:a]**		/kaer/ "return"	→*kaet-ta* [kaet:a]
2	Bilabial Stops	alveolar nasal				
	/b/	**→/n/ [+voice]**	**/ta/**	**→/da/ [+voice]**	/yob/ "call"	→*yon-da* [yonda]
	/m/				/nom/ "drink"	→*non-da* [nonda]
3	Velar consonants					
	/k/	**→/i/**	**/ta/**		/kak / "write"	→*kai-ta* [kaita]
	/g/[+voice]		**/ta/**	**→/da/ [+voice]**	/tug / "pour"	→*tui-da* [tuida]

Table 7-1: ***Phonological changes in consonant-final verb stems in Japanese***[13]

[12] From Tsujimura (2007: 40).
[13] Based on Tsujimura (2007: 40-42).

The stem-final consonants undergo phonological changes. The past morphemes change when the stem-final consonants have a phonetic feature [+voice]: the [+voice] feature in /n/ and /g/ assimilates into the initial /t/ consonant of the past morpheme, which is a phenomenon of voicing assimilation. In (1), gemination occurs [t:a], while in (2) and (3), voicing assimilation takes place. In (3), phonological changes proceed in the fixed order: 1) voicing assimilation (/g/ to /d/); 2) vowel insertion /i/; 3) stem-final consonant deletion /k/, /g/ (Tsujimura 2007: 48).

According to the PTH, it is suggested that regular inflection is "prosodified outside the PWd of its host" (2008: 580) because the fourth position of the PWd in English is prohibited, while irregular inflection is prosodified within the PWd of the verb stem because irregular inflection is syllabified as the onset of an empty-headed syllable,[14] in which rhyme shortening occurs to prevent *–t* from occupying the banned fourth position: "[v]owel shortening provides strong evidence for the PWd-internal analysis of [t]" (2006: 4). It is also claimed that Mandarin perfective aspect morpheme *le* is PWd-internal because it is monosyllabic, monomoraic, unstressed, neutral-toned, and involves no consonant clusters (2003: 250). In accordance with the PTH analysis, Japanese past morphology is assumed to be PWd-internal[15] because it shares the same representations, such as the verb stem changes, no consonant clusters, monosyllabic and monomoraic, as observed in English irregular infection and the Mandarin aspect morpheme.

3. The Feature Reassembly Hypothesis (FRH) (Lardiere 2008, 2009)

Lardiere has shifted the focus from parameters to features in the investigation into L2 speakers" persistent difficulty in producing morphology: "recent theories of parameter resetting do little to help us account for variability in the production of morphological inflection" (2008: 107). The FRH is framed with the Minimalist Program[16] which assumes that language acquisition involves both cross linguistic and language specific aspects: features are computed by a uniform mechanism

[14] English has two options (coda or OEHS), while "Mandarin allows sonorant codas only" (Goad and White 2006: 11).

[15] Two studies claim that the past morphology *–ta/da* is PWd-internal. Campos-Dintrans (2011) is based on the phenomenon that "the past morpheme is computed in accent assignment" (2011: 56). Umeda and Ichinose's (2011) analysis comes from the phonological changes observed in consonant-final stems.

[16] Chomsky (1995, 1998, 2001, 2005).

which constrains all human languages universally, while the features themselves are selected and assembled into lexical items in a language-specific way. The FRH proposes that a source of L2 morphological variability is attributable to the differences in processes and conditions of feature assembly between L1 and L2 ("the feature-reassembly approach," 2008: 114), not to the failure in "feature selection as parameter setting" (2008: 111) in L2 ("the feature-selection approach," 2008: 114).

Lardiere elaborates how differently related features are assembled between L1 and L2. In the 2008 study, definite articles/plural marking, *wh*-questions/relative clauses and subject raising/case marking were examined, based on the data from Patty (L1 Mandarin/Hokkien Chinese-speaking learner of L2 English), while, in the 2009 study, plural-marking and *wh*-questions were analysed, based on L1 English/Chinese/Korean learners" L2 acquisition of the respective three languages. For realising *wh*-questions, Lardiere points out that three languages investigated in her studies universally select both [*wh*] and [Q] features but differently assemble them (Table 7-2). In Chinese, "the features of interrogative,[17] existential, or universal quantifier" (2008: 126) are assembled into a single lexical item, *wh*-words (e.g. *shenme* "*what*") (based on Huang 1995). In English, both [+*wh*] and [+Q] are assembled into a single lexical item, *wh-words* (*who* [+human]/*what* [-human]). In Korean, [+Q] is assembled into a combination of two lexical items (both *mues* "*thing*" [-human] and verbal morphological particle *–ci*). This suggests that the same features are selected in both L1 and L2, but are assembled differently, and acquiring the new assembly in the L2 is the source of the difficulty for L2 learners (2009: 213). L1 Chinese learners of L2 English have to delink the conflated features and reassemble them into different lexical items (e.g. either *who/wha*t or *anything/everything* respectively), while L1 English learners of L2 Korean have to learn the different way of assembling not only [+Q] but also [-Q] (an additional combination of *mues* and *–ta*).

[17] [-*wh*][+Q].

Lexical items / Features	**Chinese**	**English**	**Korean**
[+*wh*]	*shenme*	*what*	Ø
[-wh][18]		*any/everything*	-
[+Q]	Ø (*ne*)	Ø	*mues* + V-*ci*
[-Q]	-	*that*	*mues* + V-*ta*

Table 7-2: ***Different assembly of the same features [-human] in*** **wh-*questions***

However, both L1 Chinese subject Patty and L1 English learners (Choi and Lardiere 2006) showed successful acquisition of the different process of feature assembly in L2. Lardiere claims that L1-L2 morpholexical correspondence can be detected, based on "semantic meaning or grammatical function" (2009: 191) and the correct combination of features is ultimately acquirable.

4. The study

The goal of the present study is to examine the explanatory power of the two recent hypotheses, by providing evidence from different L1 subjects[19] in different obligatory contexts[20] from the previous studies: the PTH[21] (2003, 2006) studies examined the L2 acquisition of English verbal morphology by Mandarin/Chinese speakers; the FRH[22] ones (2008, 2009) investigated the L2 acquisition of *wh*-questions and plural-marker by L1 English, Chinese and Korean speakers.[23]

[18] "existential, or universal quantifier" (Lardiere 2008: 126).
[19] Japanese learners.
[20] Affirmative with-VP-adverbs and single subject *wh*-question contexts.
[21] Umeda and Ichinose (2011) tested the PTH by investigating the L2 acquisition of Japanese past morphology by L1 Chinese learners.
[22] Domínguez et al. (2011) examined whether the results from L1 English learners in the L2 acquisition of Spanish imperfect marker are consistent with the predictions of the FRH.
[23] See Section 3.

4.1. Participants

Participants were 132 Japanese adolescent learners who had received formal instruction in a classroom setting. Table 7-3 shows the details of the participants. They were divided into four groups, mainly based on their length of exposure to English.[24] In addition, supplementary measures were employed: for junior high school students, (1) school grade was the basis for length of English exposure;[25] (2) a linguistic background questionnaire investigated their English learning experiences outside school before/after entering junior high school. For university students, age[26] and TOEIC[27] score were used to judge length of exposure and level of proficiency respectively. In particular, to ensure the validity of the written data, two steps were taken: (1) participants from all three grades in Japanese junior high schools[28] were tested; (2) a regular difference in length of exposure to English between groups (i.e. 1 year/5 years) and the same number of participants (i.e. 30 students) were arranged.

Junior high school students were chosen because in Japan English teaching started in the 1st grade[29] of junior high schools at the time of the experiment:[30] they were tested to explore gradual development in each of the three early stages of L2 acquisition; particularly in the 1st grade, to examine the initial state closely, both written and spoken data were collected. The linguistic background questionnaire was conducted to rule out participants who had received additional intensive, regular and long-term English exposure in either Japan or English-speaking countries. On

[24] It was impossible to arrange a proficiency test with the equivalent number of participants. This was because only two junior high schools agreed to participate in the study, on condition that the task needed to: (1) take less than 40 minutes (including instructions and the distribution of materials); (2) be a written task; (3) be collected by their teachers in the English class, because of their tightly organised curriculum.

[25] In Japanese junior high schools, the same grade suggests the same number of English class hours.

[26] Unlike junior high school students, university students are not always the same age in the same year, which suggests the presence of students who have received additional English teaching for a year or more to take an entrance exam again.

[27] Test of English for international Communication: a 400 multiple-choice task is expected to answer in 2 hours, designed to measure the ability of listening and reading comprehensions of L2 English learners: the perfect score is 990.

[28] In Japanese junior high schools, the students study for three years.

[29] This is equivalent to the 7th grade in the UK.

[30] Since April 2011, English teaching has been moved forward by two years: from the 5th grade of primary schools in Japan.

the other hand, the 2nd-year university students were selected because they had the same number of English class hours[31] in the same non-English related department, where a compulsory TOEIC course was scheduled in the 2nd year: they were tested to explore how interlanguage grammars in later L2 development has been changed and unchanged, compared with those in early L2 development. The TOEIC score was used to recruit students who had obtained a range of 650-680 at the test conducted just before the experiment.

L2 Data Mode	Number of Participants	Grade/Year		Age (years old)	Length of Exposure
	132			**12-20**	**8 months-7.8years**
Written	30	Junior High School	7th grade	12-13	8 months
Spoken	12				
Written	30		8th grade	13-14	1.8 years
	30		9th grade	14-15	2.8 years
	30	University	2nd year	19-20	7.8 years

Table 7-3: ***Participants***

4.2. Materials

A picture-stimulus task was created for the present study. It was designed so that even initial learners could answer 63 questions in 30 minutes. There were two question types: either making an answer or forming a question. Each question was made of a Japanese question sentence, a bracketed Japanese instruction on which type to answer and a picture and one-to-three English words to help the participants write and speak an answer in English. In addition, 3rd singular personal proper nouns were provided in all question items, to have participants supply both nominative pronominal subjects and subject-verb agreement markers in present tense.[32]

The elicited task has two main aims. First, to compare the written and spoken data obtained in the same task, it was designed to elicit both spoken and written production from the least proficient learners. Second, to examine both morphology and syntax, it was designed to elicit the

[31] In Slabakova's study (2009: 283), the number of class hours of German was employed to set the proficiency level for university students.

[32] The only exception is No.37, in which participants were expected to supply a 3rd person "plural" pronoun "*they*" (in the answer "*they aren't kind*").

production involving 28 grammatical properties in Tense, Complementiser and Determiner categories, which made it possible to compare morphological production and syntactic operation in the same question sentence.[33] In the present study, the production of verbal morphology was compared with verb placement in affirmative-with-VP-adverb sentences and with *wh*-fronting in single subject *wh*-questions. Table 7-4 summarises the 28 grammatical properties investigated by the task: the shaded 6 properties were focused in the present study.

Morphology			**Syntax**			
			Word Order		*Wh*-Questions (single)	
			VP-adverb	Negation	***Subject***	Object
Verbal	Present	***–s***	✔	✔	✔	✔
		Cop. *be*	✔	✔		
		Aux. *be*	✔	✔		
	Past	***–d***	✔	✔	✔	✔
		Irreg.	✔	✔	✔	✔
Nominal	Article	*a*	✔	✔	✔	
		the	✔	✔	✔	
		Ø	✔	✔		
	Plural	*–s*	✔		✔	
		Ø	✔	✔		

Table 7-4: ***Grammatical properties investigated by the task***

In addition, the linguistic background questionnaire was created as a supplementary material to select the participants with as similar exposure to English as possible.[34]

[33] In child spontaneous production data, it might be hard to obtain sufficient cases where adverbs (as in Ionin and Wexler 2002: 114) or negatives (as in Eubank 1993/1994). White (2003: 79) points out that in the L1 French data Eubank analysed, there were no sufficient negative utterances to support the claim of optional verb raising over negation with main verbs.

[34] It was designed to allow participants to finish 12 questions in 5 minutes, due to the time limit set by the junior high schools.

4.3. Procedure

This study concentrated on supporting the validity of production data: procedures were established to make the elicited data from classroom leaners as spontaneous as possible. The most important aim is to prevent participants from drawing on their metalinguistic knowledge. Only brief written instructions before two sample questions made sure two things: (1) they were required to write or speak whatever they first thought of, without worrying about the correctness; (2) they were allowed neither to ask for oral instructions during the task, nor to revise their writing/to repeat their speaking. In addition, to stop their rethinking the previous answers, they were informed of the time at 5-minute intervals during which they were required to answer 10 questions: in the written task, to confirm what they first wrote, they were prohibited from using an eraser. Another aim is to prevent participants from being distracted by English words" meanings and spellings: pilot studies[35] found that it was quite hard and time-consuming for initial classroom leaners to think of the meanings and spellings of English words, which obstructed English production in the very limited time. Japanese translation of 10 English prompt words (12.3% of the total) was given: in the written task, spelling errors and answering in Japanese *Katakana*[36] were not regarded as wrong answers.

In the written task, each teacher of all four groups collected the data during the English class. On the other hand, in the spoken task, the author was allowed to collect the data after school: each of the 12 participants recorded his/her own speaking with a portable recorder, sitting in every other seat, not to record other students" answers. The recorded spoken data were transcribed and analysed by the same scoring rules as the written data.[37]

5. Results

Japanese adolescent classroom learners showed both cross-linguistic and language specific results. Overgeneralisation of copula *be* and successful syntactic operations have already been found in other L2

[35] In 2007, 105 junior high school students answered a different elicited task; in 2010, 4 junior high school students did the same elicited task as that in this study.
[36] In Japanese, "*Katakana*" is used to transcribe foreign words into Japanese (e.g. カインド=*ka-i-n-do*="kind;" バイク=*ba-i-ku*="bike") and to write loan words (e.g. アルバイト=*a-ru-ba-i-to* which is derived from "arbeit"="part-time job").
[37] A different type production (either making an answer or forming a question) was not counted; only the first writing/speaking was scored.

English studies, while morphological production exhibited variability characteristic of the present study.

5.1. *Be* + bareV constructions

In affirmative sentences with-VP-adverbs[38] and single subject *wh*-question[39] contexts, both types of production data showed a common construction involving "copula *be* and non-finite verb:" "*be* + adverb + non-finite verb" (6 a-b) in the former context; "*Wh*-word + *be* + non-finite verb" (7 a-b) and "*Wh*-word + *be* + subject + non-finite verb" (8 a-b)[40] in the latter context.

(6) a. She ***is*** *usually* ***eat*** breakfast at nine. [JH 7th P11][41] Spoken
(No.18 She usually eats breakfast at nine.)[42]
b. Ayako[43] ***is*** *often* ***play*** _ piano last year. [JH 8th P6] Written
(No. 2 She often played the piano last year.)

(7) a. What ***is attack*** _ thief yesterday? [JH 7th P7] Spoken
(No.60 What attacked the thief yesterday?)
b. Who ***is play*** videogame yesterday? [JH 9th P29] Written
(No.46 Who played TV games last night?)

(8) a. What ***is*** he ***disturb***? [JH 7th P5] Spoken
(No.44 What disturbs him?)
b. What ***is*** _thief ***attack*** ? [JH 7th t P8] Written
(No.60 What attacked the thief yesterday?)

Tables (7-5/7-6) summarise the incidence of the construction involving "*be* + bare V" produced by each group in the two obligatory contexts. In both types of production data, subject *wh*-questions demonstrated higher incidence rates than those of affirmative sentences with-VP-adverbs. Comparing written and spoken data, subject *wh*-questions exhibited more

[38] The total number of questions is 8 (No. 2,18,23,30,31,36,58,62)
[39] The total number of question is 12 (No. 4,13,19,24,29,35,38,44,46,49,54,60).
[40] The present study found a strong tendency that Japanese learners convert subject *wh*-questions to object *wh*-questions by placing a nominative, non *wh*-pronominal, human subject.
[41] Junior high school students, the 7th grade, participant No.11.
[42] Question No.18 and the expected answer.
[43] A Japanese female name: the participant failed to replace it with a nominative pronoun.

than twice the incidence rate in spoken data, while affirmative with-VP-adverb sentences showed little difference.

Proficiency Groups		with VP-adverb	Subject *wh*-questions
Junior High School	7th (n=27)	**3.0% (4/133)**	**8.2% (19/233)**
	8th (n=30)	4.7% (9/192)	4.2% (13/313)
	9th (n=30)	0.5% (1/222)	5.9% (20/341)
University	2nd (n=30)	0% (0/233)	2.2% (8/358)
Total		1.7% (13/780)	4.8% (60/1245)

Table 7-5: *Incidence of* "be + *bareV" (%) (Written Data)*

Proficiency Groups		with-VP-adverbs	Subject *wh*-questions
Junior High	7th (n=12)	**2.7% (2/75)**	**19.3% (27/140)**

Table 7-6: *Incidence of* "be + *bareV" (%) (Spoken Data)*

The "*be* + bareV" construction has already been observed in other previous studies of early L2 learners of English, regardless of differences in the rates of incidence, L1 backgrounds, ages and obligatory contexts (Table 7-7)

L2 English Studies	L2 Data Mode / L2 Setting	"*be* + bare V"	L1 background	Age
Ionin and Wexler (2002:111)	Spoken / Spontaneous	25%	Russian	3-13
Yang and Huang (2004)[44]	Written / Classroom	23% (45/191) 9% (164/1821)	Cantonese	-
García Mayo et al. (2005 : 466)	Spoken / Spontaneous	6% (4/62)	Basque/ Spanish	7-15

Table 7-7: "be + *bare V" observed in other L2 English early learners' studies (%)*

[44] Based on the descriptions from Hawkins and Casillas (2008: 598) because it was impossible to obtain the article: 23% in unaccusative verb contexts, 9% in other verbal contexts.

5.2. Verb placement with adverbs and *wh*-fronting

The present study examined two kinds of syntactic movements. First, the placement of main/copula verbs was investigated in affirmative clauses including VP adverbs of frequency (*always*, *often*, *sometimes*, *usually*): main verbs follow the adverbs (9 a), while copula *be* precedes them (9 b).

(9) a. He *often* **ate** cake yesterday. (No.58)
b. He *is* **always** busy at work. (No. 59)

Both written (Table 7-8) and spoken (Table 7-9) production data showed high accuracy rate in verb placement relative to frequency adverbs, although written data outperformed the spoken data in all categories, especially where irregular past forms were involved.

Proficiency Groups		Main Verbs						Copula *be*	
		SAVO						S*be*AC	
		Present		Past				Present	
		3ps *–s*		Regular *–d*		Irregular		*is*	
Junior High School	7th	**n=21**	**90.5**	**n=22**	**95.5**	**n=21**	**85.7**	**n=19**	**89.5**
	8th	n=28	100	n=27	92.6	n=29	96.6	n=29	93.1
	9th	n=30	90	n=30	86.7	n=30	80.0	n=28	75.0
University	2nd	n=30	100	n=29	96.6	n=30	93.3	n=26	84.6
Total		109	95.4	108	92.6	110	89.1	102	85.3

Table 7-8: ***Accuracy of verb placement with adverbs (%) (Written data)***[45]

[45] SAVO = Subject-Adverb-Verb-Object; S*be*AC = Subject-copula *be*-Adverb-Complement; 3ps = 3rd person singular.

Proficiency Groups	Main Verbs SAVO Present 3ps –*s*		Past Regular –*d*		Past Irregular		Copula *be* S*be*AC Present *is*	
Junior High 7th	**n=9**	**85.7 (24/28)**	**n=10**	**92.6 (13/14)**	**n=11**	**61.3 (19/31)**	**n=8**	**75 (12/16)**

Table 7-9: ***Accuracy of verb placement with adverbs (%)*[46] *(Spoken Data)***

Second, the fronting of *wh*-words (*who*, *what*) was explored in single subject *wh*-questions involving 8 standard transitive verbs (10 a) and 4 object Experiencer psych verbs[47] (10 b).

(10) a. **Who** *painted* the picture yesterday? (No. 13)[48]
b. **What** *disturbs* him? (No.44)

Both types of production data showed a 100% target-like accuracy rate in *wh*-word fronting (Table 7-10), regardless of different word orders following *wh*-words.

Proficiency Groups		Written Data		Spoken Data	
Junior High School	7th	n=27	100	n=12	100 (140/140)
	8th	n=30	100		
	9th	n=30	100		
University	2nd	n=30	100		
Total		n=117	100		

Table 7-10: ***Accuracy of* wh-*fronting (%)***

[46] The small total number of incidence is due to: (1) in present 3ps –*s*, the omission of both main verbs and adverbs; (2) in regular past –*d*, the frequent omission of adverbs and the production of different context sentences; (3) in present copula is, the frequent absence of copula.
[47] Object Experiencer verbs express psychological states and have an argument EXPERIENCER in the object position: *excite* (No.38), *disturb* (No.44), *interest* (No.49) for 3ps present tense and *surprise* (No.24) for past tense (only "*disturb*" does not express psychological states).
[48] Question No.13 in this study.

5.3. An asymmetry between two regular inflections: 3ps present *–s* and past *–d*

Both affirmative with-VP-adverb (Table 7-11) and subject *wh*-question (Table 7-12) contexts shared a clear asymmetry between the same two regular inflections *–s* and *–d* in both written and spoken production data. Suppliance is much lower for subject-verb agreement *–s* than for regular past *–d*, regardless of proficiency levels. Particularly in the former context (Table 7-11), the earliest learners in spoken data showed the widest discrepancy in suppliance between the two regular inflections.

Proficiency Groups		Written Data				Spoken Data		
		Present 3ps *–s*		Past Regular *–d*			Present 3ps *–s*	Past Regular *–d*
Junior High School	7th	n=20	10.0	n=24	33.3	n=11	3.6 (1/28)	62.5(10/16)
	8th	n=28	31.0	n=28	50.0			
	9th	n=29	10.3	n=29	44.8			
University	2nd	n=30	33.3	n=28	67.9			
Total		107	22.2	105	49.5			

Table 7-11: ***An asymmetry in suppliance between two regular inflections in obligatory affirmative with-VP-adverb contexts (%)***

Proficiency Groups		Written Data				Spoken Data[49]			
		Present 3ps *–s*		Past Regular *–d*		Present 3ps *–s*		Past Regular *–d*	
Junior High School	7th	n=25	4.0	n=23	13.0	n=12	9.7 (4/41)	n=11	14.3(5/35)
	8th	n=30	13.3	n=29	24.1				
	9th	n=29	10.3	n=28	17.9				
University	2nd	n=30	3.3	n=29	17.2				
Total		114	7.9	109	18.3				

Table 7-12: ***An asymmetry in suppliance between two regular inflections in obligatory single subject* wh-*question contexts (%)***

[49] The small number of incidence in subject *wh*-questions in spoken data was because cases of faulty object *wh*-questions, which were frequently produced in the questions with psych verbs (No.38, 44, 49 in present 3ps *–s*; No.24 in past regular *–d*), were excluded.

5.4. Two contrasting results between regular and irregular inflections

In obligatory affirmative with-VP-adverb contexts, two contrasting results were found between regular and irregular inflections. First, both types of production data showed better performance on regular past *–d* than irregular past forms (Table 7-13), as in obligatory subject *wh*-question contexts (Table 7-14).

Proficiency Groups		Written Data				Spoken Data		
		Past				Past		
		Irregular		Regular *–d*		Irregular		Regular *–d*
Junior High School	7th	n=19	26.3	n=24	33.3	n=11	54.2 (13/24)	62.5 (10/16)
	8th	n=30	20.0	n=28	50.0			
	9th	n=28	28.6	n=29	44.8			
University	2nd	n=30	53.3	n=28	67.9			
Total		107	32.7	105	49.5			

Table 7-13: ***Better performance on regular past –d than irregular past in obligatory affirmative with-VP-adverb contexts (%)***

Proficiency Groups		Written Data				Spoken Data			
		Past				Past			
		Irregular		Regular *–d*		Irregular		Regular *–d*	
Junior High School	7th	n=16	0	n=23	13.0	n=11	9.5 (2/21)	n=11	14.3 (5/35)
	8th	n=27	22.2	n=29	24.1				
	9th	n=26	0	n=28	17.9				
University	2nd	n=30	6.7	n=29	17.2				
Total		99	8.1	109	18.3				

Table 7-14: ***Better performance on regular past –d than irregular past in obligatory single subject wh-question contexts (%)***

However, this was opposite to the results in other representative studies of L2 English: better performance on irregular past forms than regular past *–d* (Table 7-15).

L2 English Studies	Age	L1 background	Past	
	L2 state	No. of participants	Irregular	Regular *–d*
Haznedar 2001	4	Turkish	40.59	25.65
	Initial	1		
Lardiere 1998a, 1998b, 2003	32/41	Chinese	46.08	5.8
	End	1		
Goad et al. 2003	"adult"[50]	Chinese	78.0	57.0
	-	12		

Table 7-15: ***Better performance on irregular past forms in other L2 studies (%) (Spoken data)***

Second, the spoken data revealed better performance on *–s* of a monomorphemic word *always*[51] than regular inflection 3ps *–s* in a question item No.31 "*He always plays baseball after school"* (Table 7-16): the two kinds of *–s* in the same question sentence were produced differently by the earliest learners.

Proficiency Group		Regular *–s* in 3ps present	*–s* in *always*
Junior High 7th	n=12	9.1(1/11)	90.9 (10/11)

Table 7-16: ***Better performance on* –s *of* always *than regular 3ps* –s *in obligatory affirmative with-VP-adverbs contexts (%)***

The two results are contradictory, on the assumption that verbal inflection with the same prosodic structure would be produced similarly.

[50] There is no description to specify subjects' age and L2 state (either initial or end): "their length of residence in Canada ranged from 6 months to 5 years." (2003: 254); "[s]ubjects scored in the high intermediate/low advanced range" (2003: 255).

[51] The PTH assumes that both irregular inflection and monomorphemic words like *always* are PWd-internal in that they have no adjunction.

5.5. Erroneous production

Table 7-17 illustrates both omission and commission errors[52] in the production of English verbal morphology. First, omission rates are in inverse proportion to production rates (except for one case)[53] in the two obligatory contexts:[54] 3ps present *–s* showed the highest omission rate, while regular past *–d* showed the lowest omission rate. Second, in commission errors, each of the verbal morphemes exhibited a clear tendency in both types of contexts. Affirmative with-VP-adverb sentences showed: (1) misuse of regular past *–d* in 3ps *–s* present tense, while that of 3ps *–s* in past tense; (2) overuse of regular past *–d,* followed by misuse of 3ps *–s*[55] in irregular past form contexts. Subject *wh*-questions demonstrated overuse of *do*, across categories of verbal morphology due to a strong tendency of L1 Japanese learners to convert to object *wh*-questions.

Erroneous production		Omission /total errors		Other errors /total commission errors	
Age		13-14	13-20	13-14	13-20
L2 Data mode		Spoken	Written	Spoken	Written
3rd ps *–s*	Adv	92.6(25/27)	94.2(147/156)	100 (2/2)	55.5 (5/9)
				be + bareV, *ing*	**Past regular *–d***
	S*wh*	35.1(13/37)	52.4(76/145)	37.5(9/24)	76.8 (53/69)
				Overuse of *do*	
Past regular *–d*	Adv	66.7(4/6)	64.7(44/68)	100 (2/2)	71.0(17/24)
				be + *bare*V, *ing*	**3ps *–s***
	S*wh*	10 (3/30)	25.6(44/172)	59.3(16/27)	88.3(113/128)
				Overuse of *do*	

[52] Following Paradis's definition (2005: 177), this article called other errors than omission "*commission errors.*"
[53] Past irregular forms in affirmative with-VP-adverb contexts from spoken data.
[54] See Tables 7-11/7-12, 7-13/7-14.
[55] The misuse of 3ps *–s* in irregular past forms: spoken 28.6 % (2/7); written 36.8% (14/38).

Past irregular	Adv	36.4(4/11)	66.4(75/113)	71.4(5/7)	55.3(21/38)
				Overuse of regular *–d*	
	S*wh*	26.3(5/19)	26.1(30/115)	78.6(11/14)	82.4(70/85)
				Overuse of *do*	

Table 7-17: ***Erroneous production in the two obligatory contexts (%)***[56]

5.6. Affirmative with-VP-adverb sentences and subject *wh*-questions

The two obligatory contexts shared a similar sequence of suppliance in English verbal morphology in both types of production data: (1) regular past *–d* > 3ps present *–s*; (2) regular past *–d* > irregular past forms. However, they exhibited another asymmetry in their production rates (Table 7-18).[57] Subject *wh*-questions showed lower rates in suppliance than affirmative with-VP-adverb sentences, except for only one case.[58]

Written Data						Spoken Data					
Present		Past				Present		Past			
3ps *–s*		Regular *–d*		Irregular		3ps *–s*		Regular *–d*		Irregular	
Adv	S*wh*	Adv	S*wh*	Adv	S*wh*	Adv	S*wh*	Adv	S*wh*	Adv	S*wh*
22.4	7.9	52.4	18.3	33.3	8.1	3.6	9.7	62.5	14.3	54.2	9.5

Table 7-18: ***An asymmetry in suppliance rates between two obligatory contexts (%)***

6. Discussion

The two recent hypotheses under discussion are built on the FTFA and attribute inconsistency of morphological production to L1 effects. The PTH proposes that different L1 prosodic structures cause difficulties for learners in realising L2 morphology in speech; the FRH claims that

[56] Adv=affirmative with-VP-adverb sentences; S*wh*=subject *wh*-questions.
[57] See Tables 7-11/7-12, 7-13/7-14 for the detailed production rates in each proficiency group.
[58] The lowest suppliance rate (3.6%): 3ps present *–s* in affirmative with-VP-adverb contexts from spoken data (see Table 7-11).

different L1 feature assembly results in problems with realising verbal inflection. The present study found both cross-linguistic and language-specific effects on the production of verbal morphology: "copula *be* + bareV" constructions and high accuracy in syntactic movement were consistent with full access to UG and full transfer from L1 functional categories; selective variability in morphological production reflects possible L1 effects, which could be accounted for not by the FTFA, but either the PTH or the FRH.

6.1. Full access and full transfer

The cross-linguistic results are consistent with the claims of both full transfer and full access which underlie the PTH and the FRH. First, various sentences involving "*be* + bareV" were observed:[59] "*be* + adverb + non-finite verb" in affirmative with-VP-adverb and "*Wh*-word + *be* + non-finite verb" and "*Wh*-word + *be* + subject + non-finite verb"[60] in subject *wh*-question contexts. This construction is neither the result of L1 transfer nor L2 input (Hawkins and Casillas 2008: 610), which is reflective of a restructuring process constrained by UG in early L2 development. Such an overgeneration of *be* forms has also been observed in other L2 English studies of early learners with different L1 backgrounds and ages,[61] which suggests that universal linguistic principles guide L2 early learners in identifying *be* forms as free all-purpose finiteness markers. This could be possible evidence for UG involvement in the early stages of L2 acquisition. Second, successful syntactic operations were observed:[62] the success in verb placement with adverbs suggests that the feature which determines V-to-T movement is specified [-strong] in a Tense category,[63] while the perfect *wh*-word fronting demonstrates that the feature triggering

[59] See Section 5.1.

[60] It is assumed that "*Wh*-word + *be* + subject + non-finite verb" is the case in which "*be* + non-finite verb" constructions are applied to faulty object *wh*-questions produced in obligatory subject *wh*-question contexts.

[61] See Table 7-7.

[62] See Section 5.2.

[63] In Japanese, the rigid verbal head-final property makes it quite difficult to confirm whether a verb raises or not. The central focus of Japanese verb raising is on whether the verb-tense complex is formed by syntactic verb raising to T or not. Koizumi (2000) and Miyagawa (2001) argue that the verb-tense complex is created by syntactic verb raising, while Fukui and Sakai (2003) and Kishimoto (2005, 2007) propose that it is derived by morphological merger (Marantz 1988; Halle and Marantz 1993) without syntactic verb raising.

wh-movement is specified [+*wh*] in a Complementiser category,[64] The two successful syntactic phenomena could provide clear evidence for full L1 transfer: functional categories with specified features are present in initial L2 grammar. Furthermore, no impairment in syntactic knowledge allows for a dissociation with persistent variability in morphological representation. This was replicated in other L2 English studies with learners from different L1 backgrounds, ages and L2 proficiency (Table 7-19). The highly similar findings obtained in the present study could be accounted for by the FTFA.

L2 English Studies	Age	L1 background	Verb Placement		Present		Past	
	L2 state	Number of participants	with adverbs		3ps *–s*		Regular *–d*	Irregular
			be	Main V				
Ionin and Wexler 2002	3-13	Russian	100 (8/8)	94 (15/16)	22		42	
	Initial	20						
Lardiere 1998b	32/41	Chinese	-	99 (121/122)	1st	4.76 (2/42)	(5.8*)	(46.08*)
	End	1			2nd	0.00 (0/4)		
					3rd	4.54 (1/22)		

Table 7-19: ***Verb placement with adverbs and verbal morphology production (%) (Spoken data)***[65]

6.2. L1 prosodic structure

The four kinds of results characteristic of the present study[66] are inconsistent with the predictions of the PTH. Suppliance of each

[64] Following Watanabe (1992) and Hagstrom (1998, 2004), in Japanese *wh*-questions, [+Q] is on a question particle (Q-particle) "*ka/no"* and [-*wh*] on a *wh*-phrase "*nani/dare."* Only the Q particle moves to the right edge of a sentence to check the Q feature, which allows the absence of overt *wh*-movement to check the *wh*-feature.

[65] *=the results of past tense forms from Lardiere (2003: 184) are added because of the same subject.

[66] See Sections 5.3-5.6.

morpheme would be identical if morphemes shared the same prosodic structure: morphology with the same PWd-external structure would be produced similarly (regular past *–d* vs. 3ps *–s*; plural *–s* vs. 3ps *–s*; regular past *–d* vs. past participle *–d*), while that with a different structure would show a difference in suppliance (regular past *–d* vs. irregular past forms). The results in the two studies on verbal inflection were obtained as predicted:[67] the 2003 work showed that L1 Mandarin speakers performed on PWd-internal irregular verbs better than on PWd-external regular verbs; the 2006 study observed: (1) similar high accuracy between past and perfective inflections; (2) a difference in behaviours of fortis release between regulars and pseudo-inflected irregulars. Both studies claim that the findings provide evidence for an effect of L1 prosodic structures and the acquisition of L2 prosodic representations which distinguish between the absence and presence of adjunction.

However, the findings in the present study are contrary to the predictions and results above. First, a clear asymmetry in the frequency of use was observed between the same regular inflections *–s* and *–d* in both types of obligatory contexts and production data:[68] if variable production of verbal morphology were attributed to the difference in prosodic structure between regular and irregular inflections, no difference in suppliance would exist between the two regular inflections, regardless of the prosodic structure of Japanese verbal inflection. Second, two contrasting results were found: better performance on regular inflection *–d* than irregular past forms;[69] better performance on *–s* of *always* than regular inflection *–s*.[70] If Japanese verbal inflection were PWd-internal, like English irregulars,[71] irregular past forms, as well as monomorphemic words like *always*,[72] would show better performance. Third, a tendency to misuse *–s* /*–d* was observed in affirmative with-VP-adverb contexts in the written task;[73] an obvious distinction in the suppliance rates was shown between affirmative with-VP-adverb sentences and single subject *wh*-

[67] For example, in Mandarin-English interlanguage, better performance on irregular past forms than regular past *–d* is predicted, in that English irregular past forms share the same PWd-internal structure as Mandarin perfective aspect marker *–le*.
[68] See Tables 7-11/7-12.
[69] See Tables 7-13/7-14.
[70] See Table 7-16.
[71] See Section 2.
[72] It is assumed that the adverb *always* has the same prosodic structure as irregular inflections in that monomorphemic words have no adjunction.
[73] See Table 7-17.

questions.[74] If English regulars shared the same PWd-external prosodic structure, neither misuse nor discrepancy would be expected. This suggests that the language-specific results in the present study are not consistent with the PTH: the findings are reflective of other L1 effects than the prosodic structures of verbal inflection.

6.3. L1 feature assembly

The language-specific results could be accounted for by reassembly failures of the relevant features into lexical representations.

6.3.1. An asymmetry between two regular inflections: 3ps present *–s* and past *–d*

The higher accuracy in suppliance of *–d* than regular *–s* and irregular past forms might be derived from the presence of Japanese regular past inflection *–ta/da*. Japanese and English have a similar tense and aspect marking system: past/perfect markers have: (1) one-to-one correspondence (the shaded areas in Table 7-20); (2) phonetic similarities: both are alveolar stops and have similar allophones (example 11, based on Nasukawa 2012).[75]

[74] See Table 7-18.
[75] Materials used in a presentation Nasukawa made in 2012.

			English		Japanese
Tense	Non-past		*-Ø (–s)*		*–ru (-Ø)*
	Past		***–d /t***		***–ta/da***
Aspect (grammatical)	**Perfective**				
	Imperfective	Non-past	*is/are*	+V*ing*	*–tei–ru*
		Past	*Was/were*		*–tei–ta*

Table 7-20: ***Comparison of tense-aspect marking between English and Japanese***

(11) English: ***d→ t, id*** Japanese: ***ta→ da, ita, ida***

Both L2 morpholexical correspondence to L1 and the use of the same consonants/similar allophones could help L2 learners reassemble features into lexical items, according to Lardiere: "L2 learners initially seek the morpholexical equivalents of…already-assembled lexical items…in the L1 in the target language they are acquiring" (2009: 213). This is supported by the highest rates of overused *–d* in irregular past form in affirmative with-VP-adverb sentences in both written and spoken tasks.

6.3.2. Two contrasting results between regular and irregular inflection

Regular 3ps *–s* showed lower suppliance than both regular *–d* and the *–s* of *always*. The lowest suppliance and highest omission rates of 3ps *–s* could be attributed to a failure to reassemble morphosyntactic features into L2 lexical representations. English has a different manner of assembling the three agreement features [-past][3rd person][singular] into a single lexical item *–s*. In English, nouns have morphology to mark a number distinction (singular *a/an* or plural *–s*) and definiteness (definite articles *the* or indefinite articles *a/an*): the number distinction is represented by number agreement and countability. By contrast, Japanese has neither corresponding process nor lexical item: it assembles a feature [-past] into a lexical item *–ru.*[76] In Japanese, nouns have neither obligatory

[76] Japanese has regular present morphology *–ru* (Kubo and Suwa 2007; Kudo 1985).

singular/plural morphology nor article system, which suggests the absence of number agreement and countability: Japanese has neither indefinite markers that corresponds to *a* in English (Yoshida 2009: 426), nor equivalent lexical items to encode "semantically singular." This could cause difficulty in detecting the morphosyntactic feature [+singular].

6.3.3. Erroneous production of *–s*/*–d*

Present 3ps *–s* was misused in past tense,[77] while the regular past *–d* was misused in the present 3ps *–s*. Such a mutual erroneous production was never argued in the studies on the PTH[78] and hardly observed in other study (Hawkins and Casillas 2008: 610).[79] This might be explained by another reassembly failure of semantic features onto morphological representations. English and Japanese have a similar system for tense and aspect marking (the shaded areas in Table 7-21) but have different readings of the tense and grammatical aspect markers due to the influence of the lexical aspect of verbs (Gennari 2001: 83; Sugaya and Shirai 2007: 5).

<table>
<tr><th colspan="3"></th><th colspan="2">English</th><th>Japanese</th></tr>
<tr><td rowspan="2">Tense</td><td colspan="2">Non-past</td><td colspan="2">-Ø (–s)</td><td>–ru (-Ø)</td></tr>
<tr><td colspan="2">Past</td><td colspan="2" rowspan="2">–d /t</td><td rowspan="2">–ta/da</td></tr>
<tr><td rowspan="3">Aspect (grammatical)</td><td colspan="2">Perfective</td></tr>
<tr><td rowspan="2">Imperfective</td><td>Non-past</td><td>is/are</td><td rowspan="2">+Ving</td><td>–tei–ru</td></tr>
<tr><td>Past</td><td>Was/were</td><td>–tei–ta</td></tr>
</table>

Table 7-21: ***Comparison of tense-aspect marking between English and Japanese***

In English, a semantic feature [+habitual] is represented by the [-past] marker *–s* (12 a); another semantic feature [+telic] by [+past] marker

[77] The misuse was observed in both regular and irregular forms. In irregular forms, the misuse of 3ps *–s* came after the overuse of regular *–d*: spoken 28.6 % (2/7); written 36.8% (14/38).
[78] Goad et al. (2003); Goad and White (2006, 2008).
[79] "There is little overgeneralisation of *–ed* and *–s*."

–d/irregular forms, together with articles *a/the* and plural morphology *–s* (12 b/c).

(12) a. He get***s*** up at seven every morning.
[+habitual]

b. She borrow***ed a*** book_.
She ***read*** **a** book_.
[+telic] = [-definite] + [+singular]

c. She borrow***ed*** _books.
She ***read*** _book**s**.
[-telic] = Ø + [plural]

Japanese has a different system to represent the semantic features [+/-habitual] and [+/-telic]. Habituality is encoded by not only [-past] *–ru* but also [+past] *–ta* markers. For telicity, Japanese has neither an object-marking mechanism (13), unlike English (see 12 b/c), nor a verb-marking one, unlike Bulgarian (Slabakova 2008: 145, 149).

(13) Kanojyo-wa hon-o yonda.
Ø Ø = [?]
She-TOP book-ACC read-PAST
"She read _book_."

Instead, adverb/adverbial phrases play an essential role: to represent [+habitual], *maiasa* is used (14a); to distinguish [-past] and [+past], *mukashi* is added (14b).

(14) a. Ø Watashi-wa ***maiasa*** oyog-***u***.
I-TOP every morning swim-PRESENT
b. ***Mukashi*** watashi-wa ***maiasa*** oyoi-***da***.
In the past I-TOP every morning swim-PAST

To make telicity explicit, adverbial phrases including overt numerals are employed, such as frame adverbials (e.g. 5 hun *de*=in 5 minutes), durative adverbials (e.g. 5 hun *kan*=for 5 minutes) (Tanaka, 2007):[80] an

[80] There has been disagreement as to telicity markers in Japanese semantics: for example, Gabriele (2008: 40) claims that goal prepositional phrases (e.g. kuruma-***made***=to the car) are one of components to encode telicity in Japanese.

overt number *30* [number] and a frame adverbial *–de* [definite] both specify cardinality to represent telicity (15).

(15) Kanojyo-wa hon-o ***30*** pun-***de*** yonda.
Ø Ø number + frame=[+telic]
She-TOP book-ACC read-PAST
"She read _book_ in 30 minutes."

Furthermore, adverbial phrases serve to distinguish multiple temporal/aspectual readings of the same marker: *maiasa*, *ashita* in present marker *–(r)u* (16 a/b); *kinoo, moo* in past marker *–da* (17 a/b).

(16) [-past] marker: ik-***u***
a. Yutaro-wa ***maiasa*** gakkoo-e ik-***u***.
(Present reading)
Yutaro-TOP every morning school-to go-PRESENT
"Yutaro goes to school every morning."

b. Yutaro-wa ***ashita*** gakkoo-e ik-***u***.
(Future reading)
Yutaro-TOP tomorrow school-to go-PRESENT
"Yutaro will go to school tomorrow."

(17) [+past] marker: yon-***da*** (from Nakau, 1976: 427).
a. Boku-wa ***kinoo*** ano hon-o yon-***da***.
(Past reading)
I-TOP yesterday that book-ACC read-PAST
"I read that book yesterday."

b. Boku-wa ***moo*** ano hon-o yon-***da***.
(Perfect reading)
I-TOP already that book-ACC read-PERFECT
"I have already read that book."

The significant role of the adverb/adverbial phrases in L1 feature assembly was confirmed by a sharp contrast between consistent use of the adverb/adverbial phrases and inconsistent distribution of verbal morphology *–s*/*–d*:[81] the adverb/adverbial phrases, as prompt words to

[81] Other obligatory contexts showed the similar high production rates of adverb/adverbial phrases, like the two obligatory contexts shown in Table 7-22.

denote the tense, were clearly recognised and correctly produced by L1 Japanese learners across proficiency groups (Table 22); nevertheless, corresponding verbal inflections were either omitted (18a) or misused (18b).

(18) a. She often ***play*** _ piano **last year**. [JH 7th P1] Spoken
b. What ***is surprise*** him **yesterday**? [JH 8th P8] Written

Proficiency Groups		Written Data		Spoken Data	
		VP-adverb	Sub *wh*-Q	VP-adverb	Sub *wh*-Q
		Past		Past	
Junior High School	7th	98.1 (102/104)	99.1(105/106)	98.2 (56/57)	98.6 (68/69)
	8th	97.2 (140/144)	99.3 (148/149)		
	9th	97.9 (141/144)	98.2 (168/171)		
University	2nd	97.3 (146/150)	97.8 (174/178)		

Table 7-22: ***Suppliance of adverb/adverbial phrases in the two obligatory contexts (%)***[82]

It is suggested that the different L1 feature-assembly could cause variability in morphological production in L2 acquisition.

6.3.4. Affirmative with-VP-adverb sentences and subject *wh*-questions

Suppliance of verbal morphology was much lower in subject *wh*-questions than in affirmative with-VP-adverb sentences in both types of production data, regardless of the kind of verbal inflection (see Table 7-18).[83] Such an asymmetry could be also caused by a reassembly failure in the L2. In English subject *wh*-questions, both [+*wh*] and [+/- past] features

[82] Affirmative with-VP-adverb sentences: No.2, 23, 30, 36, 58 (*last year*); subject *wh*-questions: No.13, 24, 60 (*yesterday*), No.19 (*last week*), No.46, 54 (*last night*). There is no adverb/adverbial phrases for 3ps-present tense in these two contexts, although other obligatory contexts (e.g. affirmative, negative sentences and object *wh*-questions) involve them (e.g. "*every day/every morning/every night*"). In spoken data, the total number of incidence in production rates of adverb/adverbial phrases is more than that in suppliance rates of each verbal inflection: because it includes all answers that can be scored (e.g. all affirmative sentences in affirmative with-VP-adverb contexts and all *wh*-questions in subject *wh*-question contexts).

[83] With an exception: the lowest suppliance rate of 3ps *–s* in affirmative with-VP-adverb contexts of the spoken data (see Table 7-18).

are assembled into a single *wh*-pronoun which is a nominative subject. Radford (2009) accounts for a contrast between subject and object *wh*-questions, in relation to two features. In object *wh*-questions (e.g. *Who does she like?*),[84] the edge feature on C attracts *wh*-words into a Spec C position (*wh*-movement), while the tense feature requires a tensed affix to move T to C (T-to-C movement). In addition, the moved tensed affix on C, which is unable to find a verbal host,[85] is spelled out as an inflected form of *do* (DO-support).[86] On the other hand, in subject *wh*-questions (e.g. *Who likes her?*),[87] both of the two features "jointly attract" (Radford 2009: 220) nominative *wh*-pronouns into Spec C.[88] Due to the absent T-to-C movement, a tense affix remains in T, which enables the affix to be lowered onto the head V of VP (Affix hopping).[89] By contrast, Japanese subject *wh*-questions, regardless of which kinds of *wh*-question (19 a/b), have no corresponding process of assembling the two features into a single nominative *wh*-pronoun. Instead, [-*wh*] and [+Q] features are assembled into the two respective lexical items: a *wh*-phrase without fronting and a clause-final question particle "*ka/ no.*"

(19) a. Kanojyo-wa dare-o suki-des-u ka.[90]
She-TOP who-ACC like-polite-PRESENT Q
"Who does she like?" (No.1)

b. Kanojyo-o dare-ga suki-des-u ka.
her-ACC who-NOM like-polite-PRESENT Q
"Who likes her?" (No.29)

The difference in feature assembly between English and Japanese could be reflected by a remarkable phenomenon: all proficiency groups consistently converted subject *wh*-questions into object *wh*-questions,

[84] No.1.
[85] The moved tensed affix on C is stranded because "the complement of C is not VP headed by an overt verb," "but TP headed by a null T" (Radford 2009: 170-171).
[86] Radford (2009: 168) mentions that *do*-support is "no DO-insertion operation" but "the spellout of a stranded affix."
[87] No.29.
[88] This follows Pesetsky and Torrego's (2001) analysis.
[89] There are two ways of an Affix Attachment in PF operation, if an undeleted weak affix is not attached to an overt verb: either Affix Hopping or DO-support (Radford 2009: 168).
[90] *ka* is used "in formal style and in all indirect questions." (Miyagawa 2001: 311).

while they never showed the opposite trend of switching from object to subject *wh*-questions. This suggests that L1 Japanese classroom learners exhibited a strong tendency to produce two lexical items to assemble two features respectively: (1) another non-*wh*-pronominal subject to assign nominative case; (2) auxiliary *do* forms (some cases of *be* forms)[91] to mark tense [+/-past].

7. Conclusion

The main aim of this article was to assess two recent generative approaches to explaining variability in the production of morphological forms by L2 speakers. First, the cross-linguistic results, showing highly similar findings to other L2 English studies, are consistent with the FTFA: "*be* + bare V" constructions could provide possible evidence that interlanguage grammars undergo UG-controlled restructuring. The successful performance of the participants studied on syntactic phenomena suggests that functional categories with specified features are fully L1-transferred. Second, the language-specific results, the findings characteristic of L1 Japanese adolescent classroom learners, are consistent not with the PTH, but with the FRH. Selective variability in L2 English verbal morphological production could be attributed not to L1 prosodic structures of verbal inflections, but to L1 processes and environments of feature assembly. To further explore the source of persistent difficulty in L2 morphological representation, future work needs to examine the L2 acquisition of English nominal inflections by Japanese learners whose L1 allows neither articles nor obligatory plural morphology.

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[91] See Section 5.1.

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CHAPTER EIGHT

THE EFFECTS OF ELICITATION ON STUDENTS' ACCURATE PRODUCTION OF ENGLISH PAST TENSE FORMS IN COMMUNICATIVE STORY-TELLING TASKS

HANNE ROOTHOOFT

1. Introduction

Since Lyster and Ranta (1997) published their influential study on the different types of oral feedback used by teachers in French immersion classrooms in Canada and their immediate effects on students' oral performance, a considerable amount of studies have been carried out in order to determine which of these types of corrective feedback (CF) is the most effective at eliciting uptake and repair and at promoting acquisition of certain grammatical structures. Some examples of these studies include: Ammar and Spada's (2006) study on the effects of CF on the acquisition of third-person possessive determiners (*his* and *her*), Sheen's (2007) study on the effects of CF on the acquisition of English articles and Ellis (2007), who investigated the effects of CF on the acquisition of past tense *–ed* and comparative *–er*. Corrective feedback can be defined as "any feedback provided to a learner, from any source, that contains evidence of learner error of language form" (Russell and Spada 2006: 134). The terms of "uptake" and "repair" were first used in relation to CF by Lyster and Ranta and refer to "a student's utterance that immediately follows the teacher's feedback and that constitutes a reaction in some way to the teacher's intention to draw attention to some aspect of the student's initial utterance" and "the correct reformulation of an error as uttered in a single student turn," respectively (Lyster and Ranta 1997: 49). These authors found that recasts did not usually lead to uptake or repair, whereas

elicitation was the most successful at eliciting uptake and also rather good at eliciting repair, together with metalinguistic feedback.

Regarding the research on the effects of CF on grammar acquisition, a lot of attention has been given to recasts, the type that appears to be the most frequently used by teachers in different contexts (Sheen 2004). A recast is defined as "the teacher's reformulation of all or part of the student's utterance, minus the error" (Lyster and Ranta 1997: 46). Although they seem to be popular with teachers, the results regarding their effectiveness are mixed (see Russell 2009, pp. 23-25 for a discussion). A problem often associated with this type of feedback is that students do not notice it or do not understand it as corrective feedback, because teachers also tend to repeat correct utterances (Lyster 1998a). On the other hand, there have been a number of studies comparing recasts, seen as implicit CF to more explicit forms of CF, such as explicit correction, metalinguistic feedback and other "prompts," in which the teacher does not provide the correct form but pushes the students to correct their own errors. Several studies comparing recasts to prompts have found larger effects for prompts on the acquisition of grammatical items. Even though two meta-analyses by Russell and Spada (2006) and Lyster and Saito (2010) seem to agree on the positive effects CF can have on grammar acquisition, they both made a call for more research comparing individual CF-types. Several researchers have compared recasts to a group of prompts, but as Yang and Lyster (2010) state, further research is needed into the differential effects of different prompts that would compare individual prompts to one another.

Since Lyster and Ranta (1997) found that elicitation was the most successful type at eliciting uptake and one of the most successful ones at eliciting repair, it is surprising that this type of CF has hardly received any attention in CF-research. Before we continue, we need to deal with the difference in terminology that exists in various CF-studies. While researchers such as Nassaji (2007, 2009) and Ammar (2003) use the term *elicitation* to refer to techniques in which teachers try to push learners towards correcting themselves, without providing the correct form, we use it in its narrow sense, as only one type of "prompt" or "output-pushing CF," defined by Lyster and Ranta (1997: 48) as follows:

> *Elicitation* refers to at least three techniques that teachers use to directly elicit the correct form from the student. First, teachers elicit completion of their own utterance by strategically pausing to allow students to "fill in the blank" as it were. . . .Second, teachers use questions to elicit correct forms (e.g. "How do we say *X* in French?"). . . .Third, teachers occasionally ask students to reformulate their utterance.

In a small-scale experimental study looking at the effects of elicitation on students' accurate production of past tense forms in story-telling tasks, we found some indications that elicitation could be a good technique for eliciting uptake and repair of past tense errors, as well as for focusing students' attention on the accurate production of past tense forms while they are engaged in communicative speaking tasks. Moreover, the communicative focus of the lesson did not appear to be threatened in any way and the interruptions provided by the teacher when eliciting corrections did not hinder the students in the performance of the task, as became evident from the treatment sessions themselves and from the students' evaluation of the tasks in an exit-questionnaire. Therefore, criticism of corrective feedback which states that "correction. . .interrupts classroom activities [and] disturb[s] the ongoing communication process" (Truscott 1999: 442) does not appear to be corroborated by our study, as we will discuss in more detail further in this paper.

2. Literature review

As mentioned in the introduction, Lyster and Ranta (1997: 46-48) identified 6 different types of oral feedback provided by 4 different teachers in French immersion classrooms in Canada after their students made a spoken error. Here is an overview of these types and their definition:

> (1) *Explicit correction*: "the explicit provision of the correct form" where the teacher "clearly indicates that what the student ha[s] said [is] incorrect (e.g. "Oh you mean," "You should say")."
>
> (2) *Recasts*: "the teacher's reformulation of all or part of the student's utterance, minus the error."
>
> (3) *Clarification requests*: "indicate to students either that their utterance has been misunderstood by the teacher or that the utterance is ill-formed in some way."
>
> (4) *Metalinguistic feedback*: "comments, information or questions related to the well-formedness of the students' utterance, without explicitly providing the correct form."
>
> (5) *Elicitation*: see introduction.

> (6) *Repetition*: "the teacher's repetition, in isolation, of the student's erroneous utterance" (usually with adjusted intonation)."

Research on CF has often classified CF-types according to how explicit or implicit they are. For instance, Ellis et al. (2006) studied the effects of implicit feedback versus explicit feedback on the acquisition of the past tense, comparing recasts to metalinguistic feedback. On the other hand, Yang and Lyster (2010) suggested making a distinction between feedback-types that provide the correct answer, such as recasts and explicit correction, and output-pushing feedback or prompts, in which students are prompted to correct their own errors. In the present paper we decided to follow Yang and Lyster's (2010) classification and therefore we see elicitation as a kind of prompt. Because the student is pushed to retrieve the correct form himself, Yang and Lyster (2010) posited that prompts would be more effective than recasts or explicit correction. On the other hand, researchers found positive effects for recasts on grammar acquisition, for instance, Doughty and Varela (1998) and Han (2002).

Regardless of which type of CF teachers should use, there are researchers who believe teachers should not provide any CF on their students' spoken errors at all. For instance, Krashen (1982: 119) posits that error correction can only have some effect under conditions in which students have sufficient time to consciously "monitor" their production, which is not the case in oral communication. A more recent case against what he calls "oral grammar correction" was made by Truscott (1999), who states that error-correction is inconsistent, that it interrupts communication and can discourage students from communicating freely and, moreover, that it can harm students because it can produce "embarrassment, anger, inhibition, feelings of inferiority, and a generally negative attitude toward the class (and possibly toward the language itself)" (Truscott 1999: 441). However, both Krashen (1982) and Truscott (1999) support their claims with very little empirical evidence.

A vast number of studies have shown positive and durable effects for CF on L2 grammar acquisition, as stated in Russell and Spada's (2006) meta-analysis of 31 CF-studies. Lyster and Saito's (2010) meta-analysis of 15 oral feedback studies confirmed these findings. As to CF on the past tense, which is the focus of the present study, several researchers found that CF can promote the acquisition of this structure, which, although it is taught early on in the curriculum, keeps posing students problems when they have to produce it, especially in oral communication, even in advanced levels. The reason why we chose to focus on this grammatical

structure will be further explained in the next section. Among these studies which also focus on the past tense, we can cite Doughty and Varela (1998), who found positive effects for corrective recasts on the acquisition of the past tense and Han (2002), who also found that recasts can promote tense consistency. Another study is that by Takashima and Ellis (1999), who compared two types of clarification requests and their effects on the acquisition of the regular and irregular past tense. Ellis et al. (2006) compared recasts to metalinguistic feedback, finding greater effects for the more explicit type of feedback on the acquisition of the regular past tense. Yang and Lyster (2010) compared the effects of recasts and *prompts* (of which elicitation is a sub-type) on the acquisition of both regular and irregular past tense forms. They were interested in possible differential effects of feedback-types on different types of grammatical structures. While the regular past tense is based on a rule (infinitive + *–ed*), the irregular past tense is exemplar based, which means each form is stored as a vocabulary item in our memories and can be retrieved as such, without having to apply any rule to it. As Housen (2002) puts it, irregular verbs are "stored as one specific form-meaning unit in lexical memory." The authors found that both types of CF had positive effects on the acquisition of the past tense. They also found that *prompts* had a greater effect for the regular past tense, whereas they did not find any difference for the irregular one. They indicate that further research is needed into the difference between various kinds of *prompts* on the one hand, and *recasts* on the other hand.

For this reason and the reasons given in the introduction, we have decided to investigate the effects of one "prompt" in more detail, i.e. elicitation.

3. The focus of the present study: The English past simple tense

The past tense was chosen because it is a structure which is introduced very early in the curriculum, usually at elementary level, but it is not acquired without problems.

According to Doughty and Varela (1998), the past tense is a problematic area for learners. Morpheme studies such as Dulay and Burt (1974) show that the regular past tense *–ed* is acquired after such morphemes as articles, progressive *–ing* and plural *–s* but before such morphemes as long plural *–es* and third person *–s*. In Dulay and Burt (1974) and Larsen-Freeman (1975) the irregular past comes after the regular past in order of acquisition, although other studies (Hakuta 1976;

Rosansky 1976) place the irregular past before the regular past. Either way, both irregular and regular past forms seem to be acquired quite late compared to other morphemes. In Dulay and Burt (1974) the regular and irregular past are ranked 6th and 7th out of 10 morphemes. Based on an analysis of empirical morpheme studies, Krashen (1982: 13) proposes an average order of acquisition in which the irregular past tense comes right before the regular past tense, which is among the last morphemes to be acquired together with third person *–s* and possessive *–s*.

Moreover, learners do not seem to acquire the past tense form for all verbs at the same time. Bardovi-Harlig and Reynolds (1995) have shown that verbs referring to past events (e.g. *arrive*) are marked first, before activity verbs (e.g. *sleep*) and state verbs (e.g. *want*).

We can thus expect learners to make errors regarding this structure. As stated by Ellis et al. (2006: 251), "the typical error made by learners is the use of the simple or present form of the verb in place of V–*ed*: *Yesterday I *visit* my sister." In case of the irregular past tense, learners often overgeneralise the *–ed* ending, e.g.*I falled. (Takashima and Ellis 1999: 176).

3.1. Aims of the study

The study presented here aims to contribute to the growing body of research on the effects of oral corrective feedback on students' accurate production and acquisition of grammatical structures. As explained above, we believe it is necessary to study the effects of elicitation in isolation, as this CF-type was found to be very effective at eliciting uptake and repair (Lyster and Ranta 1997), but its effects on acquisition have not been studied separately or in comparison to other prompts (Yang and Lyster 2010). In future research, we hope to be able to compare elicitation to metalinguistic feedback, to determine if different types of prompts affect the acquisition of the past tense in different ways. There are two main research questions underlying our study:

1. How successful is elicitation at eliciting uptake and repair from students when this CF-type is aimed at the English past tense and are there any differences between the regular and irregular past tense?
2. Does elicitation influence students' acquisition of the regular and irregular English past tense?

Elicitation in our study is operationalised according to Lyster and Ranta's (1997) definition, given in the introduction. However, of the three ways in which teachers try to elicit the correct form from their students, only the first one was used in this study to elicit the correct past tense forms. This is because the other ways described in the definition, such as "How do we say *X* in French?" are better suited to elicit vocabulary. Indeed, Lyster (1998b) found that prompts such as elicitation were mostly used for vocabulary errors. As we are concerned with grammar errors, we only elicited the correct form from the student in the following way: "teachers elicit completion of their own utterance by strategically pausing to allow students to *fill in the blank*." The following example taken from our study shows how the teacher-researcher tried to elicit a correction from a student after she made a past-tense error:

(1) Student: erm The next day the miller bring the daughter
Teacher: the miller…?
Student: brought

3.2. Method

3.2.1. Participants

The participants were 9 adult students of English who were all enrolled on the same intermediate conversation course at the Language Institute of the University of Navarre in Spain. They met once a week for one hour and a half. Most of them were also enrolled on a general English course at the Institute, where they studied grammar and vocabulary as well as the four skills, 3 hours a week. There was no specific programme or evaluation attached to the conversation course. Some examples of activities the teacher normally did with them are: reading and discussing an article, communicative activities such as "find the differences between two pictures" and some vocabulary revision (e.g. crossword puzzle). All students were L1 speakers of Spanish. 7 of them had the Spanish nationality, but there was also 1 Argentinean and 1 Mexican student. There were 5 women and 4 men and they were between 22 and 53 years old (mean age: 39). As Table 8-2 shows, their history of learning English and their contact with English varies, but the differences are rather small. Unfortunately only 4 students attended all the 4 sessions. Another 2 students attended the first 3 sessions and the other 3 attended only 2 different sessions. As the total number of students who participated was really small, and the number of students who attended all the sessions was

even smaller, we do not intend to make generalisations based on our results. We believe, however, that our study can be a first step towards a larger-scale investigation into the effects of elicitation on accurate oral production.

Student	Attendance	Male/Female	Age	Occupation	Other languages
JM	All sessions	Male	28	postgraduate student	Italian
MD	All sessions	Female	47	in charge of laundry	no
G	All sessions	Male	49	lecturer	no
MJ	All sessions	Female	48	teacher	French, Catalan
MA	First 3 sessions	Male	31	PhD student	French, German
MG	First 3 sessions	Female	22	postgraduate student	German
A	First 2 sessions	Female	39	secretary	Basque
CG	Last 2 sessions	Female	32	doctor	French
FJ	Last 2 sessions	Male	53	engineer	French

Table 8-1: ***Participants' biodata***

Student	Years of learning English	Time spent in English-speaking country	Contact with English
JM	Started at age 10 until age 18	No	Every day (watching films, internet). Once a week (reading papers, meetings, writing e-mails)
MD	Secondary school, plus 3 years at Language Institute	No	Sometimes watching films and reading books
G	10 (primary school, academy, 4 years at Institute)	No	Sometimes watching films, twice a week writing e-mails and reading papers

MJ	1 year	No	Not outside class
MA	10 years, secondary school	No	Every day, films, magazines, newspapers. Every day, mails, scientific articles, internet, books, conferences
MG	5 years, secondary school	1 month, 10 years ago	Once a week, watching films, reading magazines. Once a week, reading scientific journals
A	About 20 years, in an academy and at school	15 days in London, 10 years ago	Twice a month, writing e-mails and sometimes answering the phone
CG	10, secondary school and academy	No	Sometimes watching films. Every day reading and writing scientific articles, writing e-mails
FJ	15, academies and Institute	1 month, 25 years ago	Once a month writing e-mails and conversations

Table 8-2: ***Participants' history of learning English and contact with the language***

3.2.2. Procedure and materials

The study was organised in 4 sessions of about 1 hour and 15 minutes, spread over 4 consecutive weeks. It was carried out by the teacher-researcher, who was not the students' regular teacher. In the first week the students were administered a pre-test, consisting of a student background questionnaire, a grammaticality judgment test, a pronunciation test and two story-telling tests. In the second week the students carried out two treatment tasks: talking for one minute about a topic and telling a personal anecdote. In the third week there was a second treatment session, in which the students told fairy tales in groups. In the final week the students had to complete a post-test, similar to the pre-test apart from two additional questionnaires. One of these asked students what they thought they had learned in the four sessions and the other one consisted of 14 statements related to speaking and CF which students were asked to rate according to a 4-point Likert scale. For the purposes of the present paper, only the results of the first questionnaire will be discussed.

3.2.2.1. The grammaticality judgment test

This test contained four practice sentences which were done as a group in order to explain the test. These sentences did not contain the target item, i.e. the past simple tense. The students had to decide if a given sentence was correct or incorrect. If they thought it was incorrect they had to provide a correction, so that we could establish whether they knew the rule for the regular verbs or the correct form for irregular verbs. Because Schütze (1996) advices to give students the same amount of work to do whether the sentence is correct or not, we asked them to indicate whether they had used a rule or feel when they rated a sentence as correct. They were told to indicate whether they thought the sentence was correct because they knew the grammar rule, or because they simply felt it was correct, without knowing why. After the trial sentences, the students were given 15 minutes to judge a total of 35 sentences, 18 incorrect ones and 17 correct ones. We did this in accordance with Schütze's (1996) advice to keep the number of correct and incorrect sentences roughly equal. Also following Schütze (1996), we included a number of distractor items on other grammar points such as comparatives, present tense and *there is/are*. Twenty of our sentences were of this kind, which means that we had 15 sentences containing the target item. These 15 sentences contained 6 incorrect irregular verbs versus 2 correct ones and 4 incorrect regular verbs versus 3 correct ones. We chose to include more incorrect ones because the corrections would show us if the students really knew the forms, especially in case of the irregular past tense. We chose irregular verbs that are quite frequent: *come*, *tell*, *say*, *get*, *see*, *take*, *hear* and *run*. To avoid possible order effects, each participant received the sentences in a slightly different order. For the post-test, we used the same verbs and the same distribution of correct and incorrect sentences, but we changed the lexical content of the sentences. For example, in the pre-test students were given the sentence *When I come home yesterday, all my friends were there*; versus the following one in the post-test: *It was 3 o'clock in the morning when she finally come home.*

3.2.2.2. The pronunciation test

This test was included because a pilot study indicated that it is sometimes hard to judge whether students' regular past tense errors are due to grammar problems or to mispronunciation of the *–ed* ending. One of the students in this pilot study, for instance, was aware he needed to put the verb in the past tense but did not know that he needed to pronounce the *–ed* ending in the case of verbs ending in a *–t* or *–d* (e.g. "shouted"). Another problem faced by our students, whose first language is Spanish, is

the pronunciation of certain consonant clusters, such as in the sentence "John kissed Pamela." For the purposes of the present paper, however, we will not go into detail about this part of the test, as problems with student attendance did not allow us to compare pre-test and post-test results.

3.2.2.3. The story-telling test

In this part of the test, the students had to tell two stories, recording themselves with the free software "Audacity." They were given two different picture stories that did not contain any words, apart from the title and the instructions. To make sure they used the past tense, the first sentence was printed above the pictures. For example: "start your story with *One night Tommy couldn't sleep*." They were also instructed to use at least one sentence per picture because we thought some students might tell the story very briefly. They were given 5 minutes to think about the story and to ask the teacher for help with vocabulary. The picture stories in the post-test were different from the ones in the pre-test, to avoid practice effects. Their difficulty was judged similar, as they were all taken from the same two EFL books aimed at primary school children. The first 2 stories were called "The Birthday Party" and "Haunted House." The 2 stories from the post-test were "The Banana" and "Chicken Soup." "The Birthday Party" and "The Banana" were taken from *Do and Understand. 50 action stories for young learners* by Günter Gerngross and Herbert Puchta (Longman 1996). "Haunted House" and "Chicken Soup" were taken from *Surprise Activity Book* (3 and 5 respectively) by Sue Mohamed (Oxford). Although these stories were originally aimed at children, their simple structure and limited range of vocabulary made them suitable for the intermediate adult students in this study.

3.2.2.4. Post-test questionnaires

After carrying out the written and oral post-tests, the students were given two separate questionnaires. The first one was adapted from Yang and Lyster (2010) and its aim was to find out whether the students were aware of the aim of the experiment. It contained one multiple-choice question, asking them what they thought the tests and exercises had been about (grammar, speaking, listening or vocabulary) and one open question asking them what they had learned from the sessions. They then received the second questionnaire, which consisted of 14 statements they had to rate on a scale from 1 to 4 (strongly agree, agree, disagree, strongly disagree). The aim of this questionnaire was to obtain more information about students' attitudes towards speaking (e.g. do they focus on accuracy or

fluency when speaking) and towards corrective feedback (e.g. do they want to be corrected when they speak).

3.2.2.5. The treatment

The first treatment session focused on telling short personal anecdotes. For the first part of the session, the students were divided into two groups and they received a number of cards containing topics. They were told that in their group one person would have to talk about a topic for one minute, without using Spanish or long pauses. If they managed to do this, they would get a point for their team. They had 20 seconds to look at their topic and think about what to say. The topics all referred to past tense situations, for instance "my first job" or "last weekend," but the students were never told that the focus of the study was the past tense. We finished the activity when each student had told a one-minute anecdote twice. Then the teacher introduced the second activity by telling an anecdote about something funny that happened to her in the last holiday. The students had to decide if it was true or false. They were then each given a topic to prepare an anecdote of their own. They were given about seven minutes to prepare, but the teacher told them they could not use any notes, to prevent them from simply reading aloud what they had written. The second treatment session was more controlled, as it consisted of telling fairy tales. For the two activities in this session the students were divided into two groups. For the first task, each group was first given a written version of a different fairytale ("Rumpelstiltskin" and "Rapunzel;" adapted from www.kids-pages.com). They were given some time to read it and to discuss any problems with understanding. They were then told each person in their group would have to tell one part of the fairy tale, so they had to decide who was going to tell each part. They had about 15 minutes to read the story and prepare themselves for the activity. Then the texts were taken away and they received pictures of the story, together with some keywords, such as the most important nouns and some sentences in direct speech, for instance: *When older, tower without door or stairs, only one window; Every day, witch: "Rapunzel, let down your long hair."*

We did not give the students any verbs, because we did not want them to focus too much on the past tense. While one group told the story, the other group was given a set of pictures which they had to put in the right order. This was to ensure the communicative focus of the task, since it was important for the listeners to pay attention and for the speakers to tell the story in the clearest possible way. For the second part of the activity, both groups were told they would both get the same fairy tale ("Puss in Boots," adapted from www.kids-pages.com), but there would be 5 differences

between the two stories, so they had to try to remember the details. Apart from this, the procedure was the same as in the first activity, which means they first received the text and then the pictures with keywords. Unfortunately there was not enough time for both groups to tell this fairy tale.

4. Results and discussion

4.1. Research question 1: Uptake and repair

Although this study was initially thought of as a quantitative study about the effects of elicitation on L2 grammar acquisition, practical problems and issues with the design make it difficult to answer this question. First of all, only four students attended all the sessions, a total of four and only three of those completed both grammaticality judgment tests. This makes it impossible to draw any far-reaching conclusions from our data about the effects of CF on acquisition. Secondly, when we compared the accurate production of past tense forms on the pre-test and post-test for these four students, three of them did worse on the post-test than on the pre-test. Several explanations can be given for this. One could be that the post-test stories were more difficult than the pre-test ones. As mentioned in the methodology section, we decided to choose different stories to avoid practice effects. However, if we had taken the same stories, the results might have been easier to compare. Another possibility is the amount of time that elapsed between the treatment sessions and the post-test, as there was one week between the second treatment and the post-test. More treatment sessions, over a longer period of time, would of course also have been desirable.

Notwithstanding these limitations, we believe a number of positive conclusions can be drawn from this study, especially when we focus on the treatment sessions. In these sessions we noted high rates of uptake and repair after elicitation.

Before we have a closer look at the issue of uptake and repair, let us first briefly discuss the results of the grammaticality judgment tests. As mentioned before, we cannot discuss the evolution between the pre-test and post-test, but the results indicate that almost all of our students, who were at the intermediate level, had considerable explicit knowledge of the English past tense. This is important because elicitation is an output-pushing type of CF, which means that for students to be able to self-correct their errors they need to have learned the rule. This condition seems to be satisfied in the case of the regular past tense. Table 8-3 shows

this in more detail: six students completed the first grammaticality judgment test, before the treatment sessions. Two students only attended the second treatment session and the post-test session. If we look at Table 8-3, we see that four of them assessed correctly all seven sentences containing the regular past tense. Three of them made one or two mistakes with the regular verbs and only one of them got less than half (3/7) correct. As the regular past tense is rule-based and most students appeared to know the rule, most errors in their oral production were probably due to the restrictions of online communication, which can make it hard for students to focus their attention both on accuracy and on fluency (Skehan 1998). As to the irregular past tense, which is not based on a rule but needs to be learned item per item, the scores on the grammaticality judgment tests were somewhat lower. None of the students got all of the irregular verbs correct, although only two students got less than half correct.

Student	Pre-test	Post-test
JM	12/15 (80%) (regular 7/7, irregular 5/8)	12/15 (80%) (regular 6/7, irregular, 6/8)
MD	12/15 (80%)(regular 7/7, irregular 5/8)	10/15 (67%) (regular 5/7, irregular 5/8)
G	6/15 (40%) (regular 3/7, irregular 3/8)	7/15 (47 %) (regular 4/7, irregular 3/8)
MJ	ABSENT	ABSENT
MA	10/15 (67%) (regular 5/7, irregular 5/8)	(2 weeks later) 13/15 (87%) (regular 7/7, irregular 6/8)
MG	12/15 (80%) (regular 7/7, irregular 5/8)	(2 weeks later) 11/15 (regular 6/7, irregular 5/8)
A	13/15 (87%) (regular 6/7, irregular 7/8)	ABSENT
CG	ABSENT	6/12 (did not have time for the last page) (50%) regular 4/6, irregular 2/6)
FJ	ABSENT	9/15 (60%) regular 6/7, irregular 3/8)

Table 8-3: ***Results of grammaticality judgment tests***

Keeping in mind the results of the grammaticality judgment test, we can now turn to the question of uptake and repair. As stated in the introduction, uptake in this study was operationalised following Lyster and

Ranta (1997). This means we counted a student-turn as uptake if the student tried to respond to the feedback given, as in the following example taken from the treatment sessions:

(2) Student: . . .and in this moment the cat erm caught him and eat him
Teacher: and he. . .
Student: he ate him sorry, and finally the king and her daughter went to the castle. . .

If the student did not seem to notice the feedback and simply continued telling the story, it was not counted as uptake, as in (3):

(3) Student: Bueno [Spanish], I ran across the street and a car come
Teacher: a car. . .?
Student: and crashed with me. . .

Uptake can lead to repair (4), or to another error if the student is unable to correct him or herself (5), as the following examples show:

(4) Student: erm yesterday my day started at seven o'clock in the morning when I wake up
Teacher: when I. . .
Student: w- woke up woke up.
(5) Student: . . .and the prince little by little fell fall up no fall fall in love. . .no
T: he. . .?
Student: he's fallen no fall fall fall fallen

Table 8-4 shows the amount of past-tense errors made by the students in each treatment session, the amount of these errors that received elicitation and the amount of uptake and repair following these elicitation-moves. Usually the same student repaired his or her own error, but in some cases they needed help from other students (5 out of 40). In these cases the student normally repeated the correct form supplied by his/her classmate, as in the following example:

(6) Teacher: Rapunzel. . .?
Student: erm… I don't remember hear erm?
Other student: heard
Student: heard

	Errors	Elicitation	Uptake	repair
Session 1	34	25	19	18 (3 of which other-repair)
Session 2	44	30	28	22 (2 of which other-repair
Total	78	55	47	40

Table 8-4: ***Uptake and repair after elicitation***

In total, 71 % of students' errors were followed by elicitation from the teacher-researcher. Eighty-five per cent of these elicitation moves led to uptake and 73% led to repair (13% of which was other-initiated repair). Note that the rate of uptake after elicitation in case of Lyster and Ranta's (1997) study was 100%, but the rate of repair was only 46%. However, their study did not focus on one specific language-form and as our students' explicit knowledge of the past tense seemed to be quite high, this probably explains the high rate of repair. These students know how to form the past tense, but due to time-constraints and processing problems in online-communication, errors occur.

Turning to the question whether there was a difference in uptake and repair after regular verbs versus irregular verbs, we found that the rate of uptake was similar: 89% for regular verbs versus 83% for uptake. Regarding repair, after regular verbs it was 10 per cent higher than after irregular verbs: 79% versus 69%. The students seemed to have more problems with the irregular verbs, as they need to be learned item per item, whereas they apparently knew the rule for regular past tense and could apply it.

Students' uptake and repair after CF clearly show that they notice the feedback, but whether or not uptake and repair are good measures for studying the effects of CF on acquisition is still under debate. For instance, in the case of uptake after recasts, Lyster and Izquierdo (2009: 460) contrast a number of studies, some of which show positive effects for the repetition of recasts (e.g. Havranek and Cesnik 2001) whereas others do not show any (e.g. Mackey and Philp 1998; Leeman 2003).

4.2. Research question 2: The effects of elicitation on the acquisition of the English past tense

Although we cannot generalise about its effects on acquisition, elicitation does seem to have some immediately noticeable effects on students' performance on story-telling tasks. In the second treatment session, which consisted of telling fairytales, there is a notable difference

in accurate production of both the regular and irregular past tense in the case of those students who had the chance to tell two different fairytales. Note that the rates of accurate use were calculated following Bardovi-Harlig (2000: 51). In a study in which she wanted to look at the rate of accurate use of the past tense, she decided to count each verb only once. If not, very common verb forms such as *was* or *went* might have given a distorted image of students' ability to accurately produce past-tense forms. However, as we noted in our study, students' accurate production of the same past tense form varies considerably. To solve this problem, Bardovi-Harlig (2000: 51) proposes to count each different form of the same verb as one type.

As mentioned earlier, unfortunately not all students had the chance to tell the second fairytale, because there was not enough time, but the four students who did get two turns all improved their rate of accurate use, which means they made fewer past tense errors in the second story:

MJ, for instance, went from 17% of accurate use to 67%, C went from 56% to 100% and J went from 58% to 80%. And although M's total score of 60% went down to 55%, when we take into account the separate scores for regular and irregular verbs, he did improve on them (regular verbs from 25% to 43%, irregular verbs from 70% to 75%).

Within the same lesson, when they have been previously corrected on their past tense errors, these students do seem to focus harder on their past tense use. Another indication for this is self-correction. By this we mean that the student self-corrects his or her own utterance without any interference from the teacher, as example (7) illustrates:

(7) Student: okay and the king is was very happy with the present.

For instance, J self-corrected his past tense use once in his first turn and six times in his second turn. C self-corrected twice during her first turn and once during her second turn, which did not contain any past-tense errors after that. Although this is only limited evidence for the claim that elicitation can have positive effects on students' accurate production of a specific grammar item during communicative speaking tasks, this small-scale study can serve as a first exploration which will hopefully be followed by a larger-scale study, involving a greater number of participants.

5. Pedagogical implications: Can elicitation be combined with a communicative focus?

The fact that the students mentioned in the previous section started focusing harder on their past-tense use, self-correcting their past-tense errors, does not necessarily mean that the communicative focus of the story-telling activities was lost. In most cases, interruptions caused by the provision of CF were minimal and did not distract the students from their main goal: telling their story. The following transcription of a fragment from the first treatment session illustrates this:

(8) Student: So my mother stay(ed) at the airport and we go to Madrid
Teacher: we…?
Student: went we went to Madrid when we arrive(d) erm (laughs) we wen- when we were going to check … the…
Teacher: to check in
Student: to check in to check in we realised that my mother in her bag had all the tickets for all family
Teacher: ooh (people laughing)
Student: so we couldn't check and we catch the next plane
Teacher: we…?
Student: we caught… the next plane and my mother arrive(d) and…

Furthermore, although Truscott (1999: 442) claims that correction "moves students' attention away from the task of communicating," students' answers to the first post-test questionnaire show that most students believe that the aim of the sessions was to improve their speaking skills and only one student seemed to realise that the focus of the study was the past tense. Regarding the first question, "what do you think this study was all about?" six out of nine students who completed this questionnaire chose the first of the four options provided: "they were practicing and testing my speaking skills." One student chose the fourth option: "they were practicing and testing my vocabulary." Only two students chose the option "they were practicing and testing my grammar," but one of these also chose the first option, although they were told to select only one. The second question asked the students to write a short paragraph explaining what they had learned. Five of the nine students only referred to speaking in general. Two students referred to learning from their mistakes while speaking. One student said he had learned grammar

and improved his speaking skills. Only one student referred to the past tense: "I think I learned to express myself better in the past."

Although our study has a much smaller scope than that of Yang and Lyster (2010), the results of this questionnaire appear to be similar to the ones recorded in their paper: of 94 participants who filled in their questionnaire, 83 considered the tasks and tests to be about listening and speaking and only 17 participants reported learning grammar on the open questions, where they had to state what they had learned. Notwithstanding the fact that these learners were not aware of learning grammar, the authors noted a considerable improvement of students' past-tense production in speaking and writing.

Despite its limitations, our study also seems to indicate that CF, more particularly elicitation, does not distract students from communicating their message, while at the same time it can promote a greater focus on accuracy. This seems especially true of grammatical items which have been learned explicitly but are not yet fully part of students' implicit knowledge, in this case the English past simple tense.

6. Conclusions

In spite of several limitations in the design and the scope of this small-scale study, three tentative conclusions can be put forward regarding the effects of elicitation on students' accurate production of past tense forms during online communication.

First of all, our findings seem to be in line with Lyster and Ranta's (1997) claim that elicitation is a very successful CF-technique when it comes to eliciting uptake and repair. We even found a much higher rate of repair than these authors, which we connected to the fact that our study only focused on one grammatical structure and the students' explicit knowledge of this structure turned out to be high. We also concluded that elicitation apparently works better with the rule-based regular past tense, as the rate of repair was considerably higher than with the exemplar-based irregular past tense.

Our second conclusion is more tentative, because it is only based on the performance of four students during the second treatment session. Due to time constraints, the other four students present in this session did not have the chance to get a second story-telling turn. However, the four ones who did get this opportunity all improved their rates of accurate production of the past tense. There was also some evidence that these students started focusing harder on their past tense use, as they started to self-correct their past tense errors.

Finally, unlike Truscott (1999), we believe that it would be possible for teachers to provide elicitation after students' spoken errors and at the same time maintain the communicative focus of the lesson. In our study, the interruptions caused by elicitation did not distract students from the message they wanted to convey. Moreover, most of the students involved in this study were not aware of its actual goal: promoting students' accurate production and acquisition of the past tense. Instead, most of them felt they had improved their speaking skills.

We hope that a larger-scale study on the effects of elicitation can shed more light on these findings. Such a study should keep in mind the limitations mentioned in this paper, related to the pre-test post-test design. For instance, the stories used in the pre-test and post-test need to be equally difficult. Another recommendation would be to limit the time between the treatment sessions and the post-test. Of course, a greater number of participants is vital if we want to draw valid conclusions about the effects of elicitation. Nonetheless, we think we have shown that this type of corrective feedback merits greater attention from researchers and that it could be a useful tool for teachers to help their students improve their speaking skills.

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PART IV:

DISCOURSE ANALYSIS AND PSYCHOLINGUISTICS

CHAPTER NINE

QUANTIFYING IRONY WITH SENTIMENT ANALYSIS METHODS: THE CASE OF TERRY PRATCHETT'S DISCWORLD

LUIS ESPINOSA-ANKE

1. Introduction

Within the fields of Computational Linguistics and Natural Language Processing, the task of sentiment analysis is becoming increasingly popular (Goyal and Daumé III, 2011). The main objective is to develop methods that automatically classify texts with some sort of emotion or evaluation (Wilson et al. 2005). It has had great impact on the Internet and on how individuals or corporations assessed their influence across social media. For example, companies wanting to know what their customers think about their products; political parties interested in what is being said about them during an election; stock market investors being in the need of having as much information about the reputation of a certain corporation and so on. The fact that today we have an unprecedented amount of texts for assessing their sentiment (Mohammad and Yang 2011) sets robust foundations for the advancement of sentiment analysis and opinion mining.

Specifically, and among the different fields mentioned above, work has been carried out in domains like the following: automatic classification of movie reviews and consumer product reviews (Tang et al. 2009), opinion trends in social networks (Thelwall et al. 2010, 2012), or emotions in emails (Mohammad and Yang 2011). The approaches followed ranged from identifying the emotions behind a text by determining whether its terms have positive or negative polarity (Lehrer 1974; Turney and Littman 2003; Mohammad et al. 2009, Mohammad 2011), to automatically

detecting emotions such as anger, joy, sadness or disgust (Bellegarda 2010; Mohammad and Turney 2010; Mohammad 2011).

However, much less work has been done in capturing the emotion conveyed in fictional works. We theorise that this can be due to two main reasons. Firstly, because the commercial applicability of such task is not as straightforward as it would be with regard to online text. And secondly, because figurative text poses many more challenges for automatic processing, e.g. the use of implicit meaning, cross-textual and external references, context, irony or humour are key factors that are difficult for an automatic system to assess in a relevant fashion. With these reservations in mind, let us present a number of prominent works in the area of sentiment analysis in literature. These will be extended in Section 2: McIntyre and Lapata (2009 and 2010), while not explicitly aiming at revealing characters' emotions, contribute to the field with data-driven story generators. Alm and Sproat (2005) describe the evolution of a story in terms of its emotional trajectory. By analysing a corpus of 22 Grimm's fairy tales they were able to generalise an emotional trend across these works. Francisco and Hervás (2007) mine a fairy tales corpus to generate a list of emotional words. While this proves useful in further applications, there is no explicit analysis of the emotional load of each novel. In Mohammad (2011) a crowd-sourced emotional lexicon is used to describe the emotion associated with individual entities as well as for providing a bigger picture, comparing novels and fairy tales. Finally, Elsner (2012) describes a method for analysing novelistic plots by comparing characters and measuring their frequency of occurrence as well as the descriptive and emotional language they bear.

In this paper, a novel approach for quantifying irony in language is presented by exploiting emotional discrepancies between human judgement and automatic scores regarding the sentiment conveyed in a text. The corpus used for carrying out the experiments consisted in the 39 Discworld novels by the British author Sir Terry Pratchett. First, three well-known methods for sentiment analysis were applied to each novel, and a normalised score was computed. Secondly, 50 respondents who were highly acquainted with the Discworld saga were surveyed in order to know how they felt when they read the novel. The score ranged from 1 (readers felt extreme despair and sorrow after reading the novel) to 10 (very happy novel in general, with a predominance of positive events, that left the reader with a very happy feeling after reading it). We take as a starting point the assumption that "(a)s the Discworld and its inhabitants have evolved and changed and gained complexity, lightheart ridicule often gives way to serious reinvention" (Haberkorn 2007). In other words, the

Discworld's early novels were in general more chaotic, highly humorous and more ironic, and became more explicitly dark over time. This work presents results that support this claim, showing a clear discrepancy between lexicon-based automatic scores and human judgement, especially in two main segments of the saga (the first novels, where scoring is inversely proportional, and the last novels, where this proportion experiences a U-turn and becomes direct, i.e. the vocabulary used is more explicit in terms of dark language).

The main conclusions reached after the experiments were conducted and evaluated can be briefly summarised as: 1) sentiment analysis methods mainly oriented to short informal text fail in capturing the sentiment behind a novel, as this can be conveyed in non-straightforward ways; and 2) it seems possible to quantify the degree of explicitness of a text. This can be achieved comparing scores by a lexicon-based approach (which only looks at positive and negative lexical items) with human evaluations of the sentiment behind a novel and 3) considering the idiosyncratic writing style of Terry Pratchett, this approach might help identify where in this author's writing career the writing style started to become more or less ironic, in other words, detecting those novels where irony clearly played different roles (see Fig. 9-3 for details).

The remainder of the paper is organised as follows. Section 2 covers in more detail work carried out in the field of sentiment analysis and its application to fictional texts. Section 3 describes the methods used for collecting the data, both automatic and human. Section 4 presents the results and discusses the conclusions reached and Section 5 outlines potential future lines of research.

2. Literature review

Alm and Sproat (2005) describe how a story unfolds by examining its emotional trajectory. This approach constitutes a contribution to text-to-speech systems, specifically aimed at children's stories. The first step is to annotate at sentence level the emotions associated to the feeler, who in this case is its most salient character. The emotions annotated for each sentence are the following: angry, disgust, fearful, happy, sad, positively surprised and negatively surprised. The authors computed a statistical analysis of the distribution of these sentences and reached the conclusion that emotional activity corresponded to a wave-shaped pattern. The first fifth of the stories is usually the least emotionally-loaded (it is associated with description of the setting). The highest peak of negative emotions is usually associated to the parting of the hero to a quest. Finally, the highest

peak of positive emotions can be generally found at the end, coinciding with the "reward state."

Francisco and Hervás (2007) present Emo-Tag, an approach to automatically mark up affective information in texts. The authors justify the corpus choice for developing the system by suggesting that "generally fairy tales are intended to help children understand better their feelings, and they usually involve instances of the emotions that most children experiment on their way to maturity: happiness, sadness, anger . . ." (Francisco and Hervás 2007: 8).

The corpus consisted in fairy tales both in English and Spanish. The algorithm presented performs sentence segmentation, tokenisation, stemming, negation handling, incorporation of WordNet and finally human-judgement for categorising sentiment-heavy words. The authors outline future lines of work for improving their system, namely relative clause handling, modifier processing, modal verbs processing and sentiment weighing when more than one emotion is present in a sentence.

Mohammad (2011) makes use of a crowd-sourced emotion lexicon to generate visualisations of emotion words in fictional works. The main aim is to enrich Project Gutenberg with an affect-based interface. Work both on fairy tales and novels is presented. As an example, the author shows that in Hamlet emotions like fear, sadness, disgust and anger are the most prominent. This conclusion can be achieved not only by looking at the frequency of emotion words, but also at their relative salience. From the data available and the analysis carried out, it is concluded that fairy tales have a much wider range of emotion word density (the number of emotion words one expects to see every X words) than novels.

Finally, Elsner (2012) develops character-based kernels for representing plot structures in novels. The main idea is illustrated with an example: a summary of Jane Austen's *Pride and Prejudice* can be that, at first, Elizabeth Bennett finds that Mr. Darcy is arrogant, but later on ends up loving him. However, this is not straightforwardly stated in the text, but has to be inferred from the implicit information it conveys, e.g. how characters behave towards each other. The final objective is to be able to model the kinds of characters that populate a romance or an adventure story, so that it is possible to generalise the relationships among them.

This is a necessary step for analysing unseen data by comparison with previously-learned information.

3. Corpus selection

For this work, the Discworld novels published so far (39 books), written by the British author Sir Terry Pratchett, constitute the corpus of choice. They were automatically processed using methods described in Section 3.2. We justify this choice by two arguments grounded in the popularity of the Discworld, on one hand and on the evolving nature of the author's writing style, on the other. The Discworld is a phenomenal literary and publishing success, with over 70 million copies sold worldwide.[1] This is relevant for our research because, due to its robust fan-base, it was feasible to gather a significant number of surveys by Discworld readers, who were not only acquainted with the saga, but enthusiastic about it and knew it well. Authors like Buchbinder (2003) highlight the fact that Pratchett's readers are so involved that they often participate in the Discworld's creation and re-creation, which in some cases leads to the readers suggesting corrections to the author, or offering alternative plot lines according to the geography, history or demography of the Discworld. Moreover, Hunt and Lenz (2001) points out that much of the scholarly production surrounding Pratchett's work comes in fact from its readers.

> . . . the approach to Pratchett is stalked by legions of experts and scholars, otherwise known as devotees and fans. The friends of the Discworld seem, even on a brief acquaintance, to be every bit as erudite, expert, committed (not to say obsessive), meticulous, scholarly, defensive–and subtly disdainful of outsiders as, for example, the members of the Arthur Ransome Society, or the Beatrix Potter Society: the only difference is that there are many more of them.
> (Hunt and Lenz 2001: 87)

On the other hand, between the first Discworld novel, *The Colour of Magic* (Pratchett 1983), and the last one published so far (Snuff 2011), almost three decades have passed. While there is scarce academic research on the Discworld, most readers and critics agree on the fact that the Discworld has experimented a dramatic evolution in terms of quality and maturity. The first Discworld novels were primarily a parody of epic fantasy stereotypes and clichés, as the author himself admits:

[1] http://www.guardian.co.uk/books/appsblog/2012/nov/09/terry-pratchett-discworld-ipad-app

> The first couple were just gag books and I wasn't really certain too much of what I was doing. I was doing it for the fun to seriously parody a lot of bad fantasy, and, indeed some good fantasy, which nevertheless is worth parodying. Since that time, I've discovered the joy of plot and the books have tended, over the years, to become a little deeper and sometimes, especially in the last few years a little darker. (Pratchett 2000)[2]

Haberkom (2007) reinforces the idea of the evolution of Terry Pratchett's Discworld with the following facts: 1) the later books are less episodic and more thoroughly plotted; 2) the characters and the world have gained complexity; 3) there is a higher degree of realism or verisimilitude; and 4) the books tend to become generally darker.

Having reviewed the rationale behind corpus selection, the main objective of this work is to investigate and quantify the extent to which there is a correlation between language and the sentiment behind the novels. For our purposes, we consider "sentiment" as the way someone feels after reading a book. One book might have many cunning characters but convey an overall happy or bright sentiment to the reader, perhaps with a happy ending. If this were the case, it could mean that a high discrepancy between how a reader feels after reading that book and the vocabulary used in it (for example, if this cunning character is extensively described with a lot of negative adjectives). Therefore, what follows describes the discrepancies found between human judgement in terms of sentiment (i.e. how they felt after reading Terry Pratchett's novels) and their scores under automatic systems of sentiment analysis.

We theorise that a vocabulary mainly consisting of positive words might show higher correlation with a happy novel if there is little irony, humour or sarcasm involved.

4. Automatic scoring

4.1. Thumbs-up thumbs-down

The method in Turney (2002) aims at classifying product reviews as positive (thumbs up) or negative (thumbs down) by quantifying the semantic orientation of phrases likely to convey sentiment. These are, for example, JJ + JJ + NOT NN OR NNS, or JJ + NN OR NNS + anything. The scoring scheme is derived from calculating each phrase's Pointwise Mutual Information-Information Retrieval score, which reflects the frequency a phrase appears in a corpus (the Web) near positive and

[2] http://www.sfsite.com/04b/tp79.htm

negative words, and its relative salience within the whole collection. This can be further formalised with the following equation:

$$SO(phrase) = \log_2\left(\frac{hits(phrase\ NEAR\ 'excellent')\ hits('poor')}{hits(phrase\ NEAR\ 'poor')\ hits('excellent')}\right)$$

Where hits (phrase NEAR "excellent") refers to the number of times a certain phrase occurs in the corpus of reference near the affective word "excellent." "NEAR" is an operator that the search engine AltaVista provided by the time the paper was published. However, for our purposes we will consider "NEAR" as a 10 word window (5 to the left and 5 to the right). Furthermore, hits ("poor") is the number of times the word "poor" occurs in the corpus.

Another modification to the original formula is that, instead of searching only for the affective words "excellent" and "poor" in the context of a given phrase, we expand the possibilities to fourteen paradigm words, as they appear in Turney and Littman (2003).

Pwords={good, nice, excellent, positive, fortunate, correct and superior}
Nwords={bad, nasty, poor, negative, unfortunate, wrong and inferior}

Finally, while the author relies on a web search with Altavista for computing the SO (phrase), we split the search in two rounds. Each phrase is first searched and given a score in the Discworld corpus. Since we are dealing with bigrams (i.e. two-word phrases), the probability of a bigram to occur in a corpus consisting of 39 books is not very high. However, each occurrence in the Discworld corpus of a certain bigram is rewarded and doubles its value. The intuition is that an occurrence of the phrase within the Discworld corpus not only reveals its statistical frequency, but also suggests a certain pattern in the author's writing style. Recall that the method discussed scores each phrase independently, and then adds these scores together to find the "Semantic Orientation" of a text. Therefore, it is necessary to find general trends in the usage of these phrases, and their low probability for occurring makes it necessary to expand the search beyond our Discworld corpus. For this reason, if a phrase/bigram is not found this author-specific corpus, a web search is carried out in order to find a general usage of a phrase.

For illustrative purposes, Table 9-1 shows a sample of phrases together with the sentence and the title in which they were found.

Sentence	Phrase/s	Title
Witches needed to know other witches were watching them.	"*other witches*"	*A Hat Full of Sky (#Discworld 32, 2004).*
"There's always room for one more on the wick-dipping tank, you know," said Smeems, blowing on his knuckles.	"*wick-dipping tank*"	*Unseen Academicals (#Discworld 37, 2009).*
It wasn't entirely unexpected–the Assassins' Guild was aware that women were at least equal to their brothers when it came to inventive killing–	"*entirely unexpected*"	*Night Watch (#Discworld 29, 2002).*

Table 9-8: ***Sentence, phrase extracted by the algorithm and novel where it is contained***

Let us highlight at this point a common problem in any task involving NLP, which is error propagation. It might be the case that our sentence splitter incorrectly detects a sentence boundary, usually in cases where punctuation marks are used. Sentence splitting, moreover, turns out to be a difficult task in fiction novels, where many different signs (hyphens, dots or apostrophes) are used to mark the ending of a character's intervention.

Consider, for example, the following extract from *The Wee Free Men* (#Discworld, 30-2003).

> Tiffany! "her mother shouted up the stairs." Miss Tick's here!

Using a built-in method provided by NLTK (Bird et al. 2009) for sentence splitting, the resulting sequence is illustrated as follows:

[Sentence 1] Tiffany!
[Sentence 2] her mother shouted up the stairs.
[Sentence 3] Miss Tick's here!

This has the following effect in automatic tokenisation and POS-Tagging.

Tokenisation: [‘Tiffany’, ‘!’, “‘“, ‘her’, ‘mother’, ‘shouted’, ‘up’, ‘the’, ‘stairs’, “.’Miss,” ‘Tick’, “‘s,” ‘here’, ‘!’]

POS-Tagging: [(‘Tiffany’, ‘NNP’), (‘!’, ‘:’), (“‘“, ‘POS’), (‘her’, ‘PRP$’), (‘mother’, ‘NN’), (‘shouted’, ‘VBN’), (‘up’, ‘RP’), (‘the’, ‘DT’), (‘stairs’, ‘NNS’), **(“.’Miss,” ‘JJ’), (‘Tick’, ‘NNP’)**, (“‘s,” ‘POS’), (‘here’, ‘RB’), (‘!’, ‘.’)]

However, applying a different tokeniser produces the following result.

Tokenisation: [“‘Tiffany,” ‘!’, “‘“, ‘,’, ‘her’, ‘mother’, ‘shouted’, ‘up’, ‘the’, ‘stairs.’, “‘Miss,” ‘tick’, “‘s,” ‘here’, “‘“]

POS-Tagging: [(“‘Tiffany,” ‘JJ’), (‘!’, ‘NN’), (“‘“, “‘“), (‘,’, ‘,’), (‘her’, ‘PRP$’), (‘mother’, ‘NN’), (‘shouted’, ‘VBN’), (‘up’, ‘RP’), (‘the’, ‘DT’), (‘stairs.’, ‘NNP’), **(“‘Miss,” ‘NNP’), (‘Tick’, ‘NN’)**, (“‘s,” ‘POS’), (‘here’, ‘RB’), (“‘“, ‘POS’)]

As we can see, two automatic tokenisers split the sentence tokens differently, as there is no consensus on how to behave with certain punctuation marks, especially in fictional text where we have characters intermingled with a narrator’s voice, and the use of apostrophes or hyphens is common.

In the first case shown, the full stop before “Miss” is attached to this word, and has an effect on the tokeniser, which incorrectly tags this word as an adjective (JJ).

This minor discrepancy propagates to the phrase-extractor level, where potentially sentiment-heavy phrases are extracted according to their Part of Speech, and has a direct effect in the sentiment score given to each title. Therefore, it is reasonable to conclude that the longer and more complex the pipeline of the system, more likely it is to incur in propagating errors towards subsequent stages of the process.

5. Sentistrength

Sentistrength (Thelwall et al. 2010) is a machine-learning system developed for detecting sentiment in short informal text. It was specifically trained with MySpace comments, and it has been tuned towards this domain. It considers linguistic particularities such as misspellings, emoticons or duplicated punctuation marks, such as

exclamations. These are also weighted accordingly. Sentistrength looks at the strength of positive and negative sentiment in each sentence, and then provides both counts.

For the purpose of this research, each of the Discworld books was run on Sentistrength, and results for each sentence were automatically collected.

Table 9-2 shows a sample of the output of Sentistrength. Note how at the end of each sentence a positive score and a negative score are provided in a particular notation, which makes the task to collect and compute scores for each title trivial.

Rincewind[0] did[0] so[0] and[0] watched[0] the[0] nervous[-2] Broadman[0] [[Sentence=-3,1=word max, 1-5]][[[1,-3 max of sentences]]]

Table 9-9: ***Sentiment scores from Sentistrength for the sentence "Rincewind did so and watched the nervous Broadman"*** **–The Colour of Magic** ***(#Discworld 1, 1982)***

This example shows how Sentistrength computes a positive and negative score for each sentence looking at the presence of individual words that are likely to convey sentiment. In the example provided, the sentence is given a +1 sentiment score (which is the score by default), and a -3 negative score, which comes from the word "nervous" (-2).

6. Lexicon-based approach

The sentiment lexicon in Hu and Liu (2004) was used to perform the last experiment. This method only took into consideration words in isolation, disregarding the context. Let us recall that in Natural Language Processing, a high number of statistical approaches are based on the (unrealistic) "Naïve Bayes Assumption" (or independence assumption), which postulates that words can be considered as independent from each other, without any influence of their linguistic context (Bird et al. 2009).

The count was a simple +1 for each positive word and -1 for each negative word. This particular sentiment lexicon consists of almost 7000 words. A lexicon-based approach seems to be unreliable in determining if a particular chunk or sentence is expressing a certain emotion. This is due to factors like ambiguity in language, implicit or explicit negation, irony, humour, presence or absence of anaphoric references, among others. However, it can prove efficient for comparing the explicitness of the

language in terms of sentiment, providing a measure of the extent to which sentiment-heavy words are used.

Table 9-3 shows the first five entries for the positive lexicon and five for the negative lexicon.

Positive lexicon words	Negative lexicon words
abound	abnormal
abounds	abolish
abundance	abominable
abundant	abominably
accessable	abominate

Table 9-10: ***Sample of positive and negative tokens in the opinion lexicon by Hu and Liu (2004)***

7. Human scores

A total of 50 respondents completed a survey where they had to answer how they felt when they read X. These respondents had high acquaintance with the Discworld novels, as one premise was that all of them had read all 39 books. They were provided with a brief set of guidelines, where the concept of sentiment was clarified:

> What is sentiment? To put it simple, we can safely say that the novel Frankenstein starts with a positive sentiment, and at the end of it the sentiment becomes more negative (more words related to fear, sadness and anger are used, for example).

Hypothesising that there is a direct relationship between how a reader feels after reading a novel and the language deployed in it, the information collected in the surveys was used as a gold-standard, against which the results of each of the three methods previously presented were compared. The survey consisted of 39 questions, one for each book, and the scores ranged from 1 (the reader felt despair and very negative feelings after reading the book) to 10 (the reader felt happiness and joy after reading the book).

Finally, since automatic and human scores had ranges that differed, a method to standardise the variables was followed. Specifically, and in

order to attain comparability, the mean value was subtracted for each variable, and the result was afterwards divided by the standard deviation.

8. Results and discussion

This section illustrates the comparison between each of the three automatic methods and the human scores. Figs. 9-1, 9-2 and 9-3 demonstrate the correlation or discrepancy between each of the automatic approaches to sentiment analysis with our human judges.

The results shown in Fig. 9-1[3] show a very high discrepancy between the thumbs-up thumbs-down (Turney 2002) approach and human scores.

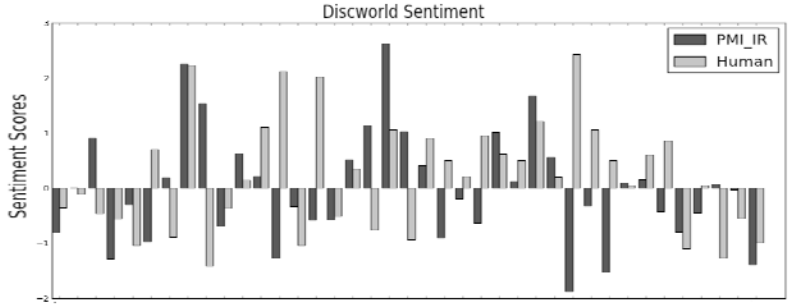

Fig. 9-1: *Scores given to each of the Discworld's 39 books (from left to right) by the automatic system PMI-IR (Turney 2002), in dark grey, and by the human judges, in light grey, in terms of affective language and sentiment*

It is worth noting that there is a recurrent pattern of positiveness in four consecutive novels. Further qualitative analysis might be appropriate to unveil why *The Truth* (#Discworld 25, 2000), *Thief of Time* (#Discwowrld 26, 2001), *The Last Hero* (#Discworld 27, 2001) and *The Amazing Maurice and his Educated Rodents* (#Discworld 28, 2001) seem to share a sense of explicit positiveness as the human scores and automatic scores show a high correlation.

[3] Due to space restrictions and for the benefit of the reader, the X axis does not include the names of each of the 39 books in any of the figures here presented (Figs. 9-1, 9-2 and 9-3). However, when a novel is discussed, its title and position in the Discworld release order are mentioned in the body of this text. See the author's website for a full list of the Discworld books: <http://www.terrypratchettbooks.com/index.php/books>.

In the case of *Sentistrength* (Thelwall et al. 2010), no correlation with human judgement can be identified at any stage of the publishing record of the Discworld (Fig. 9-2). A reasonable explanation for this could be that Sentistrength is optimised for performing well with short informal text, which is the opposite as the type of text that makes up the Discworld corpus.

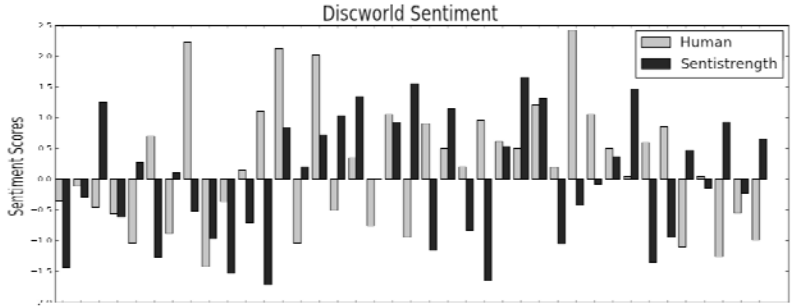

Fig. 9-2: *Scores given to each of the Discworld's 39 books (from left to right) by the automatic system Sentistrength (Thelwall et al. 2010), in dark grey, and by the human judges, in light grey, in terms of affective language and sentiment*

Figs. 9-1 and 9-2 clearly show that both systems are far from replicating human judgement in terms of sentiment. Humour, irony and sarcasm are strongly present in the Discworld saga, and this makes it impracticable to automatically evaluate sentiment in these novels following the methods proposed.

Fig. 9-3, however, illustrates a pattern that can be associated to (1) the evolution of Terry Pratchett's language across time, and (2) the explicitness of this language in terms of sentiment. This pattern is highlighted in the first five novels and the last two. This means that, while in the early Discworld there is a clear inverse proportion between human judgement and automatic scores given by a lexicon-based system, this situation is reverted towards the most recent books. This illustrates the extent to which Terry Pratchett writes today making the sentiment underlying in his novels more explicit, i.e. dark novels clearly include more negative language. This, however, was not necessarily the case in the first novels, where the language was less explicit and more ironic.

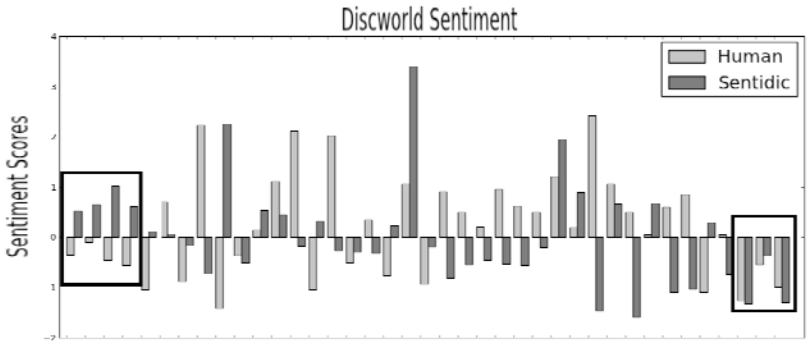

Fig. 9-3: *Scores given to each of the Discworld's 39 books (from left to right) by the automatic system based on a positive-negative polarity lexicon (Hu and Liu 2004), in dark grey, and by the human judges, in light grey, in terms of affective language and sentiment*

While performing qualitative analysis of these novels is not within the scope of this work, let us illustrate the above findings by providing the reader with relevant passages from both set of novels that should reflect the overall language used in them. Although further research seems required for holding such strong claim, these examples attempt to reinforce the idea of a darkening of language that has been taking place as the Discworld evolved.

> Thus it was that a young cosmochelonian of the Steady Gait faction, testing a new telescope with which he hoped to make measurements of the precise albedo of Great A'Tuin's right eye, was on this eventful evening the first outsider to see the smoke rise hubward from the burning of the oldest city in the world. (*The Colour of Magic* #Discworld 1, 1983)

The underlined words are marked as positive by the lexicon-based algorithm, and this is clearly a reflection of our previous statement: a sentence with high positive score (+3) which does not seem to reflect the sentiment it conveys. However, in this case irony is not directly playing a role for this misjudgement. For example, right is part of the positive opinion lexicon, but in this case the sense of the word right does not mean "free from error," but rather "being or located on or directed toward the side of the body to the east when facing north."[4]

[4] These definitions are extracted from WordNet's web interface <http://wordnetweb.princeton.edu>.

> By now the whole of downtown Morpork was alight, and the richer and worthier citizens of Ankh on the far bank were bravely responding to the situation by feverishly demolishing the bridges. (*The Colour of Magic* #Discworld 1, 1983)

This second example also shows how irony twitches the meaning of positive words (in our case, "richer" and "worthier") conveying a meaning not captured by the lexicon-based system, which wrongly assigns to this sentence a positive score. Another of the issues arising when carrying out lexicon-based text processing has to do with the size of the lexicon. Finally, the fact that "demolishing" was not included in the negative lexicon made the system unaware of such word and therefore failed in adding a negative score.

Let us now review three passages from the last Discworld novel published so far, Snuff, in order to illustrate how the frequent discrepancies that appeared in the first novels also give way to more explicit language use, where negative means negative and viceversa.

> Drumknott stopped dusting the impeccably shiny black lacquered desk. "Pastor Oats is a very persuasive writer, isn't he, sir…?" (*Snuff* #Discworld 39, 2011)

The fact that Pratchett develops a more explicit use of language in terms of sentiment might be exemplified in the above passage. Here, the description of the character Drumknott's actions seems to be less ironic and more explicit. We are not alien to the fact that this claim can only be supported when fully considering the context of this passage, and perhaps even the context of the Discworld saga as a whole (many characters appear more than once in more than one book), but this would be out of the scope of this work.

> However, to sell drugs to trolls that actually make their heads explode is simply murder, the capital crime. (*Snuff* #Discworld 39, 2011)

There seem to be a fair number of situations where the explicitness of language is realised on the negative side as well. In fact, examples like the above, where three negative words are used in an 18 word window are highly revealing, since they show a high proportion of sentiment-heavy vocabulary with an explicit sentiment. Further exemplification of this is provided in the following two examples.

> The Patrician shook his head. "I think not. The man must be in terrible turmoil, and I fear that my presence might make things worse."

> . . .
> Was there a hint of pity in Drumknott's voice when he said, "Don't blame yourself, my lord. After all, you and the commander are in the hands of a higher power?" (*Snuff* #Discworld 39, 2011)

9. Conclusions

After having discussed in quantitative and qualitative terms the results provided by the four approaches (thumbs-up thumbs-down, Sentistrength, lexicon-based approach and the human survey), it is reasonable to conclude the following: 1) fictional texts, or texts including figurative language, seem to pose too many challenges for sentiment analysis systems initially devised for short informal text, 2) quantifying the explicitness of a text in terms of sentiment can be achieved if two datasets are at hand. First, a score based solely on the wording used is needed, and second, and for comparative purposes, human judgement on how one feels after reading a text needs to be incorporated. 3) A tangential conclusion that arises is the specific sentiment in Terry Pratchett's Discworld. Results suggest that there is an overall discrepancy between the early and the last novels, as Fig. 9-3 shows. The literary style of this author has become increasingly dark, and this has been accompanied by a higher tendency towards explicitness, thus leaving out ironic and humorous literary resources that were used profusely in the first novels.

The main contribution of this research is that it unveils those novels that became a turning point in the author's style. Fig. 9-3 illustrates clearly that the first four novels shared a linguistic style, both in terms of affective language and irony and humour. However, it is in Sourcery (#Discworld 1988) where this pattern seems to break. The same could be argued in the last novels. While the tendency seems to be smoother, *Making Money* (#Discworld 2007) is the last of the series to show a discrepancy between a positive score granted by human judges and a negative lexicon-based score. Further analysis, including a statistical approach to this book, or exploiting other emotion lexicons or ontologies could prove useful for revealing why the pattern changes dramatically.

This work has described a novel approach to quantifying irony and humour by exploiting the evolution of an author's writing style. While claiming that this method can be applied as is to different authors and narratives might be too optimistic, these encouraging results open new approaches for linguistic research on Sentiment Analysis and Literary Criticism.

10. Future work

Potential ways of fine-graining this approach could include, among others, 1) a more precise pre-processing of the text (punctuation, sentence and paragraph boundaries, performing named entity recognition in order to deal better with upper and lower case), 2) a transformation of all scores to probabilities together with other approaches for normalisation, or 3) negation-handling for the lexicon-based approach.

As mentioned earlier, there is no actual research on the evolution of the Discworld in terms of darkness, on one hand, and irony on the other. Therefore, the first step to confirm these results would be to carry out a qualitative study of the irony, vocabulary and darkness in the first and last Discworld novels published so far in order to have a common ground for comparative analysis. Many lines of work remain open that only concern literary analysis. For example, it might be relevant to look at the correlation between sentiment scores and text complexity (vocabulary used, average sentence length, and other features), and to look at subseries of the Discworld saga (for example, whether the books concerning witches are any different from those concerning the City Watch in terms of irony, humour or affective language).

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CHAPTER TEN

PERSPECTIVAL CONSTRUAL PATTERNS IN LANGUAGE, COGNITION AND INTERACTION: THEIR ACQUISITION, STRUCTURE AND FOUNDATIONS[1]

MICHAEL PLEYER

1. Introduction

The notion of *perspective* captures an important dimension of how meaning is constituted in language, cognition, and interaction. In this paper I argue that it can be used as an integrative, interdisciplinary concept at the interface of the disciplines concerned with these dimensions of meaning constitution. Specifically, I will explore the importance of the concept of perspective in the domains of Cognitive Linguistics, language acquisition, cognitive development, and psycholinguistics. Through this, I hope to enable a fruitful, synergetic dialogue between these areas of enquiry and to highlight points of convergence and common foci of interest. But most importantly, I argue that relating the results and analyses of these disciplines to each other will yield a more complete explication of the concept of perspective from a linguistic, cognitive and interactional point of view. The overall framework which I will adopt for this enterprise will be that of Cognitive Linguistics (Geeraerts and Cuyckens 2007; Evans 2012; Evans and Green 2006, among others) and Usage-Based Approaches to language (Barlow and Kemmer 2000; Bybee and Beckner 2010, among others).

In Cognitive Linguistics, the notions of "perspective," "perspectivation" and "construal" capture that when conceptualising a scene for purposes of

[1] I want to thank Sonja Kleinke, Stefan Hartmann and an anonymous reviewer for their helpful comments and suggestions on a draft of this paper.

expression, the speaker structures the scene in a specific manner and from a certain point of view (Kleinke 2010: 3347; Langacker 1987: 126). Speakers employ the perspectival nature of linguistic utterances to assign *salience* to specific aspects of a conceptualisation and to organise conceptual content with respect to a particular vantage point and perspective. For the listener, these utterances then serve as prompts for the allocation of *attention* to a particular aspect of the cognitive representation evoked in the listener (Talmy 2000).

Cognitive Linguistics sees language as an integral part of human cognition and as intricately intertwined with other cognitive capacities. Given this assumption–as well as the *Generalisation Commitment*, the *Cognitive Commitment* and the *Commitment to Seek Converging Evidence* (Evans and Wood 2006), which follow from this assumption–a Cognitive-Linguistic analysis of perspective-taking and -setting in discourse, or perspectivation more generally, should be concerned with a) the basic cognitive principles employed in its execution and b) the structural architecture of its linguistic realisations (Kleinke 2010: 3346f).

It is in addressing the first question that research on perspective-taking and -setting in developmental psychology and language acquisition comes into play. In developmental psychology, infants' and young children's socio-cognitive capacities have been shown to be highly relevant for the development of perspective-taking as well as for the emergence of linguistic perspectivation (e.g. Carpenter 2011; Moll and Tomasello 2007a; Tomasello et al. 2005).

In language acquisition, it is a central question how children learn about the pragmatic choices and factors involved in symbolically partitioning scenes in different ways, and linguistically expressing different conceptual perspectives on the same referent. Current research suggests that perspective-taking and -setting are an integral part of acquiring a language, and that children are able to take and express alternate perspectives on the same entity and thus construe the same scene in different ways from very early on (Clark 1997).

As this brief survey indicates, taking into account relevant concepts and findings from cognitive development and language acquisition can prove highly profitable for a Cognitive-Linguistic explication of the concept of "perspective." For these reasons, the aim of the present paper is to relate relevant findings in these disciplines to each other in order to arrive at a psychologically and cognitively grounded, developmentally sound and above all Cognitive-Linguistically adequate view of the structure and development of perspective-taking and -setting in discourse. Specifically, this paper wants to set the theoretical groundwork for a

further and more detailed dialogue between these disciplines, which promises theoretical refinements and cross-fertilisation for all fields of study involved in this interdisciplinary enterprise.

In the following section, I will outline the core assumptions of these paradigms before focusing on the role of perspective in Cognitive Linguistics.

2. Core assumptions of Cognitive Linguistics and usage-based approaches

In contrast to linguistic paradigms that see language as an autonomous module separate from the rest of cognition (cf. Taylor 2007), Cognitive Linguistics and Usage-Based Approaches see language as tightly integrated with human cognition. This means that on this view, language is thought to draw on mechanisms and principles that are not language-specific but general to cognition. Conversely, Cognitive Linguists tries to explain language structure and use, as well as principles inherent in language, as instantiations of more general principles of human cognition (e.g. Geeraerts and Cuyckens 2007; Ibbotson 2011; Langacker 1987, 2008). Also in contrast to most formalist and generative approaches, Cognitive Linguistics and Usage-Based Approaches treat grammar not as a system of formal rules and computational, algorithmic procedures, but as a prototypically structured, schematic network built up from categorised instances of actual language use in context (Bybee and Beckner 2010). Importantly, on this view, grammar, too, is tuned in with and connected intimately to cognitive domains, functions and the conceptual system (Evans and Green 2006: 27ff).

From this theoretical point of view, then, there are four central notions most fundamental to language, which I will elaborate on below: language is fundamentally *conceptual*, *interactive*, *embodied/situated*, and *perspectival* in nature (Evans and Green 2006; Geeraerts 2006; Pleyer 2012).

One of the central questions in Cognitive Linguistics (CL hereafter) concerns the relation of human cognition on the one hand, and the structuring of dynamic situations for linguistic expression on the other. From a CL point of view, language production as a way of event representation and construal is a highly interpretative, selective and perspective-driven process. This means that in CL a fundamental characteristic of linguistic meaning is that it is *perspectival*. Language construes the world in a specific way and thus embodies a particular perspective on the world (Geeraerts 2006: 4).

On a more general theoretical level, this central notion has to be interpreted in relation to other fundamental properties that CL sees as characterising language. The recognition of the importance of these properties in CL results from its acknowledgment that language has a dual grounding in both cognition and social interaction (Langacker 2008: vii). Crucially, a key aspect of language is its *conceptual* function, i.e. that it encodes and expresses conceptualisations. Another key feature is the *interactive* function of language, i.e. that it is used to communicate with others in social settings (Evans and Green 2006: 6-11). A last important assumption in CL is that it sees language as *embodied*, i.e. that it is *situated* in as well as structured by our bodily experience of and interaction with the world (Evans and Green 2006: 44-48). It is important to note that the concept of embodied cognition has to incorporate the fact that our bodily-based interaction with the world is always *situated* in a physical, social and cultural environment (Dirven et al. 2007: 1210, 1217).

The Cognitive-Linguistic commitment that linguistic meaning is embodied also strengthens the claim that attention should be paid to the *perspectival* nature of language, as the idea of embodiment also refers to the fact that every linguistic construal operation is based on a "particular subjective vantage point from which a *perspective* is taken" (Rohrer 2007: 29).

Languages, then, can be described as "conventional symbol systems [that] are *grounded* in an *intersubjective* meaning-field in which speakers *represent*, through symbolic action, some segment or *aspect* of reality for hearers" (Sinha 2007: 1281, first and last emphasis mine, M.P.).

These four fundamental aspects of language are tightly linked to four core assumptions that most Cognitive Linguists share that are directly linked to the importance of perspective and construal in language: first of all, speaking to the intersubjective-interactive and situated nature of language, its main function can be seen in dynamic, collaborative meaning construction in interaction. Secondly, as already mentioned in regard to the conceptual and cognitive nature of language, it can be said to express and evoke conceptualisations in particular contexts, using particular cultural models and cognitive resources (Fauconnier 2004; Langacker 2008; Croft and Cruse 2004). Thirdly, linguistic utterances can be said to serve as instructions or prompts for the dynamic construction of a mental representation by the hearer (Evans and Green 2006). And fourthly, coming back to the importance of perspective in language and synthesising the three previous assumptions, it is a core assumption of Cognitive Linguists that meaning involves conceptualisation, construal and the packaging of information for purposes of communication, taking into

account the cognitive state of the interlocutor (Croft 2009). With these guiding assumptions in mind, in the next section, I will elaborate on the role of perspective and construal in Cognitive Linguistics.

3. Perspective and construal in Cognitive Linguistics

As indicated above, perspectivation and cognitive construal play an important role in language, cognition, and interaction. Given its core assumptions, it is therefore not surprising that Cognitive Linguistics has developed a sophisticated theoretical apparatus to capture the phenomenon of perspective-setting through language. This stands to reason as from the point of view of CL, linguistic constructions organise conceptual content with respect to a particular vantage point and perspective. Thus, they construe the world in a specific way and embody a particular perspective onto it (Geeraerts 2006). Language, then, can be defined as a fine-grained system enabling the assignment of salience to specific aspects of a conceptualised situation (cf. Talmy 2000). What we are talking about when we are talking about language, then, is a structured inventory of constructions (i.e. form-meaning pairings with different degrees of schematicity and abstraction), enabling language users to construe a situation in many different ways and from multiple perspectives (Croft and Cruse 2004; Evans 2012; Pleyer 2012).

In CL, this is captured by the concept of *construal*, which relates to the fact that speakers structure scenes in a specific manner and from a certain perspective, that they direct attention to specific aspects of the conceptualised situation, and that they highlight portions of the construal and background others. The different ways in which conceptualisations can be structured or construed are referred to as *construal operations*.

Over historical time, all languages have evolved a structured and highly elaborated set of dynamic construal operations that enable speakers to alternate between and express different perspectives on the same topic.

This means that every language has a set of conventionalised perspectival construal patterns used to portray an event from a certain perspective. It is important to note though, that there is a significant flexibility in terms of alternative representations and construals in each language. In discourse, speakers employ different construal operations to express their communicative goals and thus make use of the perspectival potential inherent in their language. In line with the cognitive commitment of CL, it is hypothesised that using these construal operations in interaction draws on general cognitive resources, capacities and constraints, which CL

seeks to uncover (Bybee 2010; Gibbs 1999; Kleinke 2010; Langacker 2008: 8).

4. Language acquisition

Given this set of assumptions about the importance of construal and perspective in language and cognition, from the point of view of ontogenetic development and language acquisition the following questions become quite central: (1) how do children acquire the structured inventory of perspectival constructions of their language? (2) how do they acquire the capacity to employ different construal operations to suit their communicative needs? And especially from a cognitive perspective, a third important question is: (3) what are the cognitive and social processes involved in our emerging ability to express different perspectives (cf. Ibbotson 2011)? This line of inquiry is very much in line with Cognitive-Linguistic and Usage-Based approaches, which stress the importance of social, cultural, interactive, and cognitive processes in language acquisition and learning (cf. Beckner et al. 2009; Ellis et al. 2013; Tomasello 2003). On this view, acquiring the perspectival construal patterns of a language proceeds via schematisations and abstractions from instances of actual language use and linguistic perspectivation in context.

According to Tomasello (2003), these processes of acquisition rely on two main factors: (a) sociocognitive capacities and motivations and (b) general cognitive mechanisms. Sociocognitive capacities and motivations that are especially important in the context of language acquisition are perspective-taking (see Clark 1997; Tomasello 2003), shared intentionality (Tomasello et al. 2005), joint attention, and *Mitteilungsbedürfnis*, a German term used by Fitch (2010) to denote the drive and desire to communicate and share meaning that is fundamental to linguistic interaction. Among the more general cognitive mechanisms crucial to language learning are, for example, pattern-finding (Tomasello 2003), statistical learning (Saffran 2003), generalisation (Ibbotson 2011), entrenchment (Lieven 2010), and analogy (Gentner and Christie 2010).

Overall, it can be said that perspectivation and construal play an important role both in language acquisition and cognitive development, which is why in the next session I will focus on the cognitive foundations of perspective-taking in language and cognition in more detail.

5. Cognitive development

As already mentioned, in developmental psychology, perspective-taking and -setting are seen as fundamental aspects in the development of social cognition (Moll and Tomasello 2007a; Tomasello 1999; Perner et al. 2003; Wellman 2011). *Social cognition*, here, refers to both cognition about social partners and their desires, intentions, knowledge, beliefs and so on as well as to the capacity for participating in shared activities and cognition with them (Carpenter 2011: 106). In this domain, infants and young children do exhibit sociocognitive competencies that seem to go well beyond those of non-human primates (Moll and Tomasello 2007; Tomasello et al. 2005)–whose social cognition is already quite sophisticated (Rosati et al. 2010; Hare 2011). But more importantly, coupled with these cognitive capacities they also show unique social motivations for sharing psychological states and collaborating in joint activities with others as well as for aligning themselves with them and in a sense being like them (Carpenter 2011).

These skills and motivations are sometimes termed *collective* or *shared intentionality*. Shared intentionality denotes the motivation and ability to engage with others in co-operative, collaborative activities with joint goals, plans and intentions and to share attention, experiences and other psychological states with others (Tomasello et al. 2005; Tomasello and Carpenter 2007). The concept also implies that interactants share a cognitive representation that stands for, is about, or is jointly directed at things, properties, events and states of affairs. It also indicates that these kinds of shared activities are situated within a joint attentional frame in which experiences are shared (Jacob 2011: 12f; Tomasello et al. 2005).

The shared intentionality infrastructure underlying these skills and motivations emerges at the beginning of infants' second year of life, and can most clearly be seen in their production and comprehension of pointing.

5.1. Pointing and perspectivation

Infants at the age of 12 months begin to show some species-unique ways of directing and sharing attention, such as holding things up so they can show them to others, or pointing to interesting situations and events. These pave the way for the acquisition of language as they establish a "referential triangle" between a "me," a "you" and an "it" analogous to speaker, listener, and topic (Tomasello 2003, 2011).

What is especially important about these behaviours is that the infants point "declaratively," that is, to share attention, experiences and attitudes with others. This kind of pointing poses a fundamental difference to the communicative behaviour of captive chimpanzees, who only point imperatively to humans to get something they want, using them as "social tools" (Tomasello 2008: 190). It also poses a fundamental difference to chimpanzees in the wild, who are rarely seen to point for conspecifics at all, and if so only imperatively (Pika and Mitani 2009; the issue is, however, still controversial, cf. Lyn et al. 2011).

There is convincing evidence that infants at this age really derive their gratification from sharing their perspective with others when pointing, instead of pointing for more egocentric reasons (e.g. that they only want to get the adults to pay attention to them). Liszkowski et al. (2004) sat 12-month-olds together with an experimenter so that they faced a large white sheet with a small hole spanned across the room. Then a puppet of *Grover* from *Sesame Street* kept appearing in the hole frequently and then vanished again. This sight evoked the infants' attention and they pointed to this interesting situation.

Liszkowski and colleagues now had an experimenter react to the infants' pointing behaviour in different ways. The result was that the infants were only satisfied when the adult alternated her gaze between the infant and the interesting situation and commented about the situation interestedly or vocalised positively (joint attention), but not when the adult only looked at the infant and smiled at them and expressed positive emotions (ignoring the object). They were also not satisfied when the adult only looked at the situation but not at them or when the adult simply ignored their pointing (see also Tomasello 2008: 119f; Carpenter 2011: 112). Thus, infants at this age really intend their pointing gesture as an invitation to the adult to share attention and attitudes and to share their perspective with them.

In addition, at the same age children also point helpfully to adults in order to inform them of the location of an object they are looking for (Tomasello 2008: 111ff), which indicates some form of understanding other people's goals. This will be the topic of the next section.

5.2. (Shared) Intentionality and the foundations of perspective-taking

Human infants' and children's social cognition is not only remarkable in the domain of production, but also in that of comprehension. In the context of a hiding-and-finding game, for example, 14-month-old infants

were presented with two containers, one of which contained a toy. The experimenter then pointed at the container where the toy was hidden. From this, the infants successfully inferred the toy's location and retrieved it (Behne et al. 2005). Chimpanzees, on the other hand, fail these tasks (Miklósi and Soproni 2006). In contrast to human infants and young children they are unable to grasp the relevance of the pointing gestures as a cooperative signal in a joint activity characterised by a joint attentional frame or *common ground* (Tomasello and Carpenter 2007: 122; Sperber and Wilson 1995; Clark 1996). This is why chimpanzees, as opposed to infants, who display rudimentary perspective-taking abilities in this regard, simply "follow the point to the bucket and say, in effect, 'A bucket. So what? Now where's the food?' They do not understand that the pointing is intended to be 'relevant' to the searching as a shared activity" (Tomasello and Carpenter 2007: 122).

From the point of view of prelinguistic communication based on the shared intentionality infrastructure and rudimentary perspective-taking and foremost -sharing abilities, then, we get a view of how meaning is constituted communicatively that is very similar to that in CL: "the joint attentional frame or common ground is what gives a pointing gesture its meaning–it is what 'grounds' the communication in the shared space of meaning" (Moll and Tomasello 2007a: 644). This, then, strengthens the assumption that the socio-cognitive capacities described here are the foundation of linguistic perspectival construal. Indeed, it seems as if later linguistic competence in this domain develops on a continuum building on this platform. This is in accordance with Langacker's position on language acquisition, which is also adopted by this paper (cf. also Langacker 2009):

> The elaboration of a fully specified linguistic system during language acquisition, and their implementation in everyday language use, are clearly dependent on experiential factors and inextricably bound up with psychological phenomena that are not specifically linguistic in character. (Langacker 1987: 13)

5.3. Joint action, perspective-taking and common ground

The evidence presented in the two previous sections suggests that both prelinguistic and linguistic communication can be seen as forms of joint action rooted in common ground between the communicators (Clark 1996: 3, 12). In some way, relevant changes and aspects of the infant's and the adult's shared cognitive environment are made "mutually manifest" for them and cognitively "transparent" in joint interactive engagement

(Sperber and Wilson 1995; Eilan 2005). The same holds for the fact that both infant and adult are sharing a *perspective* on a situation.

Evidence for infants' and young children's understanding of common ground in this way is substantial. For example, in one experimental setting 14-month-olds played with two novel toys together with an experimenter who then left the room. Then the infant and a second experimenter played with a third novel toy. When the first experimenter came back and pointed excitedly in the general direction of all three toys lying on a tray in front of the infant, asking the infant to give "it" to her, infants handed them the third toy that was new to the adult, i.e. the one that they had not had a shared experience with. Control conditions indicated that the infants' choice was not based egocentrically on which object they themselves found most interesting or which was newest for them, but that they indeed chose the object because they knew that it was new for the adult (Tomasello and Haberl 2003; Moll and Tomasello 2007b).

Follow-up experiments indicate that children's understanding of common ground is even more sophisticated than this. In a similar experimental setting, 14-month-old infants and the experimenter played together with three novel objects. With two of them, they played in a normal manner (60 seconds each), but with one of them they played in a very excited manner for three times at three different locations (20 seconds each time). When sitting in front of a tray with the three novel objects, the infant was ambiguously asked for "it" like in the previous studies. Infants then reliably handed the experimenter the toy that they had played with in an excited and special manner together. When a different experimenter asked for "it," infants picked one of the three objects indiscriminately.

This suggests that the infants indeed knew "which of these objects "we"–and not just me or you alone–had experienced in a special way in the immediate past" (Moll et al. 2008: 98).

Other evidence for children's understanding of common ground comes from a study by Liebal et al. (2009). In their experiment, 14-month-old infants and an adult played a cleaning-up game in which they picked up objects and put them into a basked. At one point, the adult pointed to another object in the room, simply saying "There!" The infants then picked up the target object and put it into the basket as well. This indicates that they understood the adult's pointing as relevant in the context of their joint activity. This is supported by a control condition in which the infants played the game with one adult and then a different adult pointed to the object. In this condition they rarely interpreted this point egocentrically, that is, simply in terms of the activity they themselves were doing, and did not clean up the object the other adult pointed to. What distinguished the

two conditions was whether there was common ground between the infant and the adults. 14-month-olds used the absence or presence of common ground to interpret the adults' communicative gesture (Liebal et al. 2009).

These data suggest that infants and young children come equipped with a rich knowledge of sharing and taking perspectives which they bring to the task of acquiring the perspectival structures inherent in language.

Indeed, it can be argued that it is participation in interactions involving joint attentional frames and shared intentionality that creates the concept of perspective in the first place. As a consequence, these kinds of interactions and the cognitive foundations and processes involved transform human cognition fundamentally (Moll and Tomasello 2007a).

For instance, like linguistic constructions, pointing gestures already embody certain perspectives, which are carried by the joint attentional frame or common ground, and thus differ according to the shared experience of the communicators. Moll and Tomasello (2007a) argue that these kinds of situations may enable infants to "break into," so to speak, the realisation that two people can see the same physical situation but have different perspectives on it. As aspectual differences in perspective only do occur when two people are focused on the same referent but see it differently (Perner et al. 2003), appreciating that the infant's and adult's attention are focused jointly on the same toy, but that it is only new to the adult, seems to be a crucial foundation of the understanding of perspectives.

6. Perspective in language acquisition

After discussing the role of perspective-taking in cognitive development, I will now turn to the role of perspective in language acquisition. First of all, the very act of acquiring a language can be said to involve a kind of role reversal imitation: a child must learn that it can use a symbol towards the adult in the same way that the adult used it towards her (Tomasello 1999).

The overall development of perspective-taking and linguistic perspectivation is grounded in children's emerging sociocognitive capacities as well as scaffolded by interactive and embodied social routines and practices that foster a developing understanding of different roles in simple cooperative activities in "joint attentional formats" (Bruner 1983) like playing together, taking a bath, changing diapers, etc. (cf. Moll and Meltzoff 2011; Fuchs 2012). By 18 months, children show an understanding of complementary roles in social games and cooperative problem-solving tasks. For example, in a game setting where one person rolls a ball down a tube and another one catches it with a can, children

readily switch roles and also encourage and actively reengage the adult to take their role when the adult ceases to collaborate in the shared activity.

Chimpanzees, on the other hand, do not display an understanding of role-taking, show no interest in social games and, although they partake in cooperative problem-solving that gets them a reward, they do not re-engage the adult when she ceases to fulfil her role (Warneken et al. 2006).

At the same age children also start using combinations of words, thus partitioning an experiential situation into several symbolic units. This partitioning, then, can be seen as one of the earliest forms of perspectival construal. At the same age, young children also use systematised pivot schemas. These kinds of multi-word utterances are organised locally around particular concrete words with one abstract slot and thus can be seen as a first way of partitioning scenes into distinct conceptual units, e.g. *More___*: *more juice*, *more play*, etc. (Tomasello 2011: 244).

This suggests an important role for the shared intentionality infrastructure and perspective-taking in joint action, linguistic interaction and language development.

6.1. Perspective-taking and word-learning

Perspective-taking and other sociocognitive capacities have also been shown to be important in word-learning. For example, from 18 months on, when they hear a new word, children do not associate it egocentrically with an object that is salient and interesting to them from their perspective.

Instead, they shift their attention to what the adult is looking at and assume that the word refers to the object he or she is attending to (cf. Tomasello 2003: 67ff). When a 24-month-old child observes an adult who announces that she wants to "dax Mickey Mouse" and then first performs an action accidentally (accompanied by "Woops!") and another intentionally (accompanied by "There!"), or the other way around, the child learns the word for the intended, not the accidental action (Tomasello 2003: 70). In learning words, then, children this age display a sensitivity to the adult's perspective and referential intention. The same conclusions can be drawn from the results of experiments performed by Akhtar et al. (1996) that were similar to those described in Section 5.3. They had 24-month-old children, their mothers and an experimenter play together in a room with three objects that were novel to them. Then the mother left the room, and the experimenter and the child played with a fourth novel object that was taken out of a box. The mother then came back, looked in the direction of the four objects and said excitedly: "Oh look! A modi! A modi!" Children understood that their mothers would not find one of the

objects that they had already played with to be this noteworthy, but instead that they were excited about the object they had not played with and saw for the first time. Accordingly, children learned the new word for the object that was new from the adult's perspective, but not from their own perspective.

Given similar results with 14-month-olds in comparable non-linguistic situations, it seems reasonable to propose that perspective-taking in cognition can be seen as a precursor to perspective-taking in language, and that both crucially depend on interactive discourse contexts.

6.2. Word learning and perspectival construal

Children also have to develop interpretative and productive capacities of perspective-taking and -setting that go way beyond perspective-taking as a means of identification of a speaker's referential intention.

In terms of the pragmatic choices involved when talking about a situation, children have to come to understand why a speaker chooses a specific referential expression rather than another one that could equally be applied–e.g. talking about *it*, *Mummy's chair*, *the chair in the study*, or simply *the chair*. This then enables them to learn about and internalise the multiple conventionalised ways of construing a referent, including learning the use of the appropriate means of expression according to context (Tomasello 2011: 243).

Clark and Svaib (1997) have found that children show some ability to take and express alternate perspectives and shift between perspectives on the same entity from very early on. They tested whether children aged 2;2 to 4;8 accepted and produced multiple terms for the same referent expressing different perspectives. Specifically, they had to answer questions about a set of pictures that required shifts in level of categorisation (e.g. from basic level "dog" to superordinate "animal" or vice versa) or shifts in domain of categorisation (e.g. from "cat" to "cowboy" and vice versa). In the level task, the children were shown pictures of animals that were engaged in different activities. The children were then asked questions like "What kind of animal is this?" "Is this a dog?" and so forth. By answering correctly, the animals in each picture were thus "identified as referents of two distinct terms or labelled with a second term, by each child, in response to questions checking on multiple terms for the same referents" (Clark and Svaib 1997: 63).

In the domain task the children were shown pictures with animals (cats, dogs, pigs, rabbits) that had different "occupations" (such as painter, cowboy, nurse, fireman) (Clark 1997: 22). They were then asked questions

such as "What is that cat?;" "What do you call someone who does that?;" "Is that cat a sailor?;" "What is this nurse?;" "Is this cat a fireman?;" "Is this nurse a dog?;" etc. What Clark and Svaib found was that in both tasks even the youngest children, aged 2;2, did not have any difficulty in using two different terms for the same entity. This illustrates that children from this age on are able to linguistically take more than a single perspective on the same referent and can readily switch between them. The children thus show an ability to construe the same scene in different ways starting at an early age.

Similarly, data on young children's spontaneous language use and lexical choices support this view. As a case in point, in Clark's (2009: 138) diary data of her son Damon's language development there are multiple examples of applying multiple terms to one referent in a given situation from 1;7 years on. These include construing things at different levels of granularity:

> D (1;7,1, looking at his bowl of cereal at breakfast): *Food*.
> (A little later, still at the table, looking at his own and then his parents' bowls of cereal): *Cereal*.

> D (1;7,20, doing his animal puzzle; D named each animal type as he took it out [e.g., *lion*, *tiger*, *zebra*], then, on completion, with all of them back in, pointed and said): *Animal back*.

They also include acknowledgments that the same entity can be construed from different perspectives, i.e. in this case that the same entity can be referred to with different terms:

> D (2;1,27, when his mother asked what D was usually called)
> Mother: *Are you 'lovey'?*
> D: *No, I 'Damon', I 'cookie', I 'sweetheart'! Herb 'lovey'.*

> D (2;5,4, putting the wastebasket, usually called basket when he throws anything into it, down over his head): *That's a hider. Hide me in there*.

It is, however, a matter of debate whether children this age really show a precocious understanding that different terms embody different, sometimes subtly different, perspectives. For instance, young children do spontaneously use synonyms in everyday conversation:

> D (2;2,24, playing with several small dolls)

Mother: *Do you call them people?*
D: *They not people, they childrens. They kids.*

6.3. Corpora, cognition and construal

Such instances of applying multiple terms to the same referent in a situation, and thus construing objects and events from different perspectives and in different relations can also be systematically studied using corpus data. To illustrate this, I will use an example form the dense Thomas-Corpus (cf. Lieven et al. 2009) of the Child Language Database Exchange System (MacWhinney 2000). In this situation, 3-year old Thomas initiates a pretend play situation with his mother in which they pretend to be chickens:

CHILDES, Thomas-Corpus, 3-00-07.cha
CHI: *come on, **big chicken**.*
MOT: *am I a big chicken?*
CHI: *I **little** chicken.*
MOT: *and you're a little chicken.*
. . .
CHI: *you're **Daddy chicken**, aren't you, Dad?*
CHI: *I small chicken*.
CHI: *I am a **baby chicken***.
CHI: *Mummy's a **big large chicken***.
MOT: *and you're a small chicken*.

What we can see here is that at age 3, Thomas is able to construe the pretend play relation between himself and his mother from different perspectives and within different frames of reference. The first construals he uses are related to the frame of reference of size ("big chicken," "little chicken"). But in the continuing discourse, he adds another construal of the situation by introducing the frame of reference of family relations ("daddy chicken," "baby chicken").

In Cognitive-Linguistic terms, at this age, Thomas uses the construal operation of profiling a situation in different ways. This construal operation relates to the relationship between a linguistic expression and its conceptual base. It can be said that the profile stands out as the specific focus of attention against an immediate broader body of conceptual content, called the base. This means that each expression selects some body of conceptual content as the basis for its meaning. This then forms the general locus of general viewing attention. Within this locus of general

viewing attention, or base, a particular region is singled out, or profiled, as the focus of attention. For example, when speaking of Friday, this day is profiled relative to the conceptual base "week" (Langacker 2008: 66f). In the above example then, Thomas first chooses the frame of reference of chickens and their size as the conceptual base of his construal and then focuses the attention on, or profiles, a specific dimension of the conceptual base (bigness in "big chicken" and smallness in "little chicken"). He then introduces the conceptual base of (chicken) family relations against which the specific dimensions of being a father ("daddy chicken," "Dad") or a baby ("baby chicken") are then profiled.

7. Psycholinguistics, egocentricity and perspective-taking

Notwithstanding the discussion above, from the point of view of psycholinguistics it remains a central question how fully integrated perspective-taking is into the language-processing system and how widespread the phenomenon really is (Barr and Keysar 2006: 902). That is, to what extent do we actually take into account and think about other people's perspectives when creating a linguistic construal of a situation?

The so-called "referential communication task" is an experimental setup especially relevant to the question of perspective-taking in language processing. In an influential set of studies, Nicholas Epley, Boaz Keysar and colleagues (Epley et al. 2004; Keysar et al. 2000) presented participants with a shelf divided into slots into which a number of objects of various sizes were placed (e.g. a small toy truck, a normal-sized toy truck, a large toy truck, apples, bunnies, glue, etc.). On the other side of the shelf was a confederate of the experimenter. The confederate had the role of a "director" and told participants to move around various objects on the shelf. Critically, some of the slots were occluded from one side, so that the participant could clearly see what was in a slot, but the director could not (Epley et al. 2004: 72).

This means that when the director instructed the participant to "move the small truck above the glue" he or she referred to the mutually observable truck on the upper left (from the participant's point of view), not to the one on the mid-right. However, adults committed a sizable amount of reaching errors: in Keysar et al. (2000) they did so in 23% of all cases where there was an occluded object that could have been the referent from the participant's perspective; in Epley et al. (2004) they reached for the egocentric hidden object 21% of the time. Both studies also tracked participants' eyes. This was done to see which object they fixated on first when the instruction could be interpreted as ambiguous if they did not take

into account the director's perspective. This means that they tried to measure not only the final outcome of the referential choice but also the participants' information processing involved in establishing this choice.

What Epley et al. found was that in the 79% of cases where participants did not reach for the distractor object, in the majority of these cases (61% of the time) they still looked at it first instead of at the target object. Taken together, the results of both studies indicate that addressees tend to interpret utterances egocentrically at first and still consider objects as potential referents even when they cannot be seen by the director. They seem to adjust their perspective and correct their egocentric interpretation only at a later stage in processing. In addition, this process of perspective-adjustment is not failsafe and seems to depend on a variety of factors.

What is most interesting for the purposes of the present paper is the fact that Epley et al. (2004) also compared the performance of adults and young children (median age 5,0). They found that both groups displayed equally strong egocentric tendencies and quickly and automatically interpreted instructions only from their own perspective. However, adults were significantly better at correcting their initial egocentric interpretation and adjust their perspective so that it incorporated the director's point of view. The children on the other hand reached for the occluded object 51% of the time and this egocentric tendency was stronger the younger the children were (Epley et al. 2004; see also Barr and Keysar 2006).

However, in regard to adults it needs to be mentioned that there is also evidence for an influence of the other's perspective right from the start. For example, in a study by Samson and colleagues (2010) subjects' response to a dot-counting task was significantly slower if an avatar on the screen, who they were explicitly told to disregard, saw a different number of spots. In addition, in more interactive versions of referential communication tasks interactants actively and collaboratively negotiate and coordinate the perspective to be adopted in ambiguous contexts (e.g. Schober 1993: 13ff). Moreover, there is evidence that both speaker and listener have a general and spontaneous *motivation* to take other people's perspective even if it involves cognitive cost (Duran et al. 2011; Schober 1993).

Regarding experiments of the sort conducted by Epley, Keysar and colleagues, there is evidence that children's abilities to take into account the perspective of the speaker when forming interpretations (from 3 years onwards) or when making requests (from 5 years onwards) improve significantly when the situation is more accessible and the cognitive demands of the task are reduced (cf. Nilsen and Graham 2009: 221, 242ff; Nadig and Sedivy 2002; Matthews et al. 2010). For example, Nilsen and

Graham (2009) presented 3- to 4-year-old as well as 5-year-old children with a simplified version of the experimental setup used by Epley, Keysar and colleagues. In their setup, children were only asked, for example, to "get the duck" instead of having to evaluate relational concepts and relating these to different perspectives. In this simplified version, children showed a much higher sensitivity to which of the objects the confederate could see both when receiving and giving instructions themselves. This was reflected in their reaching behaviour, their eye movements as well as in how detailed and closely tailored to the confederate's perspective their own instructions were (Nilsen and Graham 2009; see also Nadig and Sedivy 2002). In addition, by 2 years of age children show an understanding of what a parent knows about an object that was hidden based on whether the parent was perceptually present when the object was hidden or whether the parent only came into the room afterwards. They only supply the information needed when they judge their parent not to know the object's location (O'Neill 1996; Clark 2009: 32).

This area of research of course has important ramifications for the acquisition of linguistic perspective-taking and -setting. Regardless of the exact interpretation of these conflicting experimental results and theoretical accounts (see also Barr and Keysar 2006), from a CL point of view, the data presented here suggest that young language learners are faced with the task of continuously developing and repeatedly practicing their ability of using the means of linguistic perspectivation to communicate adequately their conceptual construal of a situation. That is, they have to learn how to establish a shared construal in conversation via the "dynamic and reciprocal interplay of perspective-setting and perspective-taking" (Graumann and Sommer 1988: 200).

8. Second language acquisition

The importance of construal operations and construal patterns in language structure, use and acquisition also has important ramifications for second language learning and instruction. Specifically, from this point of view, the following questions gain prominence in second language acquisition research: (a) how do learners learn the conventionalised construal patterns of their second language? (Littlemore 2009; Robinson and Ellis 2008) (b) How do they learn to choose among the array of linguistic resources that are available to convey a particular perspective in a native-like-way? (Verspoor and Tyler 2009).

Overall then, one of the crucial tasks when acquiring a second language is developing an awareness of the conventional construal

patterns by which perspectives are expressed in the target language and learning to adequately use them to express your communicative needs.

What Cognitive Linguistics can contribute here is a systematic study of the way the conventionalised construal patterns of individual languages can differ from one another. Littlemore (2009: 13-40), for example, identifies four sources of variation in construal systems and the conventionalised patternings of different languages: (a) attention and salience, (b) spatial and epistemic perspective, (c) constitution and (d) categorisation.

The phenomenon of attention and salience refers to the fact that languages differ in which aspects of a situation or event are conventionally marked as salient and which are backgrounded. For example, Korean and English differ significantly in the spatial relations they direct attention to: whereas in English the relations of containment (*in*) and support (*on*) are the most salient, Korean focuses much more on relations such as loose contact, loose fit and tight fit. Thus, the two languages differ in their cognitively entrenched construal patterns of spatial relations and language learners need to be made aware of these patterns (cf. Bowerman and Choi 2003; Littlemore 2009: 16f). Another salient example is the difference between satellite-framed languages like English, German, Russian or Chinese, which primarily express manner of motion in the verb and the path of motion through a lexical satellite and verb-framed languages like Spanish, Greek or Japanese, which encode the path of motion in the verb and manner of motion, if at all, in a satellite (Talmy 2000; Slobin 2003).

This means that these languages differ in regard to which aspects of a motion event are conventionally verbalised and made salient. A second language learner speaking a verb-framed language thus needs to internalise the different pattern of construing motion events entrenched in verb-framed languages and vice versa.

Differences in languages with regard to the conventionalised expression of perspective–used by Littlemore (2009: 21f) to refer to "our own position with respect to the thing that we are talking about"–also need to be learned when acquiring a second language. In Turkish, for example, it is obligatory to mark whether the speaker has witnessed the event or not. In English, on the other hand, an event can be construed without making explicit whether it was witnessed by the speaker or not (Slobin 2003; Littlemore 2009: 24f).

The component of constitution refers to the granularity at which a particular situation is conceptualised. For example, *leaves* and *foliage* can be used to refer to the same object, but they do so at different levels of constitution: from up close, leaves can be seen as an aggregate of

individual object, but from further away, they tend to be conceptualised as one homogenous mass where the individuating boundaries are not clearly identifiable (Croft and Cruse 2004: 64). Learning these kinds of distinctions presents a particular challenge for speakers of a language without a count-noun/mass-noun distinction, such as Japanese (Littlemore 2009: 25).

Lastly, at times languages also differ quite strongly in the kind of categorical distinctions they make. For example, in English, a collection of trees can be either called *woods* or *forest*, depending on its size, whereas in German only *Wald* is used and there is no distinction being made between small and large collections of trees. To take an example where the distribution is the other way around, when talking about an eating event, German makes a distinction whether the agent is human (*essen*) or an animal or behaving in an animal-like way (*fressen*), which does not exist in English. What this illustrates is that a second language learner also needs to acquire the L2 categorisation and construal system (Littlemore 2009: 26f). Whereas this seems comparatively easy for the examples just given, it is considerably more challenging when it comes to, say, the categorisation of space and spatial prepositions, which, as already alluded to above, can differ considerably across languages (Bowerman and Choi 2003; Littlemore 2009: 30ff).

In sum, then, acquiring the perspectival construal patterns of another language can be seen as an important and challenging aspect of L2 learning. This again demonstrates the importance of perspectivation and construal in language, cognition and interaction.

9. Conclusions

In this paper I have argued that to gain insight into the acquisition, structure and foundations of perspectival construal patterns in language, interaction and cognition we need to integrate data and analyses from:

- Cognitive Linguistics
- First and Second Language Acquisition Research
- Developmental Psychology
- Psycholinguistics

The interdisciplinary synthesis I propose here should also be extended to and incorporate other fields of research in which the concepts of perspective, perspectivation, and construal play an important role. These include, but are not limited to: cognitive neuroscience, which can give us insights into the neurobiological foundations of perspective-taking and other sociococognitive factors underlying perspectivation and linguistic

construal (Frith and Frith 2012; Mason and McRae 2008); evolutionary linguistics, which can help in uncovering the ontogenetic, diachronic and biological changes and pathways that enabled the dynamic development of perspectival construal operations and the evolution of the complex adaptive system of language more generally (Beckner et al. 2009; Bybee 2010; Pleyer 2012); and the study of talk-in-interaction, which can aid in investigating the question of how shared meaning and shared perspectives are dynamically negotiated in interaction and what role cognitive factors might play in this process (Depperman 2012; Graumann and Kallmeyer 2002).

On the one hand, all these disciplines could benefit from the interdisciplinary dialogue proposed in this paper. Most importantly, however, the main thrust and claim of this paper is that such an interdisciplinary project will enable the creation of a developmentally sound, cognitively and linguistically grounded theory of the acquisition, structure and foundations of perspectival construal patterns in language, cognition and interaction.

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CHAPTER ELEVEN

THE EFFECT OF EMOTIONAL VALENCE ON DISAMBIGUATION PROCESSES: A COMPLETION STUDY INVOLVING RELATIVE CLAUSES IN SPANISH

MARCOS DÍAZ-LAGO,
SARA RIVEIRO-OUTEIRAL,
JAVIER GARCÍA-ORZA AND ANA PIÑEIRO

1. Introduction

1.1. Sentence processing and syntactic ambiguity

The comprehension and production of sentences goes beyond the simple lexical capacity of joining linguistic signs with their own meanings. Sentences communicate ideas and those ideas are more than a mere string of words. Thus, in addition to the meaning of words, the parser uses the rules of grammar to establish relationships between the elements of a sentence. The importance of grammar becomes evident in the differences between sentences such as *John kissed Sarah* and *Sarah kissed John*. Both sentences are formed by the same words, but the ideas that they communicate are quite different. This is so because syntactic rules establish that John is the subject and Sarah the recipient of the action in the first example, whereas in the second, despite containing exactly the same words, the thematic roles of the two elements are different, again due to syntactic rules.

In both production and comprehension processes, structural information (syntax) is what allows for both the identification and specification of the relationships between elements in the sentence. The main function of syntax, then, is to combine, merge and link those elements of the sentence that must go together, even when they are formally distant. Syntax is thus made up of formal rules which can provide language with an infinite combinatory capacity, from the mundane to Chomsky's famously unrealistic *Colorless green ideas sleep furiously* (Chomsky 1957). This latter sentence was created to illustrate that a set of words can conform perfectly to the syntax of a language, even when conveying a meaning which is at best incoherent. Thus did Chomsky aim to highlight the autonomy of syntax, and the debate about the independence of syntactic and semantic processes continues to this day.

When we process language in real time, we typically analyse sentences as we are reading or hearing them, rather than waiting until the end. This is because our working memory would otherwise become overloaded, and the first words of a sentence would be lost before the parser could establish structural relationships with subsequent words. Even before the whole sentence is available for comprehension, then, the parser has to deal with a large number of syntactic and semantic operations and to solve them very quickly. Understanding a sentence involves processes such as: a) segmenting a sequence into phrases and clauses, b) assigning a structural role to constituents, c) establishing syntactic relationships between those segmented constituents, d) searching for correspondences between syntactic and semantic roles, and finally, e) creating a propositional representation of the whole sentence, thus reaching a meaning that goes beyond that created by the simple union of its elements (Belinchón et al. 1992). Those operations can be grouped into four general components (Piñeiro 2011: 33):

I. Formal component. The essential processes of this component are to segment the sentence and to establish the grammatical category and the syntactic function for each of the words. The final goal is to build a syntactic tree for the entire sentence, as in Fig. 11-1:

(1) Pedro shot the actress who was on the balcony.

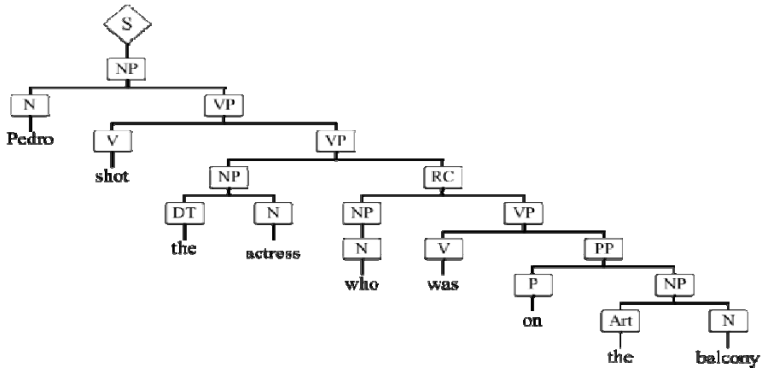

Fig. 11-1: *Syntactic tree for sentence (1)*

II. **Semantic component.** This component refers to the meaning of each of the elements in a sentence. Thus, lexical access plays the most important role here. Variables like frequency, animacy, number of neighbors, concreteness, imageability, valence, arousal, neighbors, etc. can influence lexical access.

III. **The argument structure.** At this point the parser establishes the primary relationships between verbs and prepositions. This process provides information about what is a complement and what is a modifier, for example.

IV. **Pragmatics.** The knowledge of the world around us; that is, knowledge as to things that are probable and those that are not will help in the comprehension process. Pragmatics provides the specific context that is necessary to understand a sentence.

Thus, there are two essential types of information in sentence processing, syntactic and semantic information. Syntactic information (merely formal) is needed to create labels for words and, as its ultimate aim, a syntactic tree that links all the elements in a sentence. Semantic information, on the other hand, provides direct access to the meaning of words and links them in order to create a final representation for the sentence.

The so-called "autonomous" and "interactive" models have introduced two alternative hypotheses about how syntactic and semantic processes are related (Fraga 1997). Autonomous theories, such as Fodor's modular perspective (Fodor 1983), conceptualise syntactic and semantic parsing as

two different and independent processes. Accordingly, in a first stage of sentence processing the parser automatically applies certain strategies based on formal rules in order to create the structure of the sentence (that is, a syntactic process). Only at a later stage does the parser pay attention to semantic and pragmatic information, in order to evaluate the syntactic structure built in the previous stage. If this evaluation is satisfactory, the process concludes. However, if the structure does not fit with the semantic information, the parser needs to reanalyse the whole sentence in order to select a more plausible alternative (Fraga 1997). By contrast, interactive models claim that the parser analyses several alternative structures in parallel, with both syntactic and semantic information taken into account as these are discarded or finally selected.

There are linguistic structures that seem to support the independence of syntactic and semantic processes, as autonomous theories claim. Thus, on the same lines as Chomsky's nonsensical sentence, Lewis Carroll was able to build an absurd but apparently correct syntactic structure in his poem "Jabberwocky" (Carrol 1872: 116-117), combining a set of non-words and pseudowords in a way that satisfied syntactic rules. However, in normal language use, it is difficult to find examples of complete independence between structural (purely formal processes) and semantic processes.

In order to clarify the independence of these two processes, research in this field has focused on ambiguous structures as an experimental paradigm to study the possible influence of semantics on syntactic information. Building up a syntactic tree, and ultimately establishing thematic roles, is sometimes straightforward. In sentence (1) above, for example, *Pedro shot the actress who was on the balcony* it is easy to work out *who* shot *who* (Pedro shot the actress) as well as *who* was on the balcony (the actress). However, there exist ambiguous structures in which this distinction is not so clear. For example, in sentence (2) *Someone shot the servant of the actress who was on the balcony*, we know *who* shot *who* (someone shot the servant of the actress) but we do not have immediate access to the information explaining *who* was on the balcony (is the servant the one who was on the balcony, or is it the actress?).

Ambiguity, the phenomenon exemplified in the above relative clause sentence, is defined as the possibility that something can be understood in several modes or has different interpretations. One of the most popular examples of syntactic ambiguity is the Garden-path sentence *The horse raced past the barn fell* (Bever 1970: 316). In this structure the parser could understand *raced* as the past-tense form of the verb *race* (hence it will be the core of the whole sentence) or as a passive participle (which raced), so it will be the core of a relative clause. Ambiguity in language is

more common than might be supposed, and indeed Pinker (1994: 208) claims that "ambiguity is the norm rather than the exception."

Syntactic ambiguity is somehow connected to how the different elements in a sentence relate. Thus, a linguistic structure is ambiguous when it has more than one possible syntactic analysis. An example of this is the previous sentence (2), in which the parser needs to choose between two valid syntactic trees: one in which the relative clause (*...who was on the balcony*) is attached to *the servant* (Fig. 11-2), and another in which the relative clause is attached to *the actress* (Fig. 11-3). Hence, the decision taken by the parser will determine the ultimate thematic roles of each of the components, that is, whether it is the servant *who* was on the balcony or, on the contrary, if the actress was the one *who* was on the balcony.

According to the elements that are involved in the process, there are multiple types of syntactic ambiguity (Piñeiro 2011: 31). For the purpose of the present study, we will focus on attachment ambiguity and, more specifically, on relative clause attachment ambiguity.

(2) Someone shot the servant of the actress who was on the balcony

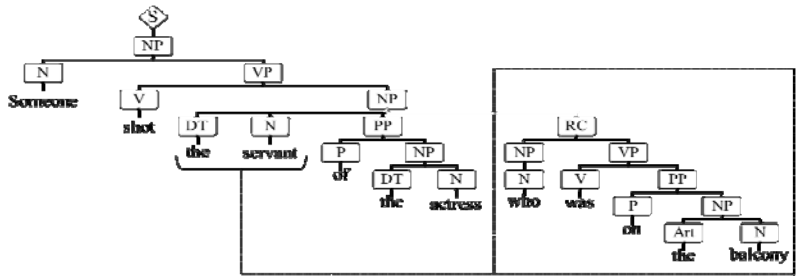

Fig. 11-2: *Possible syntactic tree for sentence (2). Attachment of the RC towards NP1*

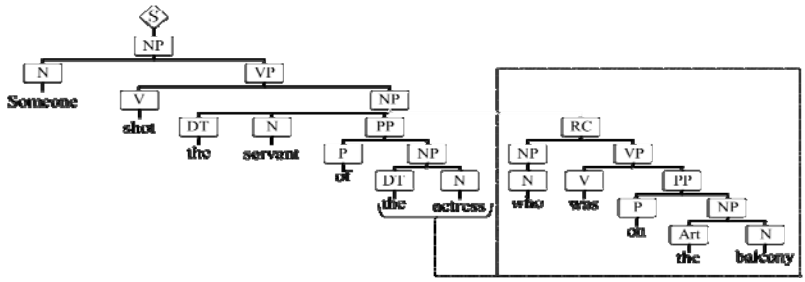

Fig. 11-3: *Possible syntactic tree for sentence (2). Attachment of the RC towards NP2*

1.2. Relative clause attachment ambiguity

When a sentence is being processed, the parser has to make many decisions, and they must be made quickly. As a sentence is being read, the parser segments it, labels words for their corresponding grammatical categories, and combines words into phrases in order to build a putative syntactic representation. At each of these stages of sentence processing, the parser is making decisions that are potentially difficult. In structures like that in sentence (2), where a modifying relative clause (RC) is preceded by two noun phrases (NP1-of-NP2), the parser faces an ambiguity that has to be resolved so that a syntactic tree can be built that satisfies syntactic rules. The aim of this study is to explore the issue of whether a lexical variable such as the emotionality of words can affect disambiguation processes.

Ambiguity in such structures arises when dealing with RC attachment issues. When the RC is being read, the parser perceives that, according to syntax, there are two valid attachment possibilities: the RC can be either a modifier of NP1 or of NP2. This ambiguity must be resolved, and the decision made will affect the meaning of the entire sentence.

The structure NP1-of-NP2 + RC has been used widely in psycholinguistic research since Frazier and Fodor (1978) first addressed attachment ambiguities (see Cuetos and Mitchell 1988; Carreiras et al. 2004; Acuña-Fariña et al. 2009; Fraga, Piñeiro et al. 2012). This structure became a significant focus of study because it serves to illustrate the strategies followed by the parser in allocating new information in the sentence string.

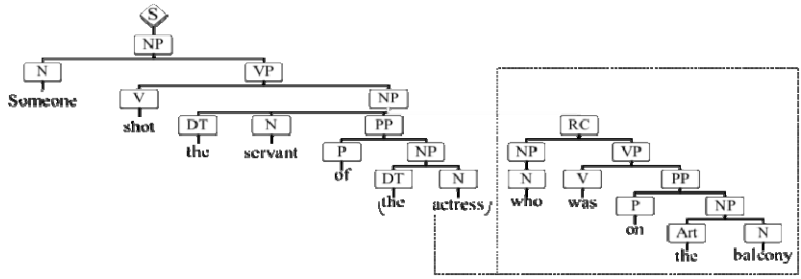

Fig. 11-4: *Possible syntactic tree for sentence (2). Attachment of the RC towards NP2*

A variety of theoretical models have been proposed to explain how the parser processes ambiguous sentences. **Structural theories**, like "Garden-path" (Frazier 1987) and "Construal" theory (Frazier and Clifton 1996), claim that:

> attachment ambiguities are resolved through the application of a fixed and universal set of parsing strategies that will favor the choice of those structures that minimize the processing load (Igoa et al. 1998: 562).

In response to these structural approaches, **experience based** models criticised the universality of such parsing strategies and proposed that attachment ambiguity is resolved according to the parser's own experience. Of these models, the most representative are the so-called "Lexicalist" and "Constraint satisfaction theories" (see MacDonald et al. 1994a; MacDonald et al. 1994b) and the "Tuning hypothesis" (Mitchell and Cuetos 1991). There follows a brief review of these theories, with special attention to the "Tuning hypothesis," which will be adopted as the theoretical basis for the present study.

The **Garden-path theory** is based on the generative model and postulates that sentence processing begins with a syntactic analysis of the surface structure that allows the reconstruction of the deep structure of the sentence. Thus, syntactic information will prevail over other types of information, such as semantics. Accordingly, in a first stage of analysis, the parser pays attention solely to syntactic features (their position, category and grammatical function) in order to choose a syntactic marker. Only at a second stage will the parser attend to lexical, semantic and pragmatic information. What happens in the case of RCs preceded by two NPs (that is, with two potential antecedents) is that both NPs can operate as a syntactic marker, so the parser has to make a decision on this. The

model proposes two disambiguation mechanisms based on two heuristics, namely "minimal attachment" and "late closure:"

- Minimal attachment: "any node potentially unnecessary must be not applied" (Frazier 1987: 562).
- Late closure: "when grammar allows it, the new items must be included into the clause or phrase that is being processed" (Frazier 1987: 562).

When the sentence has two possible markers, the decision will be made according to the number of nodes of each of the two potential markers, the parser choosing the structure which has a smaller number of nodes, that is, the less complex one. Thus, the minimal attachment strategy will be followed, and the RC attached to the NP1. However, both markers may have the same complexity, in which case the parser will follow a late closure strategy and will attach the RC to the NP2. This is the case of sentences with the structure NP1-of-NP2 + RC. Frazier assumes that these strategies are common to all natural languages. In this vein, Frazier and Fodor (Frazier and Fodor 1978; Frazier 1979) found the expected late closure strategy in English, and it was therefore assumed that the processing system followed the heuristics proposed by the Garden-path model. However, in 1988, Cuetos and Mitchell studied NP1-of-NP2 + RC sentences in Spanish, and found, very surprisingly, that Spanish speakers followed a minimal attachment strategy. This contradicted what had been assumed to be a universal principle, and as a result more languages were tested. Several studies then confirmed a preference for a minimal attachment strategy in Spanish (Carreiras 1992; Carreiras and Clifton 1993; Carreiras and Clifton 1999; Fraga, Piñeiro et al. 2012), as well as French, European Portuguese, German and Dutch. Recent work has also suggested a late closure strategy preference in Arabic, Romanian, Swedish and Norwegian (see Fraga, Piñeiro et al. 2012). Frazier and Clifton (1996) attempted to explain this difference between languages without renouncing the universal principle, developing the **Construal theory**.

Construal (Frazier and Clifton 1996) proposes that parsing strategies are universal, but only for certain language domains that the authors call *primary relationships* between primary structures. These relationships are defined as those established between the subject and the predicate of any sentence as well as their complements and obligatory constituents (Frazier and Clifton 1996). Without these components, the sentence would be ungrammatical. Thus, Construal claims that the parser uses the same universal principles proposed by the Garden-path theory (minimal

attachment and late closure) in order to build the syntactic structure of the sentence. The main point of departure from Garden-path is in the concept of non-primary structures, which are those not necessary in order to keep sentence grammaticality, such as RCs. To establish non-primary relationships, it is argued, the parser not only uses structural strategies, but also thematic information. Therefore, for ambiguous RC structures, Construal postulates that both NPs are able to merge with the RC. The attachment decision, then, is based on thematic information, so the RC will be linked to the NP with which it is thematically related. Given that these non-primary relationships are based on thematic domains, Construal is able to explain the differences on attachment decisions across languages while maintaining the universality of structural principles.

However, the findings from experimental studies had in fact already questioned the universality principle claimed by structural models. This led to the development of new types of theories based principally on the parser's experience. The **Lexicalist and Constraint Satisfaction theory** (MacDonald et al. 1994a; MacDonald et al. 1994b) claims that attachment choices are made on the basis of constraints that are set by the lexical heads of phrases, particularly by verbs. This model assumes that, in order to resolve ambiguities, the parser will take into account multiple sources of information (structural, lexical, pragmatic and contextual), relying on the parser's previous experience of the language.

Another experience-based model is the **Tuning hypothesis** (Mitchell and Cuetos 1991). This focuses on the frequency of use of a particular structure in a language. Like Garden-path theories, it assumes the importance of syntactic information, but the parser will choose the more commonly encountered structure in the language. There is also the possibility that the most frequent structure may also have a smaller number of nodes, and in such cases the Tuning hypothesis and structural theories (Garden-path and Construal) would make the same prediction. However, in contrast to other theories, the fundamental principle here is always a matter of the parser's experience in the language. More specifically, the Tuning hypothesis posits the existence of a universal mechanism which reflects the overall preference for a resolution in a certain direction in a language. Thus, Tuning does not oppose universality *per se*, but relies on a mechanism based on the frequency of syntactic structures rather than on a default application of universal structural strategies.

In order to confirm this universal mechanism based on frequency, Cuetos and Mitchell (1988) and Mitchell and Cuetos (1991) looked for evidence by carrying out both experimental and corpus studies in different

languages. Preliminary findings for both English and Spanish supported the universality view. They found a consistent preference for attaching the RC to NP2 in English in both corpora and comprehension studies, while in Spanish the preference was to attach the RC to NP1. However, when Mitchell and Brysbaert (1998) carried out these studies in Dutch, they found that their results did not correspond with corpus data for the same language. Surprised by this mismatch, Brysbaert et al. (1999) adopted a different approach: they made a *fine-grained analysis*, looking at other types of information like semantic and lexical variables rather than only to the frequency of structures. In a completion study, they found that there is a tendency in Dutch to attach the RC to NP2 but only when NP1 contains an inanimate word. The findings were comparable in both corpus and completion studies. The influence of animate nouns has also been confirmed in Spanish (Acuña-Fariña et al. 2009). Although results here did not wholly support the Tuning hypothesis, it was shown that lexical information could modulate disambiguation processes.

Noting the findings made in relation to animacy, the main purpose of the present study will be to explore attachment ambiguities by manipulating one specific lexical variable: the emotionality of the NP.

The study of emotions and their implications for human behavior has a long history, and interest in this area became especially prominent in the last decade of the 20th century, when "the emotional" came to be seen as an interesting topic in psychology. Since then, emotional stimuli have been analysed and classified extensively according to their various characteristics.

1.3. A classification of emotional stimuli

Emotional stimuli can be classified according to two different dimensions which most scholars have accepted as the most reliable criteria for the definition of emotions. These are "affective valence" and "arousal." Valence refers to the degree of pleasantness or unpleasantness of a stimulus (of an image, sound or word) as perceived by the subject. For instance, a picture of a baby sleeping would be rated as high by most people in terms of valence, since the image could be considered as good or pleasant. Valence is broadly related to the second parameter, arousal, which refers to the "intensity" of the stimulus. A particular stimulus may cause either excitation on the part of the perceiver, or simply calmness. Certainly, there exists a continuum between these two ends of the arousal spectrum, since a stimulus might provoke only a certain degree of excitation or a feeling close to calmness but with it being absolute

calmness. The same sense of a continuum is valid for valence, since there are neutral stimuli that are not perceived as either pleasant or unpleasant by the receiver.

According to Lang (1994), all emotions can be placed in a two-dimensional space established by coordinates of affective valence and physiological activation or arousal. This is reflected in the following chart, which contains data on valence and arousal from the evaluation of a number of pictures (Bradley and Lang 1994a: 56):

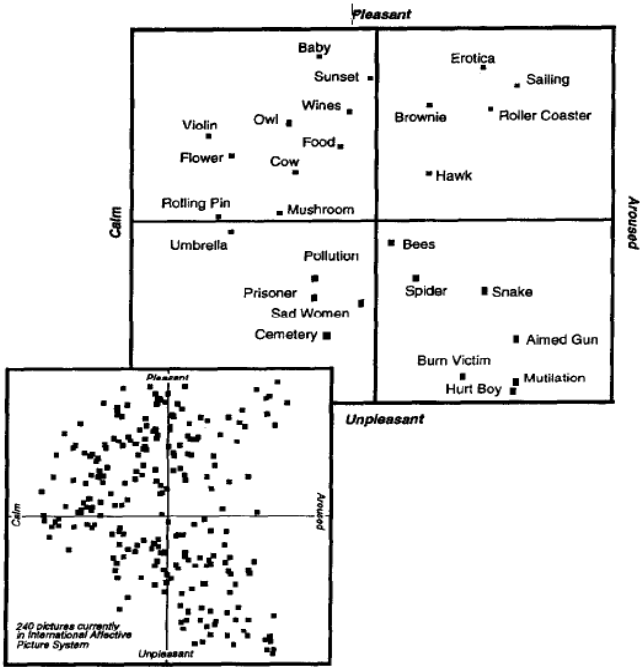

Fig. 11-4: *Distribution of pictures across the two-dimension space (taken from Bradley and Lang 1994a)*

As we can see, those emotions which are high in valence are normally high in terms of arousal as well, whereas emotions ranking low in arousal tend to be considered as neutral for valence. This is the usual distribution in the affective space, but as can also be seen, some responses do not follow this usual distribution.

1.4. Emotionality in words: The "ANEW" database and the self-assessment manikin (SAM)

As with for other types of emotional sources, such as pictures and sounds, the emotionality of words can also be measured with respect to the parameters of affective valence and arousal. Again, valence is basically a measure of pleasantness, whereas arousal is a measure of internal activation. However, it is very important that we bear in mind that emotional words are not just those describing emotional states (happiness, sadness, sympathy, etc.), but also words that elicit such states (attack, war, rainbow, bed, etc).

For the purpose of research in this area, the Affective Norms for English Words (ANEW) was created, containing the valence and arousal levels of a great number of words (Bradley and Lang 1999a). Numbering some 1034 words, each is rated according to its levels of valence, arousal and dominance.[1] ANEW is comparable to other databases measuring the emotional levels elicited by stimuli: sounds (IADS, International Affective Digitized Sounds, see Bradley and Lang 1999b); pictures (IAPS, International Affective Picture System, see Lang et al. 1999), and more recently text (ANET, Affective norms for English Text, see Bradley and Lang 2007) which contains emotional sentences and microtexts. Bradley and Lang compiled ANEW with the evaluation of the 1034 words on the parameters of valence, arousal and dominance. For this they used the Self-Assessment Manikin (SAM) which provided the experimental subjects the option of selecting from pictorial representations reflecting a 1-9 scale for each assessment response.

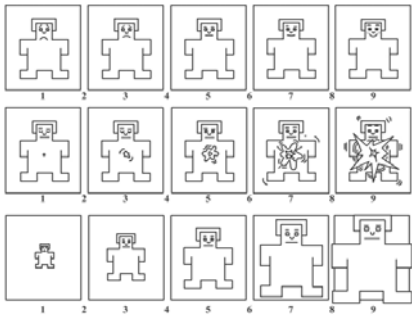

Fig. 11-5: *Self-assessment manikin (taken from Bradley and Lang 1999a)*

[1] By "dominance," Bradley and Lang refer to whether a person feels either controlled by or in control of a particular word and the referent it denotes.

The SAM (Self-Assessment Manikin) was created as a guideline for the evaluation of the emotionality of words by experimental subjects. Unlike physiological responses, affective states are quite a difficult parameter to evaluate in an objective way, and so the SAM was designed as a means of providing the most accurate numerical data for the evaluation of the emotionality of words as perceived by individuals.

As we can see (Fig. 11-5), they use a humanoid picture to evaluate each of the stimuli presented on each of the three parameters. In each category there are five manikins with different expressions (both facial and bodily) that represent different emotional states, and that allow the participant to evaluate each of the words on a scale of 1 to 9. Thus, for valence, pictures start with a dummy that shows a sad facial expression and at the other end of the scale the final dummy shows a broad smile. If the word presented causes a very pleasant feeling in the subject, logically this person should give the word a score close to 9, and close to 1 for unpleasant feelings; if the stimulus provokes indifference, an intermediate value (around 5 or 6) should be chosen. As for arousal, the pictogram goes from a relaxed and close-eyed dummy, to a shaking and clearly aroused one (denoting a powerful emotional reaction), and once again the score will be close to 9 if the word provokes a huge emotional alteration in the participant, and a low value if the word causes feelings related to calmness or relaxation; again, neutral arousal levels will be marked at around 5. Finally, for the parameter of dominance, Lang and his collaborators used a pictogram that goes from a very small manikin (indicating low levels of dominance, that is, the person does not feel in control of their feelings), to a very big one, meaning that the experimental subject feels in complete control when experiencing the emotional stimulus. However, dominance has generally been seen in the literature as the least reliable of the three dimensions in ANEW, since it is the most difficult for participants to understand. In addition, it was subsequently shown that dominance shows a high correlation with valence. For this reason, the parameter of dominance is not used in most research on emotional words.

As can be appreciated, the pictorial nature of the SAM makes it an intuitive, and time-efficient procedure for participants, and yields clear, solid experimental findings.

1.5. The Spanish adaptation of ANEW

Redondo et al. (2007) created a Spanish[2] version of the ANEW in which they tested the translation into Spanish of the English words contained in the original database. As with ANEW, the 1,034 words were randomised in three different orders so that not all the subjects would encounter the same words in the same sequence, in this way avoiding any possible side-effects from the order. The evaluation test contained all the words, presented in 8 different response sheets, each one containing a total of 129 words, and were to be evaluated according to the three parameters of valence, arousal and dominance, using a 1 to 9 Likert scale, as described above. Again, a SAM grid was included in order to guide subjects in their evaluations. The scores for all the words were compiled in the database, and thus a Spanish version of ANEW was created. In addition, the Spanish database includes some psycholinguistic variables other than frequency, such as length, grammatical category of the word, and other subjective measures.

Both ANEW and its Spanish version confirmed the boomerang-shaped distribution of the words in the affective space comprising evaluations on valence and arousal (see Fig. 11-6).

As was the case with emotional stimuli in general, words here are also distributed in a U-shape pattern, meaning that unpleasant words (those scoring low on the dimension of valence) are frequently evaluated as high in arousal. That is to say, the lower the pleasantness of a word, the higher its arousal level. Furthermore, pleasant words also tend to show high levels of activation, and hence both ends of the valence continuum are correlated with high arousal levels. As for words with neutral valence, they also tend to be neutral in arousal, since neutral words typically do not modify our level of activation.

In this way, ANEW allows us to talk about general tendencies in words, making it possible to focus in on specific items in the database as we ask research questions. One such question is whether the emotionality of words plays a role in sentence processing. An example of the influence of such a phenomenon in the case of relative clause disambiguation processes will be explored in the next section.

[2] This version of the database was based exclusively on the Spanish spoken on the Iberian Peninsula.

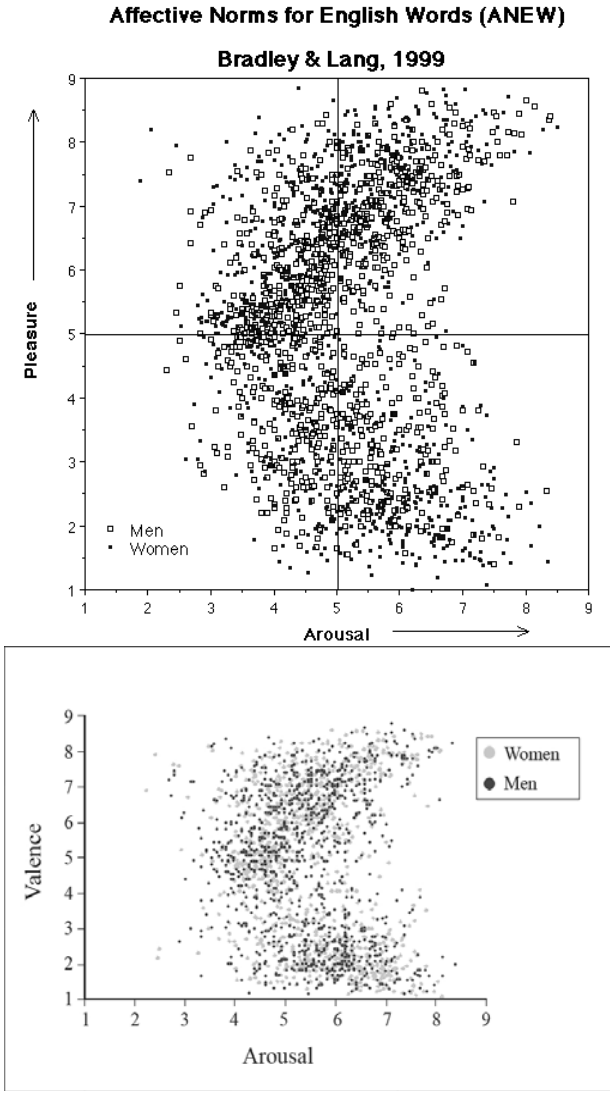

Fig. 11-6: *Distribution of words across the two-dimension space in English (top; taken from Bradley and Lang 1999a) and in Spanish (bottom; taken from Redondo et al. 2007)*

1.6. Elucidating the role of emotional words in syntactic structures: The case of relative clause disambiguation processes

Before Cuetos and Mitchell's research (1988), it was always thought that in the case of a relative clause with two possible antecedents, as in *Someone shot the servant of the actress who was on the balcony*, the preferred option would always be a local adjunction. Computational economy, as well as issues related to working memory, was thought to be the reason for choosing the noun phrase closest to the verb ("the actress"), as the preferred subject of the relative clause ("who was on the balcony"), thus preferring a so-called late closure strategy. However, following the work of Cuetos and Mitchell a number of studies went on to demonstrate that in languages such as Spanish, French, European Portuguese, German and Dutch, an early (instead of late) closure was preferred a significant proportion of the time. Moreover, the impact of some semantic variables such as contextual referentiality, animacy, etc. was seen to play a role in the disambiguation process, thus showing the influence of semantics on syntax here. Indeed, this illustrates just how complex the issue of modifier attachment can be.

A new semantic factor with a possible influence on the parser's attachment preferences was proposed by Fraga et al. (2012). The emotional dimension of the nouns to which the relative clause modifier could be attached was then tested in Spanish (a language normally showing NP1 attachment). More particularly, the two dimensions that define the emotionality of words, valence and arousal, were manipulated. So, a total of three experiments were carried out in order to ascertain the extent of the influence of emotional words in relative clause disambiguation processes. In the first of these, the affective valence of the nouns preceding the RC (the head nouns contained in NP1 and NP2 respectively) was manipulated, arousal having been kept constant for those nouns. In fact, in this first study all the emotional words selected were high arousal words, as the affective space reveals that both pleasant and unpleasant words tend to be highly arousing, as noted above. What happened with these sentences was extremely interesting. The normal NP1 preference for Spanish was confirmed in the absence of any semantic variable, since when two neutral words were present (in NP1 and NP2 respectively), the attachment preference pointed towards NP1. However, when there was a pleasant or unpleasant noun contained within the second NP, the normal attachment strategy in Spanish was reversed, and a NP2 attachment was preferred. In a second experiment, the valence was kept constant in the two nouns so that the role of arousal on its own could be

evaluated. Findings showed that whenever there was a neutral word within NP1 and a low or high arousal one in NP2 position (that is, closest to the verb), the tendency was adjunction towards NP2 (that is, where the emotional word was located). Additionally, the percentage of NP2 adjunctions was significantly higher when the word was high rather than low in arousal. A third and final experiment was conducted in which the preference for high arousal words was tested in contrast to low arousal ones. Thus, two conditions were created where valence was again kept constant. The first contained a high arousal word followed by a low arousal word, located in NP1 and NP2 respectively, and the second condition had the opposite structure, a low arousal word in NP1 and a high arousal word in the NP2 position. Interestingly, results showed that adjunction always pointed in the direction of high arousal words; hence, an early closure strategy was preferred when the first noun phrase contained a word ranking high in arousal, but a late closure strategy was chosen when the high arousal word was placed right before the verb. These findings together suggest that the emotionality of words conditions the syntactic interpretation of clauses, at least in the case of relative clause disambiguation.

However, this set of results alone is not enough to establish clear conclusions as to the role played by affective valence, since pleasant and unpleasant words were only used in the first of these experiments (Fraga, Díaz et al. 2012; Fraga, Piñeiro et al. 2012). In that study, no significant differences were found between the two types of words with respect to RC attachment issues. For this reason, we decided to carry out a new study in which all the selected words (not only the neutral ones) were neutral in terms of arousal. As previously indicated, this is not possible for negative words, and as a consequence, all the words included in this new study are positive. This is a means of ensuring that findings will be interpretable as due only to the influence of pleasant words, or in other words, that we will be able to demonstrate the clear effect of affective valence.

2. Method

2.1. Participants

Forty-five university students (31 women and 14 men) from the University of Málaga participated in the study, their ages ranging from 19 to 27 years (M=23.76; S.D.=4.04). They were all native speakers of Spanish, and none had any previous knowledge of the topic under investigation.

2.2. Design and variables

A 3X3 factorial design was used. The first factor was the affective valence of noun phrases, with three different levels: Neutral-Neutral (N-N), Pleasant-Neutral (P-N) and Neutral-Pleasant (N-P); the first element corresponds to the word in NP1 position, and the second to that in NP2. The second factor was the list (the placement of each preamble), with three different levels: list A, list B and list C. The dependent variable (DV) was the proportion of adjunctions towards NP1 made when completing the RC.

2.3. Materials

Sixty experimental sentences with the structure NP-V-NP1-de-NP2-que… (NP-V-NP1-of-NP2-which…) were compiled. Those sentences corresponded to three experimental conditions, established via the manipulation of the valence of their nominal heads. Thus, 20 sentences contained two neutral NPs (N-N), 20 contained a neutral NP1 and a pleasant NP2 (N-P), and a further 20 contained a pleasant NP1 and a neutral NP2 (P-N), as the following examples illustrate:

▪ N-N condition: (3)
"*El jefe observó el **reloj** del **pasillo** que…*"
"*The boss observed the **clock** of the **hall** that…*"

▪ P-N condition: (4)
"*La niña observó la **estrella** del **póster** que…*"
"*The girl observed the **star** of the **poster** that…*"

▪ N-P condition: (5)
"*Juan no conocía el **género** de la **película** que…*"
"*Juan did not know the genre of the film that…*"

All the sentences were incomplete, as they ended at the word *que* ("which"). They were previously evaluated for plausibility by a different group of subjects (averaging above 4.5 on a 1-7 scale in all cases). The questionnaire also included 37 distractor sentences with other kinds of structures.

The emotional nouns were selected from the Spanish version of the ANEW database (Redondo et al. 2007). Thus, taking into account their valence and arousal values, a selection of 75 words were assigned to one

of two sets: the neutral words set (N), composed by 43 words which were neutral in arousal (M=4.88; SD=0.496) and neutral in valence (M=5.32; SD=0.568); and the pleasant words set (P), composed by 32 words which were neutral in arousal (M=5.10; SD=0.337) and pleasant (M=6.86; SD=0.467).

T-tests showed significant differences among pleasant and neutral words in the P-N and N-P conditions for valence ($t=12.68$; $p<.001$). However, there were no significant differences for arousal ($t=1.86$; $p>.05$). T-tests also confirmed the absence of any significant differences for valence and arousal between pleasant nouns as well as between neutral nouns in the two conditions.

2.4. Task

The questionnaire comprised 97 incomplete sentences. Participants had to complete them in a grammatically correct and plausible way. They were randomly assigned to one of three lists of the same sentences ordered differently in each of the lists.

2.5. Procedure and correction

The questionnaire was given to all participants in a single sitting. They were asked to complete every sentence with the first words that came into their heads, always forming meaningful sentences. They were also asked not to go back to previous sentences and to complete all the sentences on the questionnaire. Two judges separately evaluated the participants' performance. There were three kinds of responses: when the RC had been completed making reference to NP1 the response was noted as "1;" when reference was made to NP2, it was assigned a "2;" and, finally, when completion referred to neither NP1 nor NP2, or was grammatically incorrect, it was noted as "3." In the case that judges had initially evaluated a sentence in a different way, they were asked to re-examine the item and form a consensus; where this was not possible the item was computed as "3."

3. Results

Before running the analyses, items categorised as "3" were discarded, these accounting for less than 0.7% of the data. The DV was the number of NP1 completions divided by the number of unambiguous completions (i.e., the sum of NP1 and NP2 completions). Two-factor (valence and list)

analyses of variance (ANOVAs) were performed for both participants ($F1$) and items ($F2$). These were based on the proportion of NP1 adjunctions. The list was considered a within-subjects factor in the analysis of participants and a between-subjects factor in the analysis by items. Valence was considered a within-subjects factor in the analysis of participants and a between-subjects factor in the analysis of items. In those cases where the condition of sphericity was not met, the Greenhouse-Geisser correction was applied to degrees of freedom. In addition, with the aim of evaluating whether participants showed a preference for completing the sentences by making reference to one of the two NPs more than the other, one-sample t-tests were applied to see whether the mean proportion of NP1 completions in each level of the independent variable differed significantly from chance (i.e., 0.50).

The two-way ANOVA with List (A, B, C) and Valence (neutral-neutral (N-N), pleasant-neutral (P-N) and neutral-pleasant (N-P)) as factors revealed no significant effects of the List factor [$F_1(2,42)=2.62$; $p_1>.05$; $F_2(1.38,114)=3.09$; $p_2>.05$], with participants' preferences not differing significantly across the lists. In addition, there was no significant interaction between the two factors, namely List and Valence, [$F_1(4,84)=1.40$; $p_1>.05$; $F_2(4,114)=0.43$; $p_2>.05$]. The effect of Valence was significant in terms of participants [$F_1(1.73,72.9)=28.01$, $p_1<.001$], showing differences in the percentages of NP1 choices across experimental conditions. However, no differences were found in the analysis by items [$F_2(2,57)=0.6$, $p_2>.05$]. We conducted planned comparisons to compare the proportion of completions towards NP1 in each level of valence (see Fig. 11-7). For these analyses, α values were corrected using the Bonferroni adjustment. Planned comparisons showed significant differences between the three conditions, but only by participants, in the proportion of NP1 completions. These analyses showed that P-N sentences (M=0.57, SD=0.10) created a greater proportion of NP1 completions than the other two conditions (both p_1s<.05). Additionally, N-N pairs (M=0.52, SD=0.11) also differed from N-P pairs (M=0.45, SD=0.13), the latter condition being the one showing the smaller proportion of NP1 completions ($p_1<.05$).

T-tests for one sample in each valence condition revealed that participants tended to complete the RC pointing to NP1 significantly more than to NP2 in the P-N condition ($p_1<.001$; $p_2>.05$) and marginally in the N-N condition ($p_1<.1$; $p_2>.05$). However, when the second NP was occupied by a pleasant noun, the proportion of NP1 was significantly smaller than 0.50 in the analysis by participants; in other words, there was a significant preference for NP2 ($p_1<.05$; $p_2>.05$).

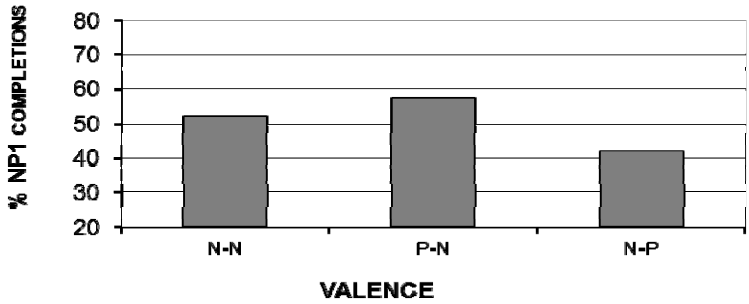

Fig. 11-7: *Proportion of NP1 completions in the three valence conditions (N-N: neutral-neutral; P-N: Pleasant-Neutral; N-P: Neutral-Pleasant)*

4. Discussion

Recent research has shown the relevance of lexical variables in the completion of sentences with the structure "NP-of-NP + RC. . ." Animate, as well as high arousal nouns, tend to exert a significant attraction effect over the RC independently of their position within the sentence (NP1 vs. NP2) (Desmet et al. 2006; Acuña-Fariña et al. 2009; Fraga, Piñeiro et al. 2012). In the present study we tried to ascertain to what extent affective valence, another emotional dimension, influenced disambiguation processes. Valence was manipulated by using pairs of neutral words (N-N), or combinations of neutral and pleasant nouns in the NPs (P-N and N-P conditions). The findings were clear: the classical preference for NP1 was seen marginally in the control condition (N-N). Moreover, this preference was higher when the NP1 was occupied by a pleasant noun (P-N). Finally, when the NP2 contained a pleasant noun (N-P), participants changed their preference towards a late closure strategy (i.e., NP2). Therefore, nouns with a positive valence affect attachment preferences in sentence completion tasks by attracting the RC. Importantly, the effect was strong enough to change the usual NP1 preference in Spanish into a NP2 preference when the emotional noun was in the NP2.

Some observations are required here on the structural preferences shown by the different types of complex NPs employed in this study. Most existing completion studies have shown that in the absence of any other factor, the preferred strategy to complete ambiguous RCs in Spanish is high-attachment (e.g. Piñeiro et al. 2007; Fraga, Piñeiro et al. 2012). However, in the N-N condition, the percentage of NP1 selections was 52%, a percentage only marginally greater than chance. One factor which

could lead to a reduction in the structural preferences for high-attachment completions here is the structural priming that sentences disambiguated to NP2 (i.e., N-P sentences) might produce. Scheepers (2003) and Desmet and Declercq (2006) have shown priming effects in the completion of relative clause sentences. When participants were exposed to unambiguous high-attached relative clauses the probability of producing a high-attached relative clause in a subsequent sentence increased. This probability decreased when exposed to unambiguous low-attached relative clauses (see also García-Orza 2001).

In the P-N condition, the NP1 preference was greater than that found in the N-N condition, suggesting that emotional nouns can increase the probability of attaching the RC to NP1 (the default strategy used in Spanish). More importantly, in the N-P sentences participants override the usual preference for high attachment completions; thus, pleasant nouns in the NP2 together with a neutral noun in the NP1 suffice to produce a reversal of the structural preferences. In completion tasks at least, the NP1 preference is reversed by introducing a pleasant noun in NP2. Such findings are in line with previous studies that showed the impact of the emotional properties of words in sentence completion. Fraga et al. (Fraga, Díaz et al. 2012; Fraga, Piñeiro et al. 2012) showed that an early closure strategy is preferred when the first noun in the complex NP is a word which is high in arousal, and a late closure strategy is preferred when the high arousal noun is in NP2 position. In accordance with those findings, which evidence the relevance of arousal, the present findings show similar effects when the other parameter related to emotional words, valence, is manipulated: nouns rating high in arousal or valence attract the RC irrespective of where within the complex NP that noun is situated. It should be noted that in our research we have only manipulated the effect of one extreme on the continuum of affective valence: pleasantness. Our data can tell us nothing regarding the effects of the other extreme, unpleasantness. Since it has been argued that negative stimuli might show a greater impact on language processing (e.g., Buodo et al. 2002; Fraga et al. 2011), it might be argued that it might have been better to use unpleasant words in the study. However, the distribution of emotional words in the bidimensional affective space, which resembles a boomerang shape (Bradley and Lang 1999a; Bradley and Lang 1999b; Redondo et al. 2007), shows that it is very difficult to find unpleasant words which are either low or neutral in terms of activation.

The recent literature on the impact of emotional parameters of words in syntactic processing provides a new perspective on the role of emotion in language. Using single words, a number of studies have shown the impact

of emotion. For instance, it is well-established that emotional words tend to capture our attention in such a way that they interfere with on-line cognitive tasks (Pratto and John 1991; Anderson 2005; Dresler et al. 2009). Additionally, emotional words can be seen to affect performance in classical psycholinguistic tasks, such as lexical decision (e.g., Carretié et al. 2008) and naming (Hermans et al. 2001; De Houwer and Randell 2004; Spruyt et al. 2007). However, the current study, with words embedded in sentence contexts, provides a more ecological form of research and an opportunity to explore the effects of these words on a different linguistic dimension, the syntactic level. Hence, this line of research provides a novel and promising way of exploring the complex relationship between language and emotion.

As noted in the introduction, the study of structural ambiguity provides a window on the relationship between syntax and semantics in sentence processing. Most models of sentence processing claim the independence of both types of knowledge. According to this idea, the building of the syntactic marker is based solely on structural information from lexical items. When the parser is faced with structural ambiguity, decisions are based on universal strategies directed at reducing processing costs (e.g., Frazier and Fodor 1978; Frazier 1987). However, evidence acquired during the last decade of the 20th century and the beginning of this century shows a more complex scenario. Focusing solely on relative clause ambiguity, it is observed that lexico-semantic properties can affect structural decisions. Our present findings for Spanish indicate that the emotional properties of the potential heads of the relative clause can change structural preferences in a completion task. When completing a sentence, participants prefer to attach the relative clause to pleasant nouns, irrespective of their position within the complex NP. Although our study (which uses an off-line methodology) cannot offer information on the temporal dynamics of the syntax-semantics interaction, it is clear that the emotional pattern of the nouns (a lexico-semantic characteristic) influences the structural preferences in sentence completion tasks. Future studies using on-line methodologies would allow us to identify the precise moment at which the emotional content of a word is taken into account by the syntactic parser. In this sense, recent experiments carried out by our research group using an on-line methodology (self-paced reading) show that arousal can modify structural preferences: when a noun high in arousal was within the NP2, the usual preference for NP1 disappears (Gavilán et al. 2013). This suggests that the lexical properties of words influence the construction of syntactic trees at quite an early stage. However, using a different methodology, ERPs, Díaz et al. (2012) found

emotional and syntactic processing to be relatively independent. The issue is undoubtedly a complex one, and more research is needed to shed light on a question that is fundamental to the study of language processing. In the coming years, we expect to be able to offer more stable evidence of how syntax and semantics interact.

Our current findings have implications for theories of sentence processing, and we will now discuss these briefly. Our data seem to support models that take into consideration the lexical properties of words. One of these models is "Tuning." According to its initial version, only the frequency of syntactic structures would affect attachment decisions. However, on a closer analysis, it is possible to see that the processor computes the lexical characteristics of nouns (e.g., animacy, arousal and valence) in order to make a decision, even though these characteristics are non-syntactic in nature. At this point, Tuning would not differ substantially from some lexicalist models with regard to the factors influencing attachment resolution. A model of this kind, for instance, is that presented by MacDonald et al. (MacDonald et al. 1994a; MacDonald et al. 1994b) which acknowledges the role of syntactic structures and lexical factors in determining ambiguity resolution. Finally, perhaps the clearest explanation for the impact of valence in sentence completion thus far comes from Construal (Frazier and Clifton 1996) and the attachment-binding model proposed by Hemforth et al. (Hemforth et al. 2000a; Hemforth et al. 2000b; Hemforth, Konieczny, Seelig et al. 2000). Both models posit that relative clauses are syntactically attached in terms of both structural and lexical properties. These lexical properties (e.g., valence, arousal, animacy), which increase the referentiality of one of the nouns in the complex NP, make them more attractive as hosts for the relative clause.

In summary, our work has sought to cast light on the effects of affective valence on the adjunction processes of relative clauses. According to our findings for Spanish, it is evident that both default structural biases and fine-grain lexical information (in this case emotional) seem to compete to determine the final outcome. The question of whether the impact of this type of lexical information affects on-line adjunction processes in reading tasks in the same way as it has been shown in our completion task will have to be left for further investigation.

Although some authors have suggested that words *per se* have no emotional power, the present findings indicate that they do seem to have significant power when embedded in contexts. And emotionality is a parameter which, although different from semantics proper, nevertheless has an advantageous role in certain syntactic processes.

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CONTRIBUTORS

Yolanda Joy **Calvo-Benzies** postgraduate researcher and teacher assistant at the Department of English and German Philology, University of Santiago de Compostela, Spain (yolandajoy.calvo@usc.es).

She is a member of the research group *Spoken English Research Team at the University of Santiago de Compostela* (SPERTUS, University of Santiago de Compostela; http://www.spertus.es/index.html). Her research interests include language teaching and second-language acquisition, especially the teaching and learning of speaking and pronunciation. Her most recent publication is "Not Enough Time is Devoted to Pronunciation," "I Would Like my Textbook to Include Other Types of Pronunciation Activities." The Views and Perspectives of EFL Fourth-year Secondary School Students on the Teaching and Learning of Pronunciation. A Survey-based Study." In *Proceedings of the Third International Conference on English Pronunciation: Issues & Practices* (EPIP3), ed. by José Antonio Mompean González and Jonás Fouz, 10-13. Murcia: Universidad de Murcia.

Eduardo **Coto-Villalibre**, postgraduate researcher and teacher assistant at the Department of English and German Philology, University of Santiago de Compostela, Spain (eduardo.coto@usc.es).

He is a member of the research group *Variation, Linguistic Change and Grammaticalization* (University of Santiago de Compostela; http://www.usc-vlcg.es/ECV.htm). His research interests include corpus linguistics and World Englishes, in particular East and Southeast Asian varieties of English. His most recent publication is "From Prototypical to Peripheral: The *Get* + V*en* construction in contemporary spoken British English" (2013). In *Selected Papers from CILC2012 (4th International Conference on Corpus Linguistics*, University of Jaén, 22-24 March 2012), ed. by Alejandro Alcaraz-Sintes and Salvador Valera-Hernández, 205-231. (Linguistic Insights Series). Bern: Peter Lang.

Marcos **Díaz-Lago** formerly research assistant at the Department of Basic Psychology, University of Santiago de Compostela, Spain, now

research assistant at the Department of Basic Psychology at University of Deusto, Spain (marcos.diaz@deusto.es).

He is a member of the research group Labpsico (University of Deusto, http://www.labpsico.deusto.es/en/people/marcos-diaz/) and former member of the research group PCC (*Cognitive Processes and Behavior* University of Santiago de Compostela; http://www.usc.es/pcc/). His research interests include grammar, sentence processing, parsing strategies, visual word processing and emotional words from a Neuroscience perspective. He contributed to several conferences and meetings including "Crossing Morphological Violations of Agreement and Word Emotionality Using the ERP Technique" (presented at the *Language and Neuroscience Conference*).

Tania **de Dios**, FPU researcher at the Department of English and German Philology, University of Santiago de Compostela, Spain (tania.dedios@rai.usc.es)

She is a member of the research group *Variation, Linguistic Change and Grammaticalization* (University of Santiago de Compostela; http://www.usc-vlcg.es/TD.htm). She holds a BA in English Language and Literature and an MA in English Studies from the University of Santiago de Compostela. In October 2011 she was admitted to the International Doctoral School of this same university to prepare a PhD on synchronic and diachronic aspects of object omission in English. Besides (in)transitivity, her research interests include linguistic variation, grammaticalisation processes, corpus linguistics, and cognitive and constructionist approaches to the study of grammar.

Samantha N. **Emerson**, doctoral student of Cognitive Sciences, Department of Psychology, Georgia State University, United States (semerson2@student.gsu.edu).

Samantha has examined the expression of motion in Spanish, English and Turkish monolinguals and bilinguals. She is currently examining sequential learning in populations with high levels of exposure to diverse grammars (e.g., musicians, bilinguals, speakers of word order dependent languages). She earned her B.S. from Middle Tennessee State University in 2010 and her M.A. from Georgia State University in 2013. Her M.A. thesis was entitled *The Effect of Motion Type and Modality in Word Learning in English*.

Luis **Espinosa-Anke**, PhD student at the Departament de Tecnologies de la Informació i les Comunicacions (http://www.upf.edu/dtic/), Universitat Pompeu Fabra (Barcelona).

His research interests include Natural Language Processing and Computational Linguistics, with greater emphasis on Information Extraction, Definition Extraction, Digital Humanities and Computer Assisted Language Learning. His most recent publication is "Towards Definition Extraction Using Conditional Random Fields." In *Proceedings of the Student Research Workshop Associated with RANLP 2013*, 63-70, Hissar, Bulgaria, 9-11 September 2013.

Javier **García-Orza** lecturer at the Department of Basic Psychology, University of Málaga, Spain (jgorza@uma.es; http://psibasica.uma.es/javiergarciaorza/).

He is a member of the research group Applied Cognitive Sciences (University of Málaga-Junta de Andalucía). His research interests include diverse topics like the interface between syntax and semantics in sentence comprehension, visual processes in reading and numerical cognition. He is author of several research articles focused on the resolution of structural ambiguities. One of his most recent publications is García-Orza, Javier and Patricia Carratalá. 2012. "Sign Recall in Hearing Signers: Evidence of Dual Coding." In *Journal of Cognitive Psychology* 24:6.703-713.

Stefan **Hartmann**, PhD student in historical linguistics, German Department, University of Mainz, Germany (stefan.hartmann@uni-mainz.de).

He is currently conducting a corpus study on the diachronic change of German nominalisation patterns. Apart from historical linguistics, his research interests include Cognitive Linguistics, Construction Grammar, psycholinguistics, sociolinguistics and language evolution.

Beatriz **Mato-Míguez**, postgraduate researcher at the Department of English and German Philology, University of Santiago de Compostela, Spain (beatriz.mato@usc.es).

She is a member of the research group *Variation, Linguistic Change and Grammaticalization* (University of Santiago de Compostela; http://www.usc-vlcg.es/BMM.htm). Her main research interests include insubordination studies in relation to grammaticalisation processes, pragmatics and politeness. Her last publication is "If You Would Like to Lead: On the Grammatical Status of Directive Isolated *If*-clauses in Spoken British English." In *Selected Papers from CILC2012* (*4th International Conference on Corpus Linguistics,* University of Jaén, 22-24 March 2012), ed. by Alejandro Alcaraz-Sintes and Salvador Valera-Hernández. (Linguistic Insights Series). Bern: Peter Lang.

Akiko **Muroya**, PhD candidate at the Department of Language and Linguistics, the University of Essex (amuroyv@essex.ac.uk).

Her PhD thesis title is "Testing Theories of Second Language Acquisition: Evidence from Japanese Learners' English." She obtained an MA in Applied Linguistics from the University of Essex. Her MA dissertation title is "L1 Japanese Child Second Language Acquisition of L2 English." The focus of her research is on second language acquisition of English by Japanese child speakers and adolescent learners, within the generative framework. Particular research topics include: (1) how linguistic domains (syntax, morphology, phonology) interact; (2) what the source of persistent difficulty in verbal and nominal morphology is.

Ana **Piñeiro**, full time teacher at the Department of Psychology, University of North, Barranquilla, Colombia (apineiro@uninorte.edu.co)

She is a member of the research group PCC (*Cognitive Processes and Behavior*, University of Santiago de Compostela; http://www.usc.es/pcc/). Her research interests include sentence processing and emotional processing. Her most recent publication is "ERP Correlates of Masked Affective Priming with Emoticons." In *Computers in Human Behavior*, 29.588-595.

Michael **Pleyer**, PhD student at the English Department of Heidelberg University, Germany, and the Graduate School for Humanities and Social Sciences (michael.pleyer@hggs.uni-heidelberg.de).

In his PhD project he investigates the phenomena of perspective and perspectivation in language and cognition from a Cognitive-linguistic and cognitive-developmental point of view. His research interests include Cognitive Linguistics, language acquisition, construction grammar, perspectivation and construal, and the evolution of language and cognition. He is also contributor to the academic group blog *A Replicated Typo* (http://www.replicatedtypo.com), which deals with questions relating to the evolution of language, culture and cognition

Sara **Riveiro-Outeiral**, PhD student at the University of Santiago de Compostela.

She is a member of the research group PCC (*Cognitive Processes and Behavior*, University of Santiago de Compostela; http://www.usc.es/pcc/). Her research interest is mainly that of Psycholinguistics, and more in particular the study of agreement processes. One of her research articles published in the recent years is entitled: "Agreement Processes in English and Spanish: A Completion Study." In *Functions of Language* 19:1.53-83.

Paula **Rodríguez-Puente**, assistant lecturer at the Department of Philology, University of Cantabria, Santander, Spain (paula.rodriguez @unican.es)

She is a member of the research group *Variation, Linguistic Change and Grammaticalization* (University of Santiago de Compostela; http://www.usc-vlcg.es/PRP.htm). Her research interests include historical linguistics, sociolinguistics and grammaticalisation processes. Her most recent publication is "A Turn of the Screw in the Semantics of Phrasal Verbs: Phrasal Verbs with *Up* as a Test Case" (2013). In *Periphrasis, Replacement and Renewal: Studies in English Historical Linguistics*, ed. by Irén Hegedüs and Dóra Pödör, 243-265. Newcastle-upon-Tyne: Cambridge Scholars Publishing.

Iria Gael **Romay-Fernández** (iriagael.romay@usc.es) is a PhD student and a member of the research group *Variation, Linguistic Change and Grammaticalization* (University of Santiago de Compostela; http://www .usc-vlcg.es/IGR.htm).

Her research interests include cognitive linguistics, historical linguistics, sociolinguistics and lexicalisation processes. Her most recent publication is "A Preliminary Study of Metaphorical, Neutral Motion Verbs in LOB and FLOB". In *At a Time of Crisis: English and American Studies in Spain. Works from the 35th AEDEAN Conference*, ed. by Sara Martín Alegre, Melissa Moyer, Elisabet Pladevall and Susagna Tubau, 344-351. Barcelona: Universitat Autònoma de Barcelona.

Hanne **Roothooft**, PhD student at the Department of Education at the University of Navarre, Spain. (hroothooft@alumni.unav.es)

She obtained her Master's degree in Linguistics and Literature from the University of Leuven in Belgium and has worked as a language teacher in various centres for adult education in Belgium and Spain. Her research focuses on second language acquisition, especially on classroom interaction and corrective feedback. She has presented her work at several international conferences (e.g. AESLA, AILA Junior Researcher Meeting) and has recently published the following article: "Developing a Methodology for Researching the Effects of Corrective Feedback on the Acquisition of the Past Tense: A Pilot Study." In *Estudios de Lingüística Inglesa Aplicada* 12.211-242.

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