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Conceptual Metonymy

Edited by
Olga Blanco Carrión
Antonio Barcelona
Rossella Pannain

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Volume 60

Conceptual Metonymy. Methodological, theoretical, and descriptive issues
Edited by Olga Blanco-Carrión, Antonio Barcelona, and Rossella Pannain

Conceptual Metonymy

Methodological, theoretical, and descriptive issues

Edited by

Olga Blanco-Carrión
University of Córdoba

Antonio Barcelona
University of Córdoba

Rossella Pannain
University of Naples L'Orientale

To our parents

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Introduction
The complex task of studying metonymy

Antonio Barcelona[i], Olga Blanco-Carrión[i], and Rossella Pannain[ii]
[i]Universidad de Córdoba / [ii]University of Naples "L'Orientale"

1.   On the main purpose and characteristics of this book

The main purpose of this book is to discuss the problems involved in the description of metonymy from a cognitive-linguistic perspective. Research on metonymy in cognitive linguistics and beyond has grown remarkably since the publication of Panther and Radden's collection of essays (1999) and Kövecses and Radden's (1998) highly influential paper on the theory of metonymy. Lakoff and Johnson (1980) had already recognized its primarily conceptual nature, and Lakoff (1987) had shown its important role in the structuring of cognitive models and categories. Contemporary research in metonymy is examined in two very recent book-length surveys of metonymy in language and thought, Bierwiaczonek (2013) and Littlemore (2015), which also include some important original contributions of their authors to the study of metonymy.

Metonymy has been shown to be a fundamental, ubiquitous cognitive process (Barcelona 2002, 2013, in preparation) motivating the emergence and extension of:

1. Numerous conceptual prototypes (Lakoff 1987).
2. A great many conceptual metaphors (Goossens 2002; Barcelona 2000; Radden 2002).
3. Numerous grammatical phenomena and constructions (for important surveys, see Brdar 2007; Langacker 2009; Panther, Thornburg, and Barcelona (Eds.) 2009; Ruiz de Mendoza and Otal Campo 2002).
4. Pragmatic inference patterns and discourse understanding processes (Barcelona 2007; Gibbs 1994: Chapter 7; Panther and Thornburg 2003).
5. Certain iconic signs and other types of iconicity (Lakoff and Johnson 1980: 40; Gibbs 1994: 165, 331; Barcelona 2002: 211–212).

Metonymy has also long been known to underlie innumerable lexical senses (Darmesteter 1932; Goossens 2002; Goossens et al. 1995; Stern 1931; Taylor

1995: 127). A consequence of this ubiquity is that metonymy often operates simultaneously at various analytical levels (Barcelona 2002, 2005, 2013, in preparation). Language (including sign language, see Wilcox 2007), especially its grammar, is essentially metonymic (in a broad sense, see Langacker 2009), since it tends to underspecify, i.e., to provide a mere blueprint, not only for intended meaning, but often also for form.

However, despite this substantial research, we still need a detailed, systematic typology of metonymy, and a rich set of *criteria to characterize metonymies in minute detail* (important advances in this direction are Peirsman and Geeraerts 2006, and Benczes, Barcelona, and Ruiz de Mendoza (Eds.) 2011). We also need more studies on the operation of metonymy in language and thought, especially cross-linguistic and cross-modal research, and empirical psycholinguistic studies (see Gibbs 1994: Chapter 7; Gibbs 2007).

The book, therefore, has three main thematic foci.

The first focus is the methodological and descriptive issues in the creation of a detailed metonymy database. This topic is the object of the first part of the book, which includes the chapters by Barcelona, Blanco-Carrión, and Hernández-Gomariz.

The second focus (closely related/tied to the first one) is the discussion of some problems involved in metonymy as a theoretical construct. This topic is the object of the second part of the book, which includes the chapters by Barnden, Panther and Thornburg, and Radden. Some of the results of the research reported in these chapters have a bearing on the methodological and descriptive issues discussed in the first part. Likewise, some of the methodological and descriptive proposals made in the first part affect the theory of metonymy.

The third focus is a very broad one: the broadening of our knowledge of the role of metonymy in various areas such as the conceptualization and expression of conceptual domains (FEAR, LINGUISTIC ACTION) in different languages (including sign language), and the role of metonymy in the structure and use of various grammatical constructions. This is the object of the third part of the book ("Case studies"), which includes the chapters by Bierwiaczonek, Perak, Pannain, Portero-Muñoz, and Rodríguez-Redondo. Each of these case studies also includes more general claims on the nature or the functioning of metonymy in language and cognition.

The three parts are closely connected to each other, which lends thematic cohesion to the book. Creating, developing and implementing a metonymy database requires a sound methodology and consistent descriptive criteria. The methodology and the descriptive criteria must be grounded in solid theoretical foundations and must strive to incorporate new developments in metonymy theory. Finally, metonymy theory and the database's methodology and descriptive criteria must be consistent with new language-specific studies on metonymy (like the case studies presented in the third part).

With the exception of the two guest chapters written by Carmen Portero-Muñoz and Ana-Laura Rodríguez-Redondo, the contributions to this book are, after substantial revision and enlargement, based on the brief drafts presented by the organizers and the various invited speakers at the theme session *Issues in metonymy*, organized by Antonio Barcelona, Olga Blanco-Carrión, and Isabel Hernández-Gomariz as part of the 12th International Cognitive Linguistics Conference (University of Alberta, Edmonton, Canada, 23–28 June 2013).

2.   Methodological and descriptive issues in the creation of a metonymy database

The three chapters in this part of the book are closely connected to each other, since they present and discuss the work of their authors and other members of their research team on the design of a detailed annotated metonymy database. This database will allow researchers to analyze all sorts of metonymies and compare them, from a wide variety of perspectives and at all constructional levels, from morpheme to discourse.

Antonio Barcelona presents a part of the results of an ongoing project at the University of Cordoba that aims at providing researchers in the field with a comprehensive model for the description and interpretation of conceptual metonymies that are expressed linguistically and may involve constructions at different linguistic levels: sentential, clausal, phrasal, lexical, and morphemic. An explicit set of criteria and parameters for the individuation and characterization of metonymies and for the development of a detailed typology of metonymy that would improve previous classifications constitutes the theoretical and methodological preliminary achievements of the project. These are at the basis of a highly structured entry model for the implementation of a detailed, annotated metonymy database that may constitute a useful reference tool for the cognitive linguistic community and beyond. The description and illustration of that entry model is the main goal of this chapter and of the others in this part of the book. The entry model is illustrated in these three chapters mainly by means of database entries corresponding to metonymies already reported in the specialized literature. After a brief description of the project and of the overall structure of the entry model, Barcelona deals with a selection of some focal points in the characterization and interpretation of metonymies, corresponding to five different fields in the entry model (the other fields are discussed in the chapters by Blanco-Carrión and Hernández-Gomariz). The entry model provides, among other things, for the analysis of each metonymic relation at different levels of specificity, within a hierarchy that ranges from the "generic" to the "lowest". This is the object of Fields 2 and 10. The author emphasizes one

of the main problems in the filling out of these entry fields, namely the danger of mixing taxonomic hierarchies with meronymic ones: the type of hierarchy to be considered should only be taxonomic (see his discussion of the metonymy DEGREE TO WHICH A CONTAINER IS FILLED FOR QUANTITY OF CONTAINER'S CONTENT). Another focal issue in the chapter is that of the degree of prototypicality along a continuum that has purely schematic instances and prototypical ones as its extreme poles (Field 3). Furthermore, Barcelona treats the issue of the different taxonomic domains that may be activated by the metonymic source and target in individual examples (Field 4).

The main contribution of this chapter and of those by Blanco-Carrión and Hernández-Gomariz is the information it provides on the metonymy database currently being developed by the team led by Barcelona. This database is in itself an important innovation in the study of metonymy, since the multiple searches the database allows will yield important data on the functioning of metonymy. Among the additional advances over previous research in metonymy stimulated by the design and development of the database, the following are reported in this chapter: (i) the proposal to refine the notion of "metonymic hierarchy", which should be taxonomic rather than meronymic, and the observation that the study of metonymic hierarchies is helpful in detecting subtle differences between very similar metonymies; (ii) suggesting the fact that a metonymy initiates a new "subtopic" or "sub-hierarchy" as the criterion to recognize that metonymy as a new major level (High, Basic or Low) in the hierarchy including it; (iii) the systematic testing of the prototypicality continuum proposed by Barcelona (2011); (iv) the detailed information it can provide on the types of domains that tend to act as *values* for the source and target *roles* of a metonymy at a particular hierarchical level.

Olga Blanco-Carrión's chapter continues the discussion of the fields in the entry layout that focus on the issues of the conventionality of metonymy (Field 5) and the linguistic domain affected by metonymy (Field 7). First, she comments on the distinction between purely conceptual conventionality, which can be observed in cases where metonymy guides reasoning or is at the base of inferential-pragmatic processes, and conventionality that is both conceptual and linguistic; this is the conventionality of metonymies which, within a given community of speakers, may motivate the conventional meaning or form of grammatical constructions (including lexemes or morphemes), or guide the conventional morphosyntactic categorization or recognition of a form. While a purely conceptual entrenchment of a metonymic mapping may be encountered, the entrenchment of a conventional metonymy-motivated meaning or the metonymy-guided morphosyntactic categorization of a linguistic item evidently implies the prior conceptual conventionalization of the corresponding metonymy. Subsequently, Blanco-Carrión deals with the question of the different grammatical analytical levels at which a metonymy

may operate: morphemic, lexical, phrasal, clausal, sentential, etc. In fact, the conception of metonymy reflected in the present volume assumes that it may take place at all grammatical and analytical levels (Barcelona 2005, 2013). Moreover, Blanco-Carrión's analysis extends to the question of whether a given metonymy motivates constructional meaning or only facilitates utterance and discourse meaning. As regards metonymy-motivated constructional meaning, she further specifies that this may be found to be prototypically conventional, non-prototypically conventional; or simply an implied non-conventional meaning. Also, Blanco-Carrión examines the role of metonymy in guiding inferencing to morphosyntactic categorization. On a different plane, she illustrates the role of metonymy in the motivation of a constructional form and in the morphosyntactic categorization of that form; in this respect too, a distinction is proposed concerning the degrees of prototypicality of form involved. In addition, she discusses how linguistic processes like grammaticalization, affixal derivation, conversion, and the like, may be, at least partly, motivated by metonymy. The main function of the metonymy under analysis (motivational, referential, or purely inferential) is the next issue discussed in the chapter where she follows Barcelona (2011). Finally, she comments on the last parameter contemplated by Field 7, namely metonymy and compression (see our comment on Radden's chapter in Section 3).

Among the advances in the study of metonymy stimulated by the design and development of the database, the following are reported in this chapter: the systematic distinction between purely conceptual conventionality and conventional-and-linguistic conventionality of metonymy, and the systematic detailed grid for analyzing each metonymy along the various dimensions contemplated by Field 7.

Isabel Hernández-Gomariz's contribution completes the discussion developed in the previous two chapters, by concentrating on three more aspects of the analysis performed within the same theoretical-methodological approach, *viz.* the identification of the triggers leading to the operation of a metonymy (Field 8); the phenomenology of metonymic chaining (Field 9); and the patterns of interaction of a given metonymy with metaphors and/or other metonymies (Field 11). As regards metonymic triggers, she demonstrates how these factors can be classified into two subcategories, which in most cases are found to jointly operate in the activation of a metonymy: co-textual triggers, i.e., those factors residing in the linguistic constructions that surround a given metonymic expression, and other contextual triggers, namely the conceptual structures, including frames and ICMs, and the pragmatic factors that come to bear on the production and understanding of an utterance. She then explores how chaining (Barcelona 2005) may intervene in the cognitive processes yielding metonymic representations, and thus be at the base of the diachronic or synchronic motivation of the form or the meaning of a construction, of the referential value of an NP, or of a metonymy-guided inferential chain. In this context,

she also shows how domain reduction and expansion (Ruiz de Mendoza and Peña Cervel 2005) may be effected, within a given metonymic expression, by the concurring action of different metonymies linked by chaining. Pannain (this volume), Section 4.2.1, includes an interesting example of what Barcelona (2005: 336) calls "direct" metonymic chaining. Hernández-Gomariz's contribution closes with an account of metonymy-metaphor and metonymy-metonymy patterns of interaction. Apart from being possibly responsible for the motivation of the conventional form/meaning of a construction, and apart from being at work in discourse understanding, such patterns may underlie the conceptual motivation of either a metaphor or a metonymy. As Hernández-Gomariz notes, this kind of motivation appears to be unidirectional: metonymies often motivate metaphors, while the inverse relation does not appear to occur.

Among the advances in the study of metonymy stimulated by the design and development of the database, the following are reported in this chapter: The notion of *metonymic triggers* and a detailed systematic grid to register the immediate co-textual and other types of contextual triggers (or constraints) facilitating or blocking a metonymic operation; and a detailed systematic grid to register patterns of metonymic chaining and patterns of interaction with metaphor or with other metonymies.

3.   Theoretical problems in the study of metonymy

The chapters contained in Section 2 contribute to the elucidation of the notion of metonymy and point out some general properties of metonymy that might be taken into account in the design and implementation of the database presented in Section 2.

In his chapter, **John Barnden** insightfully argues for the important role of the category of *contrast* in metonymy, which in his view has been neglected in the literature. Contrast is one of the dimensions in Barnden's (2010) multidimensional approach to the analysis of figures of speech. The author begins by noting the various types of contrast that are implicitly considered in the recent literature on metonymy, particularly in Littlemore (2015); however, contrast, he observes, has not been "explicitly and comprehensively" taken into account as a separate analytical category in metonymy research. The bulk of the chapter is concerned with the discussion of the various types of contrast involved in metonymy. The first type is the one opposing source and target (often occurring in antonymic metonymy and in various types of de-personalization), and can exhibit various degrees, ranging from very high, as in *England's bid is now worried about the impact of an investigation into FIFA by the BBC's Panorama* (a bid to host an event is connected to the people involved in

the bid), to very low, as in *Pass me a bowl* (a bowl with tortilla chips), where the source (the bowl without the chips) is similar to the target, i.e. the bowl with the chips. The second type is the contrast between speakers' attitudes associated with the source and expected speakers' attitudes about the target; this type occurs in negative cases of de-personalization like *Steam irons never have any trouble finding roommates*, if the context suggests the speaker should be friendly with the target person of the metonymy. When de-personalization is allied to "de-roling" (i.e., the choice of source backgrounds the target person's role), the contrast is now between degree of role-relevance of the source and the greater role-relevance of other properties of the target, as in calling a teacher *Ms Crooked nose* (nose shape is hardly relevant to the target's role as teacher). De-roling is, as Barnden notes, often associated to dysphemism and irony. The fourth type of contrast (also often associated with irony) is that holding between the metonymic target scenario and normally expected target scenarios, as in *She's not just a pretty face* (i.e., she is intelligent, counter to stereotypical expectations). The fifth type of contrast (likewise related to irony) occurs between concern about the source and concern about the target, as in *What are the French army doing in Mali*? (involving, the author claims, following Littlemore 2015, EFFECT FOR CAUSE metonymy), where the focus on the source (asking about the army's actions in Mali) contrasts with the focus on the target (inquiring and criticizing the situation described). Barnden then incisively discusses the complex phenomenon of transferred epithets like *Cozy exit ahead* (referring to a freeway exit leading to a hotel, self-advertised as "cozy"), and claims that metonymy is regularly involved in these phenomena, although in different ways, which are illustrated through a variety of examples. The type of contrast in these cases is, in addition to the contrasts involved in any other metonymy, the strong contrast between the modifier and the modified. The complexity is even greater when the modifier is simultaneously applied metaphorically to the modified, as in the use of *Tasty Thursday* to refer to a Thursday where tasty food is consumed at a public event (metonymy) and which is felt as pleasurable in itself (independently from any connection with food). Finally, the author suggests several ways in which the contrast dimension could be incorporated into the metonymy database discussed in the chapters by Barcelona, Blanco-Carrión, and Hernández-Gomariz.

The main contribution of this chapter to the study of metonymy is, obviously, the advocacy of various types of contrast as an important dimension in the study of metonymy, especially in comparison with metaphor and other figures like irony. The chapter also contributes some innovative insights into the role of metonymy in such pragmatic effects as "de-personalization" and "de-roling" and in the grammatical phenomenon of transferred epithets.

The main goal of **Klaus-Uwe Panther** and **Linda Thornburg**'s insightful chapter is to argue for their cognitive, pragmatic and semiotic view of metonymy as a

"contingent" (i.e. defeasible) relation between two conceptual entities within the same conceptual frame and to answer the question in the title ("what reasoning mode is metonymy?"). Panther and Thornburg suggest, as an initial answer to that question, that metonymy is an instance of Kahnemann's (2011) "system 1" (i.e. fast and automatic) reasoning. Before exploring this issue in greater detail, Panther and Thornburg devote their long, insightful second section to "dissecting" the properties of metonymy, given the disagreements over some of them, even within cognitive linguistics. This section can be usefully compared with Radden's chapter in this volume and with other recent discussions of the properties of metonymy published in the last few years by other cognitive linguists like Barcelona (2011), Bierwiaczonek (2013), Littlemore (2015), and Ruiz de Mendoza (2014). What Panther and Thornburg call the "basic metonymic relation" is a complex phenomenon that includes, apart from the frame-internal source-target connection, such additional elements as the contextual factors facilitating the metonymic operation (called "triggers" in Barcelona's and Hernández-Gomariz's chapters in this volume) and the pragmatic effects of the metonymy. Alongside their brief discussion of the sociocultural basis of metonymy, Panther and Thornburg argue that many of Grady's (1997) and Lakoff and Johnson's (1999) primary metaphors are better analyzed as metonymies. Also as part of their discussion of the traditional assertion that metonymy is a relation of contiguity between two entities, Panther and Thornburg point out some serious shortcomings of Peirsman and Geeraerts's (2006) contiguity-based, prototype account of metonymy, especially the lack of evidence that it matches the intuitions of native speakers. The main part of the section is devoted to arguing against the objections to Panther and Thornburg's major claim, namely that the conceptual relation between metonymic source and target is in principle contingent, defeasible and not one of entailment. These objections point out the apparent "necessity" of the metonymic reading of certain expressions like *The kettle is boiling*. Their defense of the contingency criterion leads Panther and Thornburg even to rule out the metonymy HYPONYM FOR HYPERONYM (as in *I need an aspirin* 'I need any pain-relieving tablet'), since hyponyms include hyperonyms in their meaning and therefore the target meaning would not be defeasible, although this inclusion is often dependent on changeable encyclopedic knowledge. This and other facts they discuss in that section lead Panther and Thornburg to suggest that, although there exists a continuum from linguistic-semantic competence to encyclopedic knowledge, both types of knowledge should be distinguished in linguistic theory and practice. Panther and Thornburg also examine the apparent source orientation of certain metonymies, and suggest alternative analyses where the target is shown to be actually foregrounded. Since the target meaning, in their view, always includes the source meaning, Panther and Thornburg claim that all metonymies are, from an "intensional" perspective, of the type CONCEPTUAL PART

FOR CONCEPTUAL WHOLE, thus ruling out WHOLE FOR PART and PART FOR PART metonymies. After briefly touching on the pragmatic effects of metonymy, Panther and Thornburg argue persuasively against Croft's contention that metonymy applies only to "autonomous predications" (nouns) as part of the discussion of their pragmatic types of metonymy; in their view, Croft's claim restricts the notion of metonymy to referential metonymies.

The remaining sections resume the issue of the reasoning mode represented by metonymy. Of the three possible candidates considered by Panther and Thornburg (deduction, induction and abduction), only the last two are compatible with the contingency requirement, but abduction (initially studied by C.S. Peirce) is shown to be the reasoning pattern most clearly underlying a large class of metonymies, namely metonymies solving an apparent incongruity (e.g. *The blue helmets have arrived in Sarajevo. We're safer now*). However, this reasoning pattern does not underlie all metonymies, since another large set of metonymies, those whose targets are default inferences (e.g., the tendency to infer that a secretary is a female) manifests, in Panther and Thornburg's view, the same reasoning mode as conversational implicature, especially generalized conversational implicature.

Panther and Thornburg reiterate in this chapter some of their views on metonymy in earlier publications (see, e.g. Panther and Thornburg 2007), especially the contingency requirement, but they argue for these views in greater detail against objections recently raised by other researchers. This is one of the main contributions of this chapter. But it includes some other important new contributions. One of them is their central claim that metonymy is a type of indexical reasoning to associated concepts, a type of reasoning underlying both the inference of implicated default meanings, i.e. conversational implicature, and abductive inference. This indexical reasoning is connected to the widely accepted view that metonymy is an important device in *meaning elaboration*, since, they claim, the source is elaborated into a target including the source. This view, together with their defense of the contingency criterion in turn leads Panther and Thornburg to their challenging and potentially controversial claim that all metonymies are PART FOR WHOLE, and that WHOLE FOR PART and PART FOR PART metonymies should be ruled out.

Günter Radden's chapter also reviews the properties that are pivotal for the conceptual basis of metonymy. To the properties traditionally acknowledged to play a role in the characterization of conceptual metonymy, i.e. metonymic source and target, association, and metonymic relation, he adds conceptual shift and conceptual integration. Regarding the first property, he stresses the need to distinguish *source* and *target* from the *vehicle* as a linguistic unit. In his outline of the inferential steps needed to process metonymy, he shows that the inferred target entity forms part of a *complex target*, in which the metonymic source not only functions as point of access to the inferred target but is itself a prominent element. In relation

to association, he discusses its neural basis and its impact on metonymic intercon-nections, inference and strength of association. He then discusses contiguity and in-dexicality in the search for a unique defining characteristic of metonymic relations but concludes that neither of them qualifies as a unique determinant. However, he provides evidence of the usefulness of the asymmetry between source and target, and the distinction between internal and external contiguity, for the identification of metonymic relations. In addition to these three properties, he illustrates the online process that he calls "metonymic shift", which depends on a number of language-external factors, as well as the difficulties in recognizing online instances of metonymy. He then presents evidence of how metonymic descriptions may not necessarily lead to a metonymic shift and of cases where, contrary to the traditional assumption, the source is more prominent than the target. He concludes that con-ceptual integration of source and target and the subsequent emergent meaning are an essential part of any metonymy, in fact, its "most outstanding feature".

This chapter, like Panther and Thornburg's chapter, makes a number of sub-stantial contributions to the refinement of the theory of metonymy. Apart from his pertinent conceptual and terminological distinction between *source* and *vehicle*, Radden claims that the target is complex, since it comprises the inferred target, the metonymic relation and the source. To back his claim, Radden distinguishes (and this is a further remarkable contribution) between the role of the source in the activation of the target and its role as part of the complex target (this double role demonstrates the higher prominence of the source in metonymy). The inclusion of the source by the complex target is a claim also made by Panther and Thornburg's chapter, but Radden does not explicitly claim, as Panther and Thornburg do in their chapter, that all metonymies are, therefore, PART FOR WHOLE. The notion of the "complex target" is likely to stimulate lively debate.

Another interesting contribution of this chapter is the use of the notion of "asymmetry" to supplement contiguity as a property of metonymy. Asymmetry had initially been suggested by Barcelona (2011: 12) as one of the criteria in the distinction between metonymy and metaphor. Radden's discussion of asymme-try in metonymy connects to the relevance of "contrast" in Barnden's chapter in this volume, and to Barcelona's notion of "metonymic trigger", discussed by Hernández-Gomariz (this volume).

Radden's coherent characterization of the notion of "metonymic shift" consti-tutes another advancement in the theory, since it articulates into a coherent whole many earlier observations in the literature on metonymy. A remarkable point in this characterization is Radden's distinction between the concepts of (linguistic) "metonymic description" and (conceptual) "metonymic shift", since the former does not necessarily lead to the other.

Radden's contention that metonymy *always* results in conceptual integration prompting different and often more specific inferences than those prompted by non-metonymic expressions is also a challenging theoretical claim (see also Blanco-Carrión, this volume, on metonymies resulting in "compression").

4.   Case studies

Bogusław Bierwiaczonek's chapter demonstrates that the PART FOR WHOLE metonymy, widely used at the conceptual, lexical and morphological levels, is also used at the syntactic level to motivate the emergence of new grammatical constructions. This supports the view outlined in previous research (Panther and Thornburg 2007; Barcelona 2009; Bierwiaczonek 2013, 2014) that metonymy may be a more fundamental process than metaphor with regards to its enabling the emergence of new constructions in grammar. Specifically, he shows how the metonymy called by Barcelona (2009) SALIENT PART OF FORM FOR WHOLE FORM (called "formal metonymy" by the author in several publications, e.g. Bierwiaczonek 2013) leads to the emergence of new grammatical constructions. Although in the initial stages the salient part of a constructional form will metonymically activate the whole construction and convey its meaning, Bierwiaczonek claims that such truncated activations of autonomous constructions may become entrenched over time, acquiring a constructional status of their own and developing additional idiosyncratic characteristics, e.g. new and/or stronger illocutionary forces. To illustrate this point he provides a detailed analysis of the monoclausal *if-only P* construction. His analysis is an important contribution to the understanding of this construction. He demonstrates that, in fact, it constitutes a network of constructions, differing in their time reference, epistemic stance and illocutionary force, and not a single construction, as had previously been proposed (Dancygier and Sweetser 2005). He further adds that the *if-only P* construction is just an example of a series of constructions whose existence is granted by a general metonymic process which licenses their omission of arguments thanks to the metonymic link with their full regular argument structure constructions (cf. Ruppenhofer and Michaelis 2010), and he claims that some of the crucial syntactic and/or semantic properties of dependent constructions can only be explained in terms of the full autonomous constructions they have emerged from.

The main contribution of this chapter to the study of metonymy is the evidence it provides for the powerful motivating role of the metonymy SALIENT PART OF FORM FOR WHOLE FORM in the emergence of new syntactic constructions, not only in lexical constructions and in morphological processes like clipping (Barcelona

2016). This evidence leads the author to make a number of claims which constitute important contributions to knowledge on metonymy: (i) SALIENT PART OF FORM FOR WHOLE FORM does not only motivate the form of these constructions, it also helps us to explain their argument structure and their semantic and pragmatic properties; (ii) "metonymy-motivated dependent constructions" implement Grice's Quantity maxim (its brevity sub-maxim); (iii) metonymy is more fundamental a cognitive process than metaphor in the development of grammar, since it enables new constructions to emerge, whereas metaphor simply extends the application of existing grammatical structures to other domains. Bierwiaczonek also points out directions for future research on monoclausal *if-only P* constructions.

Benedikt Perak proposes an emergent constructionist model that advocates a hierarchical organization of the conceptualization of emotions. As a part of the emergent system with bottom-up and top-down relations, sensory-motor constructions are necessary for establishing the semantic properties of higher ontological patterns. This emergent constructionist model shows that metonymic profiling is the most basic, distinctive and informative mechanism in the conceptualization of a specific emotion category because it conveys distinctive knowledge about the affective state. Additional mechanisms would then build upon the metonymic conceptualizations using other types of conceptual structure such as knowledge about objects and their properties, the structure of events, or spatial cognition. Perak claims that without this metonymic profiling it would be impossible to conceptualize the appropriate quality of the emotion concept. Although he uses the emergent constructionist model to illustrate the conceptualization of the emotion lexicalized under the target word *strah* ('fear' in Croatian), he argues that it can be applied to other emotions as well as other ontologically subjective concepts.

The main contribution of this chapter to the study of metonymy is the important empirical, analytical and cross-linguistic support it lends to earlier claims on the essential role of metonymy in the basic conceptualization of emotions (Kövecses 1986; 1990; Soriano 2005), and in the creation of their "inherent semantic structure" (Barcelona 2000: 47). The emergent constructionist model, furthermore, constitutes an innovative, detailed methodological proposal in the study of the linguistic profiling of emotion concepts.

The analyses presented in **Rossella Pannain**'s chapter build upon contemporary research (Radden 2004; Pauwels and Simon-Vandenbergen 1995; Goossens 2002; Goossens et al. 1995; Jing-Schmidt 2008; Yu 2011) evidencing the cross-linguistic fact that metonymic expressions based on the source SPEECH ORGANS refer to a variety of components of the "scene" of LINGUISTIC ACTION. In her chapter, she presents a detailed analysis of the metonymic processes involving MOUTH and TONGUE, as speech organs, in the three main constructional schemas for this metonymy in Italian: nominal modification, compounding, and derivation by

evaluative suffixation. Furthermore, she shows how the semantics of the four standard Italian expressions analysed (*malalingua*, *lingua lunga*, *boccaccia*, and *linguaccia*), all referring to types of speaker/linguistic behaviour, involves value judgment. Her characterization of the semantics of these expressions is based on data drawn from corpora of written standard Italian: quantitative data are brought to bear in the characterization of the range of metalinguistic, and possible non-metalinguistic meanings, for each expression. In some respects, her corpus-based description of the semantics of the target words (e.g. *boccaccia*) differs from the information provided in dictionary definitions. In other respects, her findings are on a par with dictionary definitions (e.g. *lingua lunga*, and *linguaccia*) regarding the core semantic component of the target meanings, i.e. the notion of an EXCESSIVE QUANTITY OF SPEECH, which triggers a negative value judgement. In fact, her analysis focuses, among other things, on the role of scalar dimensional notions such as SIZE and QUANTITY in the figurative representations at issue. Finally, her research demonstrates that the negative nature of value judgement is partly determined by the interaction between the semantics of the lexical and morphological components of the lexical constructions that she studies, and partly constrained by the structure of the target domain. In its concern with attitudes and value judgments, this chapter bears interesting connections to Barnden's and Portero-Muñoz's chapters; it is additionally connected with Portero-Muñoz's chapter by the fact that the two Italian compounds analyzed can be categorized as bahuvrihi exocentric compounds, the topic of Portero-Muñoz's chapter (see below).

The main contributions of this chapter are: (i) the further crosslinguistic evidence it presents for the plausibility of multiple metaphorico-metonymic analyses for the same expression, as advocated, among others, by Geeraerts (2002: 460) through his 'prismatic model'; (ii) the further crosslinguistic evidence it offers for the fundamental role of metonymic chaining in meaning creation (Barcelona 2005; Hernández-Gomariz, this volume); (iii) the crucial role of metonymy in the emergence of the value judgment attached to the classes of people profiled by these expressions; (iv) the importance of scalar notions as sources of the metonymies triggering the value judgments in this study. The last contribution, if confirmed by further studies, might constitute an insightful generalization for a systematic study of the attitudinal function of metonymy.

Carmen Portero-Muñoz devotes her chapter to a careful, perceptive analysis of a corpus comprising over 300 nominal bahuvrihi compounds with a body-part noun as morphological head, an example being *smartphone face*; bahuvrihi compounds represent the main type of semantically exocentric compounds in English. Her main goals are to argue for the pervasiveness of metonymy in the motivation and comprehension of these compounds and to provide evidence for their productivity, which is higher than normally acknowledged in the literature on morphology.

This chapter complements the research on metaphor, metonymy and compounding by Barcelona (2008) and Benczes (2006). Portero-Muñoz starts by discussing the linguistic status of exocentric compounds in English and notes that while they have traditionally been regarded as a marginal phenomenon in English morphology, more recent research has started to recognize their productivity, especially that of their more frequent subtype in English, bahuvrihi compounds. She then tackles the issue of the proposals to eliminate exocentrics as a separate category due to the fallibility of a strict exocentric-endocentric distinction. Despite the consensus on that fallibility, she proposes to keep exocentrics as a distinct category on cognitive, psycholinguistic and practical grounds. The author briefly discusses the sources from which she has compiled her corpus; these include two digital corpora and a number of online dictionaries (like the Urban Dictionary) registering fairly recent formations and meanings. The analysis of the data confirms the pervasiveness of metonymy as a key cognitive mechanism in all the examples and the remarkable productivity of this type of compounds. Portero-Muñoz identifies three main sub-types of bahuvrihis with a body-part noun as morphological head: (i) "possessive" compounds with personal denotation; (ii) compounds designating various physical or mental conditions; and (iii) compounds designating other types of inanimate reference. The main subclass within (i) is constituted by *-head* formations, with both old instances (*blockhead*), recent instances (*cokehead*, *acidhead*), and very recent instances (*Googlehead*), which attests their productivity and their gradual semantic extension. The other subclass includes both older and very recent creations like *fatmouth* ('someone who talks too much, especially about things that should be secret'). Subtype (ii) includes 'ailment descriptors' like *smartphone face* ('a drooping jawline and saggy jowls caused by neck muscles that have been shortened from constantly looking down at a smartphone or similar device'), 'symptomatic' compounds like *wryneck* ('an unnatural condition in which the head leans to one side because the neck muscles on that side are contracted'), and 'personality traits' (*itchy feet*, 'very strong or irresistible impulse to travel'). Subtype (iii) is represented by *sleeveface*, 'a photo in which the sleeve from a music album obscures a person's face to artfully extend the album cover image'. An important fact is the frequency in the corpus of new examples of older semantic subtypes as well as the creative reinterpretation of existing compounds.

The main contributions of this chapter are: (i) the discovery of the growing prominence in 21st century English of body parts as metonymic sources (see also Pannain, this volume) for diseases / ailments and certain classes of people, which seems to maximize source-target contrast / asymmetry (see Barnden, this volume; Radden, this volume); (ii) the revived productivity of exocentric compounds motivated by these metonymies with body-part sources; (iii) the evidence it provides for the efficiency of metonymy in creating discourse communities.

The chapters in the third part of the book that we have commented on so far are concerned with the motivating role of metonymy in a number of grammatical constructions, including lexemes and idioms, of oral languages like English, Italian or Croatian. The chapter written by **Ana-Laura Rodríguez-Redondo** investigates the role of metonymy in the development and use in authentic signed discourse of three signs in the Spanish Sign Language ('Lengua de Signos Española', abbreviated as LSE). Rodríguez-Redondo follows Barcelona's views on metonymy (Barcelona 2011) and proposes a metonymic account of the conceptualization and use of manual articulators in sign language. As regards sign language research, Rodríguez-Redondo combines Sarah Taub's, Sherman Wilcox's, and Phyllis Wilcox's views on the interaction of the surface iconic components of signs with metaphor and metonymy.

Metonymy operates in signs at three interacting levels, Rodríguez-Redondo argues: it guides the projection of highly schematic concepts onto the iconic manual articulators, which, again mainly with the assistance of metonymy, are conceptualized as a different type of physical entities (e.g. a certain hand-shape conceptualized as a pair of horns). These concepts are then enriched (or "refleshed", as Rodríguez-Redondo puts it, borrowing this term from Talmy), thanks to contextual and co-textual triggers (Barcelona, this volume; Hernández-Gomariz, this volume) activating complex chains (Hernández-Gomariz, this volume) of further metonymies. Finally, metonymy may determine the constructional meaning and form of signed phrases.

The three signs analyzed by Rodríguez-Redondo for this chapter occur in an LSE corpus of cooking recipes. Rodríguez-Redondo applies the three-level analysis to each of them. The first one is the sign for "bull" or "cow", whose metonymic basis is carefully discussed; the co-text, the active COOKING and FOOD frames and the corresponding "vocalization" by the signer (at the level of form) facilitate a chain of metonymies leading to the reading of the sign as "veal (meat)". Similar processes are claimed to underlie the development and interpretation in context of two complex sign combinations as meaning, respectively, "tomato can" and "ham-slice".

The main contribution of this chapter is the cross-linguistic support it lends from a sign language to the view that metonymy is a conceptual phenomenon that motivates linguistic meaning at multiple hierarchical levels (Barcelona 2005, 2009), starting out from the conceptualization of manual articulators. Other important contributions are the attempt at accounting for the complex dynamic interaction between iconicity and metonymy in sign language, and the claim that sign language metonymies depend on co-textual and contextual triggers to a larger extent than oral language metonymies.

5.   Recapitulation

In the last two sections we have been singling out the *main* contributions to research on metonymy reported in each chapter. It is time now to present them together with the aim of offering the reader a global image of these main contributions, commenting on the extent to which they constitute an advance over, or a new departure from, earlier research on metonymy. They can be thematically arranged into a number of groups.

5.1   New descriptive methods and criteria

The main methodological contribution is the design of the metonymy database described in Barcelona's, Blanco-Carrión's, and Hernández-Gomariz's chapters. The entry model of the database features eleven analytical fields: Metonymy Category, Hierarchy, Prototype Status, Examples and Taxonomic domain (represented by source and target in each example), Conventionality, Language (English, etc.), Linguistic Domain (in which the metonymy operates), Metonymic Triggers (and constraints), Chaining, Further Hierarchies, and Patterns of Interaction (with metaphor and other metonymies). The entry model also includes another three fields (additional examples of the metonymy, bibliographic references, and control information on revisions). To our knowledge there does not exist a comparable metonymy database. The design and development of this database constitutes an important innovation in metonymy research. When completed, it is expected to constitute a useful tool for the academic community, thanks in particular to the possibility of performing multiple automatic searches across various fields or subfields (examples of manual searches are provided in Blanco-Carrión's, Hernández-Gomariz's, and Barcelona's chapters, especially in this chapter).

The design and development of the database includes the establishment of a number of *descriptive criteria*, which in some cases are genuine contributions to metonymy theory (such as the refinement of the notions of "metonymic hierarchy", "metonymic conventionality", and the proposal of the notion of "metonymic triggers" – see 5.3.1). Each analytical field in the database constitutes a major descriptive criterion, and each of them includes a number of descriptive parameters. Moreover, Fields 4, 5, 7, 8 and 11 feature several subfields, each of them with a number of further descriptive parameters (see Table 1 in Barcelona, this volume). For example, Field 7 (Blanco-Carrión, this volume) features Grammatical Rank, Constructional Meaning, Utterance and Discourse Meaning, Constructional Form, Grammatical Process, Main Function of the Metonymy (motivational, inferential, referential), and Compression.

The metonymies discussed in the remaining chapters in the book and some of the analytical criteria proposed in them can be easily incorporated into the database. One of the authors of those chapters (Barnden) actually suggests how his theoretical concepts could be incorporated into the database.

Another major methodological innovation reported in the book is the "emergent constructionist" model applied by Perak (this volume) to study the metonymic linguistic profiling of emotion concepts.

5.2   Theoretical issues

The book's contributions to metonymy theory can be grouped under these two headings: "New answers to older debates" and "Challenges to present theories of metonymy".

5.2.1   *New answers to older debates*

One of these debates is "contingency" or "defeasibility" as a distinguishing property of metonymy. Panther and Thornburg (e.g. 2007) have long maintained that metonymy is and invites pragmatic inference, which is by definition defeasible. Panther and Thornburg (this volume) argue insightfully against recent objections by other scholars to their contingency criterion.

Another old debate is the relation between metonymy, contiguity and indexicality. After rejecting contiguity as a reliable criterion, Panther and Thornburg (this volume) perceptively argue that metonymy is a kind of "indexical reasoning to associated concepts", a property shared by "incongruence-based" metonymies and by "default" metonymies. This property preserves the contingency criterion. Radden (this volume), however, refuses to consider indexicality or contiguity as a unique defining characteristic of metonymy.

The long-standing debate on the relation between metonymy and iconicity in sign language is enriched in this book with a new proposal by Rodríguez-Redondo, who combines some of Barcelona's (e.g. 2011) views on metonymy with Taub's, S. Wilcox's and P. Wilcox's views on the interaction of metonymy and iconicity in sign language.

Finally, the old debate on the relative prominence of source and target receives a new input with Radden's contention (this volume) that the source is in general more prominent than the target due to its double role as activator of the inferred target and as part of the resulting complex target (on the latter notion see 5.3.1).

5.2.2   Challenges to present theories of metonymy

An important challenge is the postulation by Barnden (this volume) of five types of source-target "contrast" as a fundamental dimension in metonymy research (to these five types we should add the contrast between modifier and modified in transferred epithets). This chapter elaborates on the author's older proposal of a multidimensional approach to the study of figures of speech (Barnden 2010).

Another important challenge is Panther and Thornburg's (this volume) rejection of WHOLE FOR PART and PART FOR PART metonymies from an intensional (i.e. conceptual) perspective, due to their view of metonymy as a device for meaning elaboration, which leads them to view (like Radden, this volume) the target as *always* including the source in the resulting elaborated concept. However, Radden does not (at least explicitly) reduce metonymy to PART FOR WHOLE.

The claim that conceptual integration is a *necessary* outcome of metonymy, cogently argued by Radden (this volume), is another challenge to mainstream metonymy theory. Fauconnier (2009) had claimed that metaphor and metonymy are generated by compression. Radden seems to claim that compression is a necessary element in every metonymic operation. One of the main reasons Radden offers for his claim is that metonymic expressions invite different and often more specific inferences than those prompted by their non-metonymic alternatives.

Finally, Bierwiaczonek (this volume) claims that the formal metonymy SALIENT PART OF FORM FOR WHOLE FORM does not only motivate the form of constructions like monoclausal *if* conditionals, but also their argument structure and their semantic and pragmatic properties. Furthermore, he claims that metonymy is more fundamental than metaphor in the development of grammar, because it enables the development of new constructions, whereas metaphor simply extends existing constructions to other domains.

5.3   New concepts and trends in metonymy research

This section is divided into two sub-sections, one sub-section listing the new concepts for the theory of metonymy or new aspects of metonymy respectively proposed or discussed in the book; and another sub-section noting the new trends in metonymy research pursued in the book.

5.3.1   New concepts or new aspects of metonymy not previously noted or emphasized

A number of new concepts or new aspects of metonymy have emerged alongside the design and progressive completion of the metonymy database described in the first part of the book.

Barcelona's (this volume) proposal to regard "metonymic hierarchies" as taxonomic rather than meronymic is an aspect of metonymy that had not been approached before, to our knowledge. The same applies to the criterion to recognize a new major level in a metonymic hierarchy: initiation of a new sub-taxonomy. The chapter also shows that the systematic study of metonymic hierarchies can reveal subtle differences between highly similar metonymies.

Blanco-Carrión (this volume) discusses purely conceptual conventionality of metonymy (e.g., when it guides a pragmatic inference that does not become conventionally attached to a linguistic form) vs. conceptual-and-linguistic conventionality of metonymy (when the inference guided by metonymy has become a conventional meaning of a linguistic expression). This distinction had not been explicitly made before.

Hernández-Gomariz (this volume) discusses the notions of "metonymic trigger" (and its opposite, "metonymic constraints"). These notions and the distinction between co-textual and contextual triggers had not been explicitly formulated formerly as a separate descriptive parameter in metonymy research.

Radden's (this volume) distinction between (conceptual) "source" and (linguistic) "vehicle" is another useful contribution. So is his distinction between "external" and "internal" contiguity. But the most important new concepts proposed by this author are the notions of "complex target" and "metonymic shift". The first concept comprises the source, the metonymic relation (EFFECT-CAUSE, etc.) and the inferred target. The second new concept (in fact a reformulation of an older concept) is described as an online process consisting of a change of focus from the source concept to the complex target, and it is facilitated or inhibited by a number of language external factors (called contextual triggers in the metonymy database entry model). Metonymic shifts should not be confused with "metonymic descriptions".

Radden (this volume) also uses source-target asymmetry as a fundamental property of metonymy, which could supplement the notion of contiguity.

5.3.2   *New trends in metonymy research*

A fairly recent trend in metonymy research is the study of the affective, evaluative, attitudinal and social function of metonymy (a recent summary is Littlemore 2015).

Barden (this volume) insightfully discusses two (often closely related) evaluative and attitudinal uses of metonymy: *de-personalization*, where the choice of source backgrounds the personal traits of the target as in *Steam irons never have any trouble finding roommates*; and *de-roling*, where the choice of source backgrounds the target person's role (calling a doctor *Mr Humpback* because he has that physical trait).

Pannain (this volume) discusses the effect of scalar sources on the negative value judgment attached to a number of Italian metonymic expressions for types of speakers.

Portero-Muñoz's chapter (this volume) provides important evidence of the role of metonymy in the creation of discourse communities, in this case through the remarkable productivity of certain types of exocentric compounds among young speakers in the 21st century.

5.4   New empirical data on metonymy

The digital version of the entry model is under construction, although its basic architecture has already been developed (Barcelona, this volume). Once this digital version has been fully implemented, it will allow researchers to obtain new empirical data on the functioning of metonymy.

Each of the 5 case studies contributes important sets of new data for the study of metonymy, apart from the implications of their findings for theoretical and other general aspects of metonymy.

Bierwiaczonek's chapter is a very detailed, insightful study arguing for the fundamental role of formal metonymy in the development and synchronic properties of the family of monoclausal '*if only* P' constructions and in the development of similar families of constructions.

Perak's chapter is a careful, detailed investigation of the role of "metonymic profiling" in the emergence of the emotional category of FEAR in Croatian.

Pannain's chapter is a systematic corpus-based analysis of the role of metonymy in certain Italian exocentric compounds, and in Italian constructions involving derivation by evaluative/alterative morphology.

Portero-Muñoz's chapter is a careful, very detailed corpus-based study of the pervasive role of metonymy in the emergence of new English exocentric compounds in the 21st century, a factor which facilitates their remarkable productivity, higher than usually acknowledged.

Finally, Rodríguez-Redondo's chapter is an in-depth investigation into the role of the interaction between metonymy and iconicity in the creation and interpretation of three Spanish Sign Language constructions.

Any active cognitive linguist should find this volume appealing, since metonymy is universally recognized in cognitive linguistics as a pervasive factor involved in virtually every aspect of linguistic structure and in pragmatic inferencing. We, therefore, hope that the book will be fruitfully used by the cognitive-linguistic community. We also hope that it will appeal to functional linguists, artificial intelligence and sign language researchers, linguists with an interest in the semantic and conceptual basis of language and communication, as well as to rhetoricians and lexicographers, among other scholars.

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General issues in the description of metonymy

Issues in the design and implementation
of a metonymy database

CHAPTER 1

General description of the metonymy database in the Córdoba project, with particular attention to the issues of hierarchy, prototypicality, and taxonomic domains

Antonio Barcelona

Universidad de Córdoba

This chapter presents part of the results of our project on metonymy, one of the aims of which is to compile a detailed database of metonymy. The database entry model is first briefly described, but the chapter focuses on the discussion of three issues addressed by four of the database entry fields. The first issue is the hierarchical level at which the metonymy under analysis should be located (fields 2 and 10). The second issue (Field 3) is the metonymy's degree of prototypicality. The third issue, covered by Field 4, is the type of "taxonomic" domain with source or target role, e.g. "vehicles" and "drivers" in the example of OBJECT USED FOR USER *The buses are on strike*.

Keywords: entry model, prototypical metonymy, purely schematic metonymy, taxonomic domains with source or target role, taxonomic vs. meronymic hierarchies, typical metonymy

1. Introduction

The first part of the book is devoted to the development of a set of criteria and parameters to describe metonymies and improve existing typologies. Most of these criteria are currently being applied in the compilation of a detailed annotated metonymy database by a team of researchers headed by Antonio Barcelona. Of the chapters in this first part, the present one and those by Blanco-Carrión and Hernández-Gomariz are directly concerned with reporting on an aspect of our ongoing work on the development of the database: the establishment of a set of parameters and descriptive criteria for the characterization of individual metonymies in the database. The parameters are included in the *metonymy database entry model*

(see Table 1) and the criteria concern the way these parameters are interpreted and applied to the metonymies included in the database. The above-mentioned research team has already developed a rich set of parameters and criteria (Blanco-Carrión et al., n.d.) and applied it to over 300 metonymies registered in the specialized literature, while new entries are constantly being added.

The research reported in the present chapter is part of the current results of the project FFI2012-36523 (*An empirical investigation into the role of conceptual metonymy in grammar, discourse and sign language. Compilation of a metonymy database: Second stage*), funded by the Spanish Ministry of Economy and Competitiveness, which started in 2013 and represents a continuation of project FFI-2008-04585 (2008–2011), funded by the Spanish Ministry of Science and Technology.[1] The main aim of the project is to systematically investigate the functioning of conceptual metonymy across a variety of authentic discourse samples in two oral languages (English and Spanish, especially the former) and, to a lesser extent, in the American Sign Language and the Spanish Sign Language (on the multilevel role of metonymy in the Spanish Sign Language, see Rodríguez-Redondo, this volume). This main aim is broken down into a series of secondary objectives, the most important of which is the compilation of a detailed annotated database of, mainly, basic and higher-level conceptual metonymies. This database is being built on both the basis of metonymies registered in the specialized literature on metonymy and our own corpus-based research on authentic discourse samples.

We hope that this database will provide the empirical data required for the development of a detailed, sophisticated typology of metonymy that would go beyond a mere list of more or less generic metonymies roughly grouped into types. The database, on the other hand, may constitute a useful reference tool for the cognitive linguistic community and result in a number of applications in other areas such as advertising, communications studies, social psychology, artificial intelligence, and language teaching. After building the entry model and after an "internal training" period (aimed at the refinement and unification of the parameters and the descriptive criteria), we have compiled an initial, pilot annotated database comprising 300 entries applied to (mostly English) individual metonymies mentioned or discussed in the academic literature on metonymy. We have also developed the architecture

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1. Researchers in both projects: Antonio Barcelona (project leader), Olga Blanco-Carrión, Pilar Guerrero, Carmen Portero-Muñoz, Carmen Guarddon, Ana Laura Rodríguez-Redondo, Isabel Hernández-Gomariz. From 2012: Eva Lucía Jiménez-Navarro. From 2013: Almudena Soto and Carlos Hernández, and, as occasional collaborators, M. Á. Torres (in 2013), M. S. Cruz (in 2013), S. Díaz Wengelin (in 2009). From 2015 (under contract): J. A. Jódar. Computer technicians: J. J. Liñán (from 2008) and J. M. Gálvez (from 2015).

of the digital, web-based version of the database, into which (after due revision) we will eventually feed the pilot metonymy database and the larger database that is being built on the basis of our own corpus-based research on the operation of metonymy in a large array of authentic texts. An important property of the database is its relative *flexibility*. It has been designed to easily accommodate new fields and subfields into the entry model, which could then be easily applied to metonymies previously analyzed in terms of a smaller number of fields / subfields. The structure of the database also allows easy modification, revision and correction of the data fed into it.

Table 1 exemplifies the structure of the June 2013 version of the entry model, which has gone through several major and minor revisions before its application to the metonymy set.

Table 1. Entry model. June 2013 version (© project FFI2012-36523)

1. Category label (to be reproduced exactly from the source [book/article, paper, report, etc.] at the lowest level mentioned by the author): EFFECT FOR CAUSE, etc.
ADDITIONAL REMARKS:

2. Hierarchical level: Four major levels, with various degrees of generality:

   – Generic level
   – High level (sublevels: Top high / High / Low High)
   – Basic level (sublevels: Top basic / Basic / Low basic)
   – Low level (sublevels: Top low / Low / Lowest)

   ADDITIONAL REMARKS:

3. Purely schematic, simply typical, prototypical (Barcelona 2011).
ADDITIONAL REMARKS:

4. Examples of the metonymy offered by the author at any of the hierarchical levels discussed by her/him + Label each example to indicate the taxonomic domain (FEELINGS, OBJECTS, GEOGRAPHICAL ENTITIES, ACTIONS, etc.) activated by the source and the target in these examples.
ADDITIONAL REMARKS:

5. Conventionality:
Conceptual conventionality only (guiding reasoning, purely inferential/pragmatic purpose).
Conceptual and linguistic conventionality (reflected in the motivation of *conventional linguistic meaning or form*, and / or in *the guidance of inferencing to the morphosyntactic categorization of a construction*; indicate which of these two areas the metonymy is involved in).
ADDITIONAL REMARKS:

6. Language: English / Spanish / The relevant sign language, including the national variety of the oral languages and the regional / national sign language.
ADDITIONAL REMARKS:

(continued)

Table 1. (*continued*)

7.   Linguistic domains / levels at which the metonymy is attested.

7.1 Grammatical rank:
   – Morpheme
       – Indicate morphemic class: lexical, derivational, inflectional
   – Lexeme
       – Indicate lexical class: noun, full verb, adjective, etc.
   – Phrase
   – Clause
   – Sentence
   – Involves various levels: indicate which ones.

7.2 Meaning:
   (a) *Constructional Meaning (motivational function)*:
       (i) prototypical conventional meaning of a grammatical construction
       (ii) non-prototypical conventional meaning of a grammatical construction
       (iii) implied (inferred), non-conventional meaning of a grammatical construction
       + Guiding morphosyntactic categorization? Yes / No
       Involving compression? (Yes / No)
   (b) *Utterance and discourse meaning* (general pragmatic inferences)

7.3 Constructional form
   (i) Prototypical conventional form of a grammatical construction
   (ii) Non-prototypical conventional form of a grammatical construction
   + Guiding morphosyntactic categorization? Yes / No

7.4 Grammatical process involved (if any) (e.g., the metonymy may motivate an instance of grammaticalization, of affixal derivation, of conversion, etc.)

7.5 Main function
   – Motivational
   – Inferential
   – Referential
   ADDITIONAL REMARKS:

8.   Metonymic trigger(s): factors leading to or blocking the operation of the metonymy; use single / double underline for less /more important co-textual triggers.
   (i) Co-textual
   (ii) Contextual other than co-textual:
      – knowledge of grammatical structure
      – frames / ICMs
      – cognitive-cultural context
      – situational context
      – communicative context (participants, time and place of utterance, etc.)
      – communicative aim and rhetorical goals of the speaker / writer, genre, etc.
      – other contextual / pragmatic factors
   ADDITIONAL REMARKS:

9.   Metonymic chaining (as in Barcelona 2005)? Yes / No
   Indicate the metonymy/ies chained to the metonymy under analysis according to the author (in the diachronic or synchronic motivation of the form or the meaning of a construction; in the referential value of an NP; or in a metonymy-guided inferential chain).
   ADDITIONAL REMARKS:

Table 1. (*continued*)

10. Conceptual connections to other metonymic hierarchies. Can the metonymy be included in other hierarchies apart from those in Field 2? ADDITIONAL REMARKS:
11. Patterns of interaction with metaphor and with other metonymies:
11.1 In the conceptual motivation of metaphor or metonymy (introduction to Barcelona 2000, and Barcelona 2002): (1) A metonymy motivates the existence of a metaphor (register only if the author mentions this point). (2) A metaphor motivates the existence of a metonymy (register only if the author mentions this point).
11.2 In the conceptual motivation of the conventional form or meaning of a construction (register only if one or more authors studying the metonymy and cited in the entry have mentioned this point).
11.3 In discourse understanding: Indicate any combination observed between the metonymy under analysis and one or more metaphors or metonymies in the example(s) analyzed by the author, *whether or not the author states this.* ADDITIONAL REMARKS:
12. (Reference to) Relevant contextualized authentic corpus examples for parameters 1, 6, 7, 8, 9, and 11. *This entry field is applicable at the corpus analysis stage.*
13. Reference to the books/ articles, papers, reports, etc. that have studied the metonymy.
14. Entry first completed by: Date: Revised by* Date: *(enter a new name and date line for each revision) ADDITIONAL REMARKS:

In this chapter, Fields 1 (the metonymy category label used by the analyst), 2 and 10 (metonymic hierarchy), 3 (prototypicality), and 4 (linguistic examples and taxonomic domain of source and target) are briefly discussed. Olga Blanco-Carrión discusses Fields 5 (conventionality) and 7 (linguistic domain and grammatical rank) in her chapter. Finally, Isabel Hernández-Gomariz discusses Fields 8 (metonymic triggers), 9 (chaining), and 11 (interaction) in her chapter. The chapter by Panther and Thornburg provides further support for the view, implicit in subfields 7.2.a-iii and 7.2.b, that metonymy underlies ("guides" in our terminology) most pragmatic inferences (a claim repeatedly made in both their research and mine). The chapter by Barnden proposes another multi-dimensional parameter (contrast), which accounts for a number of pragmatic and affective effects of metonymy; this parameter could be incorporated, where suitable, into the "additional remarks" on subfield 7.2.b.

The model will eventually undergo minor changes, due to further refinements (like the one just mentioned regarding Field 7.2b), and to its digital implementation, which will particularly affect the form of Fields 9 (chaining) and 11(interaction).

Table 2 exemplifies a completed entry in the database.

Table 2. Example of a completed entry: *As much*

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1. Category label (to be reproduced exactly from the source [book/article, paper, report, etc.] at the lowest level mentioned by the author): EFFECT FOR CAUSE, etc.
   ANSWER: UPPER PART OF SCALE FOR WHOLE SCALE.
   ADDITIONAL REMARKS:

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2. Hierarchical level (Generic/high/basic/low level, with various possible degrees of specificity):
   Generic: PART FOR WHOLE
   High: PART OF SCALE FOR WHOLE SCALE
   Basic: UPPER PART OF SCALE FOR WHOLE SCALE
   Top low: UPPER PART OF QUANTITATIVE SCALE FOR WHOLE SCALE
   Low: UPPER PART OF QUANTITATIVE SCALE APPLIED TO PHYSICAL ENTITIES FOR WHOLE QUANTITATIVE SCALE APPLIED TO PHYSICAL ENTITIES
   Lowest: A HIGH QUANTITY OF A CONCRETE PHYSICAL ENTITY FOR WHOLE QUANTITATIVE SCALE APPLIED TO A CONCRETE PHYSICAL ENTITY (General, neutral quantitative meaning)

   ADDITIONAL REMARKS: The scalar notion of QUANTITY is the meaning of the lexical morpheme {much} in *as much*, *how much* or *so much*. The meaning of the quasi-pronoun *as much* is 'an identified type of entity in the same number or amount'. The meaning of the quasi-determiner *as much* is 'the same number or amount of X' (X = a variable type of entity, coded by the nominal head in the full NP).

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3. Purely schematic, simply typical, prototypical (Barcelona 2011).
   ANSWER: Simply typical.
   ADDITIONAL REMARKS:

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4. Examples of the metonymy offered by the author at any of the hierarchical levels discussed by her/him + Label each example to indicate the taxonomic domain (feelings, objects, geographical entities, actions, etc.) activated by the source and the target in these examples.
   ANSWER:
   – Example 1: *Not as much (food) as I'd like to see, anyway* + A HIGH QUANTITY OF A CONCRETE PHYSICAL ENTITY (Source) / THE NOTION OF QUANTITY (Target)
   – Example 2: *How old are you*? + A HIGH "AMOUNT", i.e. LEVEL, OF AGE (Source) / THE WHOLE SCALE OF AGE (Target).
   – Example 3: *He's six feet tall* + A HIGH "AMOUNT", i.e. LEVEL, OF HEIGHT (Source) / THE WHOLE SCALE OF HEIGHT (Target).
   – Example 4: *He loves you as much as John* + A HIGH "AMOUNT", i.e. LEVEL, OF EMOTIONAL INTENSITY (Source) / THE WHOLE SCALE OF EMOTIONAL INTENSITY (Target).
   ADDITIONAL REMARKS: The examples illustrate UPPER PART OF SCALE FOR WHOLE SCALE at the "Lowest" level. In Example 4, the notion CONCRETE QUANTITY is mapped onto (EMOTIONAL) INTENSITY via the metaphor ABSTRACT INTENSITY SCALES ARE CONCRETE QUANTITATIVE SCALES.

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5. Conventionality:
   ANSWER: Conceptual and linguistic conventionality.
   ADDITIONAL REMARKS: The metonymy may have historically motivated, according to the author that proposed it, the conventional linguistic meaning of the lexical morpheme {much} in this construction.

Table 2. (*continued*)

6.	Language: ANSWER: English. ADDITIONAL REMARKS:

7. Linguistic domains / levels at which the metonymy is attested.[†]
ANSWER:

7.1 Grammatical rank: lexical morpheme

7.2 Meaning:

  (a) *Constructional Meaning (motivational function)*:

   (i) prototypical conventional meaning of a grammatical construction: Neutral quantitative meaning of the lexical morpheme {much} in the quasi-pronoun 'as much'.

  + Guiding morphosyntactic categorization? NO.

  + Involving compression? NO.

7.3 Constructional form: NOT APPLICABLE.

7.4 Grammatical process involved:

  – Grammaticalization of the lexeme *much* as a lexical morpheme.

  – Conversion and downgrading of determiner lexeme 'much' to lexical morpheme {much} within the quasi-determiner phrase *as much…(as)*.

7.5 Main function:

Motivational

ADDITIONAL REMARKS: 7.2 The metonymy seems to have operated only historically in the development of this morphemic meaning. Hence, it does not seem to guide inferencing to morphosyntactic categorization in present-day American English.

8. Metonymic trigger(s): factors leading to or blocking the operation of the metonymy; use single / double underline for less /more important co-textual triggers.
ANSWER: To be investigated
ADDITIONAL REMARKS: The metonymy seems to have had a purely motivational role (i.e. only historical). The triggers (whichever they were) operated historically. This requires investigating the issue or consulting the literature on the historical development of this morpheme.

9. Metonymic chaining (as in Barcelona 2005)? Yes / No
Indicate the metonymy/ies chained to the metonymy under analysis according to the author (in the diachronic or synchronic motivation of the form or the meaning of a construction; in the referential value of an NP; or in a metonymy-guided inferential chain).
ANSWER: Yes.
ADDITIONAL REMARKS: Indirect chaining to the metonymy SALIENT PART OF FORM FOR WHOLE FORM, which seems to have co-motivated the ellipsis leading to the *historical* shift from the determiner "as much X (as)" to the pronoun "as much".

10. Conceptual connections to other metonymic hierarchies. Can the metonymy be included in other hierarchies apart from those in Field 2?
ANSWER: No.
ADDITIONAL REMARKS:

(*continued*)

Table 2. (*continued*)

11. Patterns of interaction with metaphor and with other metonymies:

11.1 In the conceptual motivation of metaphor or metonymy (introduction to Barcelona 2000, and Barcelona 2002):

1. A metonymy motivates the existence of a metaphor (register only if the author mentions this point).

2. A metaphor motivates the existence of a metonymy (register only if the author mentions this point).

11.2 In the conceptual motivation of the conventional form or meaning of a construction (register only if one or more authors studying the metonymy and cited in the entry have mentioned this point).

11.3 In discourse understanding: Indicate any combination observed between the metonymy under analysis and one or more metaphors or metonymies in the example(s) analyzed by the author, whether or not the author states this.

ANSWER:

11.1 No.

11.2 No.

11.3 No.

ADDITIONAL REMARKS: Since the metonymy is purely *motivational*, it cannot be said to have combined textually (hence synchronically) with the metaphor ABSTRACT INTENSITY SCALES ARE CONCRETE QUANTITATIVE SCALES in the present-day comprehension of one of the examples in Field 4 (Example 4, *He loves you as much as John*). The conventional quantitative meaning of *as much* is extended by means of that metaphor in that example.

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12. (Reference to) Relevant contextualized authentic corpus examples for parameters 1, 6, 7, 8, 9, and 11.

This entry field is applicable at the corpus analysis stage.

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13. Reference to the books/ articles, papers, reports, etc. that have studied the metonymy.
ANSWER: Barcelona, A. (2009). Motivation of construction meaning and form. The role of metonymy and inference. In L. Thornburg, K.-U. Panther and A. Barcelona, eds. *Metonymy and Metaphor in Grammar* (*Human Cognitive Processing* 25). Amsterdam: John Benjamins, 363–401.

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14. Entry first completed by: Ana-Laura Rodríguez-Redondo, Carmen Guarddon and Sarah Díaz Wengelin
Date: 30/11/2009
Revised by* Antonio Barcelona
Date: 23/04/2013
Revised by Antonio Barcelona
Date: 26/09/2014
Revised by Antonio Barcelona
Date: 24/04/2015
*(enter a new name and date line for each revision)
ADDITIONAL REMARKS:

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† In this field, the instructions on its subfields are omitted (cf. Table 1) and only the "answers" are included, in order to abbreviate the table. The same applies to Field 2 both in this table and in the tables in Section 2, and to Field 10 in the tables in Section 2.

An important point in our methodology is that a different entry must be assigned to *only* one conceptual metonymy, even in those cases where more than one metonymy is claimed by a given author to motivate or guide a linguistic phenomenon. An example is the noun *crude* meaning 'crude oil'. According to an author (Radden 2005: 17) that discussed the motivation of this noun, it is based on two conceptual metonymies. One of the metonymies he proposes (PART OF A FORM FOR THE FULL FORM) has been analyzed in one entry of our database.[2] The other metonymy (PROPERTY OF AN ENTITY FOR THE ENTITY), claimed by Radden to motivate the 'crude oil' meaning of this expression, has been analyzed in a different entry. The same solution is chosen for the cases in which the same conceptual metonymy is discussed by several different authors who illustrate it by means of different examples: A different entry is filled in for each author, to avoid having excessively complex entries; at a later stage these may be unified into one entry.

2. Discussion of Fields 1, 2, and 10: Category labels and hierarchies

2.1 Field 1

Field 1 in the entry model presented in Table 1 simply registers the label or labels provided by the author mentioning or discussing the metonymy analyzed in the entry. The completion of this field is normally not problematic. Sometimes, however, no actual label is used; in this case we have had to decide which metonymy category is represented by the metonymy discussed by the author. An example is Panther and Thornburg's (2007) description of the expression *Buckingham Palace* as metonymic when used to refer to the Queen of England or her staff. When we filled out this field in the corresponding entry[3] we first registered the absence of a label provided by the author in Field 1, and then labeled it as an instance of the conceptual metonymy LOCATION FOR LOCATED in the Additional Remarks section of this field. This label was then reflected in our completion of Field 2 (Hierarchical level) of the same entry.

Another problem that has not arisen yet, but that is very likely to arise after a thorough revision of the pilot database, is the use by different authors of different labels for what is obviously the same conceptual metonymy; this situation also affects Fields 2 and 10, since the same metonymy category label as in Field 1

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2. This type of metonymy has been extensively discussed and illustrated by Barcelona (e.g. 2005, 2009) under the label SALIENT PART OF FORM FOR WHOLE FORM and especially by Bierwiaczonek (e.g. 2013) under the label of "formal metonymy".

3. See Table 3. Entry first completed by Pilar Guerrero and fully revised by Antonio Barcelona.

is entered in those other fields for the metonymy under analysis. If this kind of variation in metonymy labeling is detected, a common label will be chosen for the various entries, but the original label used by each author will be recorded in the Additional Remarks area in Field 1 in each entry. A similar problem is represented by the occasional need (sometimes arising after completing Field 2) to suggest an alternative label to the one proposed by the author(s) that discussed the metonymy (see below on DEGREE TO WHICH A CONTAINER IS FILLED FOR QUANTITY OF CONTAINER'S CONTENT); the original label is then registered in the Additional Remarks area of Field 1 and in Field 2, or in any other field where the label for the metonymy has to be specified.

2.2   Field 2

Field 2 is devoted to registering the metonymic hierarchy under which the metonymy in question belongs. This field is usually quite problematic. The decisions made so far about the field in some of the entries in our database will have to be revised as our analytical criteria have now become more sophisticated.

The adequate number of sub-levels is difficult to decide, although in our experience so far we have not found it necessary to go beyond the three sub-levels for the "High", "Basic" and "Low" levels presented in Table 1.

An unproblematic example is *Buckingham Palace* (Table 3 reproduces Fields 1 and 2 of the corresponding entry):

Table 3. *Buckingham palace issued a statement this morning.* Fields 1 and 2

1. Category label (to be reproduced exactly from the source book/article at the lowest level mentioned by the author): EFFECT FOR CAUSE, etc.):
   ANSWER: None mentioned.
   ADDITIONAL REMARKS: Label proposed: LOCATION FOR LOCATED

2. Hierarchical level (Generic/high/basic/low level, with various possible degrees of specificity):
   Generic
   PART FOR PART
   High
   ROLE ENTITY TYPE FOR CO-OCCURRING ROLE ENTITY TYPE
   Basic
   LOCATION FOR LOCATED
   Top Low: AN OFFICIAL RESIDENCE FOR THE PEOPLE / THE INSTITUTION LOCATED IN IT
   Low: A MONARCH'S OFFICIAL RESIDENCE FOR THE MONARCH /
   THE WHOLE ROYAL FAMILY / THE ROYAL OFFICE AND STAFF
   Lowest: THE BRITISH QUEEN'S OFFICIAL RESIDENCE (BUCKINGHAM PALACE)
   FOR THE BRITISH MONARCH HERSELF / THE WHOLE BRITISH ROYAL FAMILY /
   THE ROYAL OFFICE AND STAFF OF THE BRITISH MONARCH
   ADDITIONAL REMARKS:

A much more problematic example is the metonymy claimed by Barcelona (2009) to underlie the historical development and present-day meaning of nominal morpheme {ful} (as in *You are a fine armful now, Mary, with those twenty pounds you've gained*). The metonymy proposed by him is DEGREE TO WHICH A CONTAINER IS FILLED FOR QUANTITY OF CONTAINER'S CONTENT. When first confronted with the task of subjecting this metonymy to the analytic parameters in Field 2, our initial version of this field was the one reproduced in Table 4 (initial version by Pilar Guerrero, fully revised by A. Barcelona):

Table 4. Initial version of Field 2 for DEGREE TO WHICH A CONTAINER IS FILLED FOR QUANTITY OF CONTAINER'S CONTENT

2. Hierarchical level (Generic/high/basic/low level, with various possible degrees of specificity):
Generic
PART FOR PART
Top High
EVENT FOR CO-OCCURRING EVENT
High
FILLING A CONTAINER FOR INCREASE IN CONTENT QUANTITY
Basic
DEGREE TO WHICH A CONTAINER IS FILLED FOR QUANTITY OF CONTAINER'S CONTENT
Low
DEGREE TO WHICH AN ARM IS FILLED WITH SOMEBODY'S WAIST FOR THE MASS OF THAT PERSON'S WAIST
ADDITIONAL REMARKS:

This initial version had a number of deficiencies, which are, in turn, representative of the problems we have so far come across in trying to complete this field. One of the deficiencies was the mixing of a taxonomic ("kind of") hierarchy with a meronymic ("part of") hierarchy. Whereas the source and the target of the "generic", "top high", and "high" levels are connected by means of a kind-of relation, the source in the "basic" level is connected to the source in the "high" level in terms of a part-of relation, since the DEGREE TO WHICH A CONTAINER IS FILLED (i.e. the scale measuring the filling) is an element, i.e. a *part*, in the frame or ICM of filling, not a *kind* of filling. Similarly, the QUANTITY OF THE CONTAINER'S CONTENT is not a kind of INCREASE IN CONTENT QUANTITY – rather, it would be the result of the increase in this case; therefore, the targets at these two levels seem to relate two different parts of the FILLING ICM, one of them with a CONDITION role and the other with a RESULT role.

On the other hand, both the source and the target of the low level are instances of the roles of the source and target at the basic level (so that the taxonomic criterion is applied again): the DEGREE TO WHICH AN ARM IS FILLED WITH A PERSON'S WAIST is an instance of the DEGREE TO WHICH A CONTAINER IS FILLED (implicitly, with

the content entity), since an arm can be regarded as a metaphorical container and a person's waist can, therefore, be also regarded as metaphorical content. The same applies to the respective targets: THE MASS (i.e. a type of quantitative measure) OF A PERSON'S WAIST can be seen metaphorically (when embraced by someone's arm) as an instance of the QUANTITY OF A CONTAINER'S CONTENT.

If a metonymic hierarchy is to be consistent, its lower levels should be either in a kind-of or a part-of relation with its higher levels. The issue to be resolved is the kind of hierarchy a metonymy is located in. If one looks at the literature, it is obvious that the metonymic hierarchies discussed in it (i.e. Kövecses and Radden 1998; Feyaerts 2000) are, in most cases, taxonomic.

Given these inconsistencies, this initial version of Field 2 was discarded.

A more plausible "kind-of" hierarchy including the metonymy under analysis is the one inserted in the present version of the entry, whose corresponding field (Field 2) is reproduced in Table 5 (new version by Antonio Barcelona):

Table 5. Present version of Field 2 for the metonymy DEGREE TO WHICH A CONTAINER IS FILLED FOR QUANTITY OF CONTAINER'S CONTENT

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2. Hierarchical level (Generic/high/basic/low level, with various possible degrees of specificity):

Generic

PART FOR PART

High

DEGREE OF SCALAR PROPERTY OF A ROLE ENTITY FOR DEGREE OF SCALAR PROPERTY OF A CO-OCCURRING ROLE ENTITY

Basic

DEGREE OF FULLNESS OF A CONTAINER ENTITY FOR DEGREE OF AMOUNT OF CONTAINER'S CONTENT

Top Low

DEGREE OF "FULLNESS" OF A BODY PART "CONTAINING" AN ENTITY FOR DEGREE OF AMOUNT OF CONTENT ENTITY

Low

DEGREE OF "FULLNESS" OF A BODY PART "CONTAINING" A BODY PART OF ANOTHER PERSON FOR THE DEGREE OF "AMOUNT" (THE "MASS") OF THAT PERSON'S BODY PART

Lowest

DEGREE OF "FULLNESS" OF AN ARM "CONTAINING" A PERSON'S WAIST FOR THE DEGREE OF "AMOUNT" (THE MASS) OF THAT PERSON'S WAIST

ADDITIONAL REMARKS:

– On "High": The properties involved are properties other than the relevant frame roles of the co-occurring entities, i.e. the degree of fullness of an entity with a container role, the degree of control exerted by an entity with a controller role or applied to one with a controlled role, etc.

– On "Top Low": Note the existence of such derived nouns as *a headful* ("a relatively great amount of knowledge"), *a cupful*, *a mouthful* or *an eyeful*.

FULLNESS is a *scalar* property of any entity with a CONTAINER role. AMOUNT is a *scalar* property of any entity with a CONTENT role. In both cases the property is associated with the role performed by the entity; that is, there are many types of entities that can perform the container and the content roles. The degree of fullness and the "degree" of amount is predicated of the entity on the basis of their respective container or content roles.

The High level of the hierarchy allows for the existence of metonymies linking a certain degree of a scalar property associated with the role of an entity, to a different scalar property associated with the role of another entity, both entities co-occurring in the same scenario or frame (such as CONTAINMENT, CONTROL, etc.; see Kövecses and Radden 1998: 54–60). Its Basic level reflects the metonymy actually proposed by the researcher who had dealt with it: a certain degree of fullness of a container entity can activate a certain degree of the amount of the container's content.

The Top-Low level contemplates the special realization of the Basic-level metonymy (in the linguistic example discussed by Barcelona 2009) as one connecting the degree of "filling" of a body part (of any animate living being) acting as a metaphorical container entity (hence the double quotation marks on FULLNESS and CONTAINING) to the corresponding degree of amount of the content entity, whichever the latter may be (see the Additional Remarks at the bottom of Table 5 for other examples). The Low level allows for special applications of the Top Low level in which the metaphorical container entity is a body part of a *human* being activating a metaphorical content entity consisting of a body part of (normally) another human being. Finally, the Lowest level specifies the metaphorical container as a human arm and the metaphorical content as a human waist.

As can be seen, the metonymy analyzed in the corresponding entry is assigned, under the slightly different label DEGREE OF FULLNESS OF CONTAINER FOR DEGREE OF AMOUNT OF CONTENT, to the Basic level. The slight difference in the labeling is due to the fact that the term *fullness* denotes a scalar *property* more clearly than does the term *filling* and to the fact that *degree of amount* unambiguously denotes the *scalar* nature of that property and, moreover, because the term "amount" is more general a term than "quantity" (according to the *Oxford English Dictionary* (2009), its basic meaning is "the sum total to which anything mounts up or reaches: a. in quantity. b. in number").

This hierarchy is consistent with the taxonomic criterion, but is this one the only relevant hierarchy? Is it identical to, or just connected to, but different from, other metonymic hierarchies involving HEIGHT and/or CONTAINERS?

Let us first consider the hierarchy including the metonymy that in the literature is variously labeled HEIGHT FOR QUANTITY, UP FOR MORE and VERTICALITY FOR QUANTITY. An example might be *That pile of books is getting too high*, implying that there are too many books in the pile. A HEIGHT scale is just one of the main

ingredients of the notion of FULLNESS, which also involves expansion along the WIDTH dimension. Therefore, the source of HEIGHT FOR QUANTITY is different from the source at the Basic level in the hierarchy proposed in Table 5 (DEGREE OF FULLNESS OF A CONTAINER ENTITY FOR DEGREE OF AMOUNT OF CONTAINER'S CONTENT). And the relevant targets are not necessarily identical, since the larger amount may be of an entity or collection of entities in a container, or of a mass or a collection of objects in a pile that may be located outside a container.

But is HEIGHT FOR QUANTITY connected to that hierarchy in any other way? We believe it is, though it belongs to a different hierarchy. The notions (DEGREE OF) FULLNESS and (DEGREE OF) AMOUNT (including QUANTITY) are properties that tend to co-occur in association with the roles (CONTAINER-CONTENT) of *different* entities that regularly co-occur in certain situations, since (DEGREE OF) FULLNESS is predicated of the entity acting as CONTAINER and (DEGREE OF) AMOUNT is predicated of the entity acting as CONTENT). On the other hand, (DEGREE) OF HEIGHT and (DEGREE) OF AMOUNT are properties that tend to co-occur only *in the same entity with a given role* in certain situations. In events of filling and in containment situations, HEIGHT and AMOUNT co-occur only in the entity with the CONTENT role. An example is *The water level in the dam is too high. We should release some of it*, where a HIGH LEVEL OF THE CONTENT activates the notion of a LARGE AMOUNT OF THE CONTENT. In events of "piling", HEIGHT is naturally salient,[4] and it co-occurs with AMOUNT in the entity with the role that we may call "PILE". In *That pile of books is getting too high*, a certain height level of the pile activates the notion of a certain number of books in the pile.

The hierarchy where HEIGHT FOR QUANTITY belongs would begin with PART FOR PART at the Generic level, followed by SCALAR PROPERTY OF A ROLE ENTITY FOR CO-OCCURRING SCALAR PROPERTY OF THAT ENTITY at the High level, and DEGREE OF HEIGHT FOR DEGREE OF AMOUNT (a more precise label than HEIGHT FOR QUANTITY, UP FOR MORE or VERTICALITY FOR QUANTITY) at the Basic level. As in DEGREE OF FULLNESS OF A CONTAINER ENTITY FOR DEGREE OF AMOUNT OF CONTAINER'S CONTENT, the exact sources and targets at lower levels would depend on the actual application of the Basic level to the specific situations illustrated by the various linguistic manifestations of the metonymy (e.g. the particular heap of objects or the particular type of filling event). As can be seen, this hierarchy would be quite *similar* to, yet clearly *different* from the one in Table 5.

As for CONTAINER FOR CONTENT, again this is a different metonymy from both DEGREE OF HEIGHT FOR DEGREE OF AMOUNT and DEGREE OF FULLNESS OF A CONTAINER ENTITY FOR DEGREE OF AMOUNT OF CONTAINER'S CONTENT, and the hierarchy including it is also different. The source of CONTAINER FOR CONTENT is a

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4.   It is even more salient than in events of filling, where horizontal expansion, i.e. WIDTH, is also salient.

class of entities with a CONTAINER role (cups, spoons, bowls, houses, bags, mouths) in a given scenario. Each entity type with a CONTAINER role exhibits a bundle of role-related properties, such as SHAPE, TEXTURE (which may be rigid or flexible), HEIGHT, WIDTH, and LENGTH. Such properties jointly determine their maximum *capacity*, i.e. the maximum amount of the content entity or entities that they can hold. This capacity has a relatively fixed, default value for prototypical members of the category (e.g., the prototypical spoon has a certain default shape, texture, height, width, and length), but of course this value may change with other category members (e.g. teaspoons as compared to prototypical average-sized metal spoons like tablespoons in the U.S.A.). Therefore, the hierarchy including CONTAINER FOR CONTENT is different from the ones including (DEGREE OF) HEIGHT FOR (DEGREE OF) AMOUNT and DEGREE OF FULLNESS OF A CONTAINER ENTITY FOR DEGREE OF AMOUNT OF CONTAINER'S CONTENT. In fact, under PART FOR PART at the Generic level we would now find ROLE ENTITY TYPE FOR CO-OCCURRING ROLE ENTITY TYPE at the Top High level, and ROLE ENTITY TYPE WITH SCALAR PROPERTIES FOR CO-OCCURRING ROLE ENTITY TYPE WITH SCALAR PROPERTIES at the High level.

The Basic level would be CONTAINER ENTITY FOR CONTENT ENTITY (CONTAINER FOR CONTENT for short). The CONTAINER ENTITY bears a bundle of scalar properties, even within the class prototype, that jointly constitute its most salient scalar property in relation to the CONTENT ENTITY, i.e. its capacity. And the CONTENT ENTITY bears one fundamental property in relation to the CONTAINER ENTITY: AMOUNT, including QUANTITY.[5]

The source of DEGREE OF FULLNESS OF CONTAINER FOR DEGREE OF AMOUNT OF CONTENT is not a type of entity with a CONTAINER role having a certain capacity, but the DEGREE OF FULLNESS of a certain type of CONTAINER ENTITY. The default or actual capacity of the container is not directly mapped onto the amount of content activated by means of this metonymy, although it is crucially involved in the computation of that amount by the communicator and the addressee. Therefore, this metonymy is related to, but different from, CONTAINER FOR CONTENT. The latter is also different from DEGREE OF HEIGHT FOR DEGREE OF AMOUNT, which connects two co-occurring properties of the same entity and which is not restricted to situations of containment.

Let us examine two examples illustrating the differences between CONTAINER FOR CONTENT and DEGREE OF FULLNESS OF CONTAINER FOR DEGREE OF AMOUNT

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5.   The scalar character of these properties is preserved even when the container and the content entities are metaphorical: *an armful* implies a small range of variability in the "holding" capacity of arms (which depends on the length of the actual arm involved), although, like literal containers, arms have an expected, default holding capacity. *A headful* also involves a variable scale of "knowledge-storing" capacity, although an "average" mental capacity is taken for granted in the use of this term.

OF CONTENT. In *I drank a cup of coffee* a certain type of CONTAINER ENTITY is a metonymic source for a certain DEGREE OF AMOUNT OF THE CONTENT ENTITY (CONTAINER FOR CONTENT). But in the expression *cupful* in the second sentence of the sequence *She poured him a cup of coffee and sat at the table. When it was cool enough to drink, he downed the whole cupful*, a certain DEGREE OF FULLNESS OF THE CONTAINER ENTITY – the maximum degree in this case – is a metonymic source for a certain DEGREE OF THE AMOUNT OF THE CONTENT ENTITY, again the highest amount in this case. In this example, only the LEVEL OF FULLNESS OF THE CONTAINER is profiled by *cupful*, the container simply remaining in the background – in the "base" (Langacker 1987: 183–189).

A further problem is the criteria to be applied to assign a metonymy to a major level. We still have to further develop these criteria, but so far we have assigned a metonymy to a major level when it seems to initiate a sub-hierarchy with its own subcategories, i.e., when a new "subtopic" is introduced. In the hierarchy in Table 5, the High level introduces a sub-hierarchy that is subordinate to the overall hierarchy with PART FOR PART at the Generic level. This sub-hierarchy, DEGREE OF SCALAR PROPERTY OF A ROLE ENTITY FOR DEGREE OF SCALAR PROPERTY OF CO-OCCURRING ROLE ENTITY, connects two specific "parts" of two entities: two scalar properties; and it only includes one major level and no sub-levels. The Basic level sub-hierarchy now includes the metonymic connection between DEGREE OF FULLNESS OF A CONTAINER ENTITY and DEGREE OF AMOUNT OF THAT CONTAINER'S CONTENT, where the source and the target constitute highly specific subcategories of SCALAR PROPERTIES and of the entities bearing them. The Top Low level initiates a distinct sub-hierarchy subordinate to the Basic level one, because its source is the DEGREE OF FULLNESS of a specific subcategory of CONTAINER, namely a BODY PART (viewed as a metaphorical container). The various lower levels of this sub-hierarchy account for various degrees of generality: The Low level contemplates the special subcase where the CONTENT ENTITY is ANOTHER PERSON'S BODY PART and the AMOUNT is the RELEVANT MASS OF THE CONTENT BODY PART, and the Lowest level specifies the "CONTAINER" BODY PART as a PERSON'S ARM and the "CONTENT" BODY PART as SOMEONE ELSE'S WAIST.

These and other problems are very frequently encountered when completing this field. One of these problems is the traditional classification of metonymies at the "generic" level into WHOLE FOR PART, PART FOR WHOLE and PART FOR PART, which we have maintained in our database entry model. This three-part classification has been challenged by Ruiz de Mendoza (2000), who reduces the typology to "source-in-target" (PART FOR WHOLE) and "target-in-source" (WHOLE FOR PART), and by Panther and Thornburg (this volume), who explicitly reduce the typology to PART FOR WHOLE. Radden (this volume) might be interpreted as suggesting the latter reduction via his claim that metonymies activate a "complex target" that includes the source. We have applied the tripartite typology to the metonymies in the database following the criteria suggested by Kövecses and Radden (1998) and

a number of additional criteria developed by Antonio Barcelona. The discussion of those criteria and of this complex issue as a whole would take me beyond the bounds of this chapter. It will be included in a later publication.[6]

2.3   Field 10

Since Field 10 is connected to Field 2, we discuss it next to it in this chapter. The entry model shifts Field 10 to the end, whereas in the electronic version of the database it will probably be placed right after Field 2. The structure of the entry model makes it clear that the goal of Field 10 is the registration of other hierarchies in which the metonymy under analysis could be included, apart from the hierarchy in Field 2. Therefore, Field 10 is not supposed to register related hierarchies that do not include that metonymy, although those hierarchies can be mentioned in the Additional Remarks section in the field. This field also has often proved problematic. The problems are the same as those affecting Field 2. Therefore, there is no need to discuss them again. A relatively unproblematic example is the corresponding slot in the entry for *Buckingham Palace*, as shown in Table 6:

Table 6. *Buckingham palace issued a statement this morning.* Field 10

10.   Conceptual connections to other metonymic hierarchies. Can the metonymy be included in other hierarchies apart from those in Field 2?

Generic

PART FOR PART

High

ROLE ENTITY TYPE FOR CO-OCCURRING ROLE ENTITY TYPE

Basic

CONTAINER FOR CONTAINED

Top Low: AN OFFICIAL RESIDENCE FOR THE PEOPLE CONTAINED IN IT

Low: A MONARCH'S OFFICIAL RESIDENCE FOR THE MONARCH / THE WHOLE ROYAL FAMILY / THE ROYAL OFFICE AND STAFF

Lowest: THE BRITISH QUEEN'S OFFICIAL RESIDENCE (BUCKINGHAM PALACE) FOR THE BRITISH MONARCH HERSELF / THE WHOLE BRITISH ROYAL FAMILY / THE ROYAL OFFICE AND STAFF OF THE BRITISH MONARCH

ADDITIONAL REMARKS: At the "Low" level this hierarchy is conflated with the one having LOCATION FOR LOCATED at the Basic level. Both hierarchies could be completely conflated if CONTAINERS and CONTENT were regarded as, respectively, instances of LOCATION and LOCATED.

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6.   For a detailed discussion of the problems affecting Field 2, see Blanco-Carrión et al. (n.d.), Section 3 (written by Antonio Barcelona). Two other problems that we will not be able to discuss here for lack of space are: (a) the number of sub-levels to be considered in each entry and (b) how to determine which one of the possible same-level candidates should be chosen for a given sub-level.

3.   Discussion of Field 3: Metonymic prototypicality

Field 3 is concerned with the prototype status of the metonymy under analysis. Like most categories, the category METONYMY has been claimed to have prototype structure (see, among others, Barcelona 2003, 2011, and Peirsman and Geeraerts 2006). We have followed Barcelona's (2003, 2011) general characterization of degrees of metonymic prototypicality, which is presented as a continuum with three salient points. These points, moving from least to most prototypical, are "purely schematic", "typical" and "prototypical" metonymies.

This field has turned out to be quite easy to apply so far, as almost all the metonymies analyzed are either "typical" or "prototypical" in terms of Barcelona's characterization. The latter is fairly technical. We do not have enough space here to discuss it in detail, in particular the metonymic status of "purely schematic metonymies", which represent the lowest degree of metonymicity because they are close to literal use, and, to many linguists, they are indistinguishable from it. I can only present here an informal, oversimplified description of these notions. For a detailed discussion see Barcelona (2011).

The unitary, general definition of metonymy assumed in the design of the database is as follows:

> Metonymy is an asymmetric mapping of a conceptual domain, the source, onto another domain, the target. Source and target are in the same frame and are linked by a pragmatic function, so that the target is mentally activated.[7]

This broad, unitary definition is called by Barcelona 2011 the "schematic" notion of metonymy, which is supposed to gather all the essential properties shared by all metonymies. The mapping in metonymy consists in the imposition of the conceptual *perspective* from which the target is activated and viewed (in *I have been reading Kafka*, Kafka's literary work is viewed and activated from its author). The mapping is also asymmetric, unlike the typical mapping in metaphor, which is symmetric. In metaphor, source and target share at least part of their abstract conceptual *structure*, so that sources are mapped onto sources, goals onto goals, etc. (Lakoff 1993). In LIFE IS A JOURNEY, the beginning of the journey maps onto that of life, the obstacles in the journey onto life's difficulties, etc. In metonymy, on the other hand, we do not find this systematic sharing of abstract structure. Radden (this volume) also considers this type of asymmetry as an important difference between metonymy and metaphor.

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7.   Adapted from Barcelona (2011). The term "frame" replaces here the term "functional domain", which is synonymous to "frame" in Barcelona's definition.

What Fauconnier (1997: 11) calls a "pragmatic function" (and Kövecses and Radden 1998 a "metonymic relationship") is a strong, privileged built-in *connection* between two *roles* in a frame (CAUSE–EFFECT, AUTHOR–WORK, AGENT–ACTION, etc.). This type of connection is necessary for a metonymic source to activate its target.

A *purely schematic* metonymy is one that *only* obeys the above schematic definition of metonymy but lacks other properties exhibited by more prototypical metonymies. An example is (1):

(1)   *That book is too large for your bookcase.*

I have argued (e.g. in Barcelona 2011) that the noun phrase *your book* is metonymic, where the source BOOK has the role WHOLE PHYSICAL THING and the target SEMANTIC CONTENT has the role ACTIVE ZONE. This view is admittedly controversial (for example, Croft 2002, Geeraerts and Peirsman 2011 or Ruiz de Mendoza 2000 and many others would not consider this semantic shift as metonymic) but it has the advantage of making us realize that the same basic cognitive process is at work in many apparently disparate phenomena, i.e., that there exists a fundamental similarity between (1) and uncontroversial (or less controversial) examples of conceptual metonymy, like typical and prototypical metonymies.

A *typical* metonymy is a metonymy whose target is clearly distinct from the source, either because it is a relatively "secondary" subdomain of the source,[8] as in certain WHOLE FOR PART metonymies such as (2):

(2)   *The pill has reduced the birth rate in many countries* (PILL [CATEGORY] FOR BIRTH CONTROL PILL [MEMBER]; a member is a distinct part of a category, which is the relevant whole in this case);

or because it is not included in it, as in PART FOR WHOLE metonymies like (3), or in PART FOR PART metonymies like (4):

(3)   *She's just a pretty face.* (PART [SALIENT BODY PART] FOR WHOLE [PERSON]; Lakoff and Johnson 1980: 37)

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8.   Langacker (1987: 165, 222) claims that a "primary domain" is a "domain that is highly ranked" in terms of its "prominence and likelihood of activation". In *roe*, the domain of "the reproductive cycle of fish" (p. 164) is obligatorily accessed, hence *primary*, whereas the "domains pertaining to the preparation and (conspicuous) consumption of foods are peripheral and activated only on a contingent basis". We have extended Langacker's terminology to use the term "secondary domain" to designate domains that are not (or less) obligatorily accessed in the comprehension of a linguistic expression (the distinction between primary and secondary domains is often scalar; see Barcelona 2011).

(4)   *The coke felt as stimulating a drink as a cup of tea.* (PART [CONTAINER] FOR PART [(AMOUNT OF) CONTENT]; according to Kövecses and Radden (1998: 57) CONTAINER and CONTENT are two parts of the "Containment" ICM).

As can be seen from (3) and (4), a typical metonymy does not have to be referential. A *prototypical* metonymy is a referential typical metonymy, whose target and referent is an individual entity, or a collection (not a class) of individual entities. What are here called prototypical metonymies have traditionally acted as the model of the technical category "metonymy" in rhetoric and linguistics. An example is (5):

(5)   We have seen a couple of new *faces* around lately (PART [SALIENT BODY PART] FOR WHOLE [PERSON]).

Whereas Example (5) is a prototypical metonymy because it is a PART FOR WHOLE typical metonymy used to refer to a collection of individual entities, Example (2) is a non-prototypical metonymy because, although it is a typical WHOLE FOR PART metonymy used referentially, the referent of the subject noun phrase over which the metonymy operates (*The pill*) is not a particular individual entity or a collection of particular individual entities, but a *class* of entities (the class of birth control pills); the reference of that phrase is generic. A typical metonymy that is not at the same time prototypical is called a "simply typical metonymy" in the database. Examples (2), (3) and (4) are, thus, instances of simply typical metonymies.

An example of the application of Field 3 is the entry for the noun *interstate*, whose meaning is "interstate highway", as in the example *If you have ever driven west on Interstate 70 from Denver to the Continental Divide, you have seen Mount Bethel*. The metonymy proposed by the author that analyzed this authentic example (Barcelona 2005, 2009) is DISTINCTIVE POLITICAL-GEOGRAPHICAL PROPERTY (LINKING TWO STATES) OF A HIGHWAY FOR THE HIGHWAY. In Field 3 of the corresponding entry (Table 7), we treated this metonymy as prototypical, since the noun *interstate* occurs as the head of the referential NP *Interstate 70*, which refers to an individual entity (one particular highway in the United States).

Table 7. *Interstate ("interstate highway").* Field 3

3. Purely schematic, simply typical, prototypical.
    ANSWER: Prototypical.
    ADDITIONAL REMARKS: It occurs as the head of the referential NP "Interstate 70", which furthermore designates an individual "thing".

4.   Discussion of Field 4: Taxonomic domains

This field is intended for the registration of linguistic examples, oral or signed, of the metonymy described by the author *at a given hierarchical level*, and of the taxonomic domains (FEELINGS, OBJECTS, GEOGRAPHICAL ENTITIES, ACTIONS, etc.) activated by the source[9] and the target in each of these examples. Therefore, in this field we only enter examples of the metonymy under analysis, not of other sister, daughter or parent metonymies in the hierarchy to which it belongs, even if the author also offers examples for those taxonomically related metonymies. These other examples would be entered in the entries for the conceptual metonymies they manifest. I illustrate below the application of this field to the metonymy OBJECT USED FOR USER (the "user" being assumed to be human). The researchers discussing the metonymy (Lakoff and Johnson 1980: 38) offered a number of minimally contextualized examples, each activating a different type of target human users, hence a different taxonomic subdomain of the general taxonomic domain PEOPLE: VEHICLE DRIVERS, MUSICAL INSTRUMENT PLAYERS, RESTAURANT CUSTOMERS, PROFESSIONAL FIREARM USERS, CLOTHES WEARERS, and their corresponding subdomains (BUS DRIVERS, etc.). And a different type of source OBJECT, hence a different taxonomic subdomain of the general (PHYSICAL) OBJECT taxonomic domain: VEHICLES, MUSICAL INSTRUMENTS, FOOD, FIREARMS, CLOTHES, and their corresponding subdomains (BUSES, etc.). See Table 8 (entry completed by Isabel Hernández-Gomariz; revised by A. Barcelona). Pannain (this volume) discusses a number of Italian examples, where a taxonomic domain (SPEECH ORGANS), which tends to be connected as a source to the whole target taxonomic domain of LINGUISTIC ACTION, is connected to a different target taxonomic domain (SPEAKERS). Perak (this volume) includes a systematic, corpus-based analysis of the various taxonomic subdomains of the PHYSIOLOGICAL REACTIONS and BODY PART domains metonymically connected as sources to the target FEAR in Croatian.

Storing this type of data in a large mass of entries in a database like the one we are building is likely to provide very rich, systematically organized and readily available information on the range of linguistic (or pictorial, gestural, etc.) manifestations of a particular conceptual metonymy and on the types of domains and subdomains regularly connected metonymically in a given language and culture (see Section 5). This storage allows systematic cross-linguistic and cross-cultural comparison, if the database includes data from more than one language (as in our case), or if similarly structured databases are developed for several languages.

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9.   On the prominence of the source in metonymy, see Radden (this volume), and Barcelona (2011), where the source is claimed to impose a cognitive "perspective" on the target.

Table 8. *The buses are on strike*

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4. Examples of the metonymy offered by the author at any of the hierarchical levels discussed by her/him + Label each example to indicate the taxonomic domain (feelings, objects, geographical entities, actions, etc.) activated by the source and the target.
   ANSWER:
   The authors present several examples of the same metonymy:
   1. *The buses are on strike* + OBJECTS: VEHICLES: BUSES (Source) + PEOPLE: VEHICLE DRIVERS: BUS DRIVERS (target).
   2. *The sax has the flu today* + OBJECTS: MUSICAL INSTRUMENTS: SAXOPHONES (Source) + PEOPLE: MUSICAL INSTRUMENT PLAYERS: SAX PLAYERS (target).
   3. *The BLT is a lousy tipper* + OBJECTS: FOOD: SANDWICHES (BLTS) (Source) + PEOPLE: RESTAURANT CUSTOMERS: RESTAURANT CUSTOMERS CONSUMING BLT SANDWICHES (target).
   4. *The gun he hired wanted fifty grand* + OBJECTS: FIREARMS: GUNS (Source) + PEOPLE: PROFESSIONAL FIREARM USERS: GUNMEN (KILLERS) (target).
   5. *We need a better glove at third base* + OBJECTS: CLOTHES: GLOVES (BASEBALL GLOVES) (source) + PEOPLE: CLOTHES WEARERS: GLOVE WEARERS: BASEBALL PLAYERS WHO WEAR BASEBALL GLOVES (target).
   ADDITIONAL REMARKS:

The author discussing the metonymy CLOTHES FOR WOMEN WEARERS,[10] only provided a set of decontextualized examples, as shown by Table 9, which also includes the reference to the source (entry completed by Almudena Soto; revised by Antonio Barcelona):

Table 9. *Skirts*

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4. Examples offered by the author + Label each example to indicate the taxonomic domain (feelings, objects, geographical entities, actions, etc.) activated by the source and the target.
   ANSWER:
   1. *Petticoat* + CLOTHES: FEMALE CLOTHES: PETTICOATS (Source) + PEOPLE: WOMEN: WOMEN WEARING PETTICOATS (Target).
   2. *Strap* + CLOTHES: FEMALE CLOTHES: STRAPS (Source) + PEOPLE: WOMEN: WOMEN WEARING STRAPS (Target).
   3. *Murrey-kersey* + CLOTHES: FEMALE CLOTHES: MURREY-COLORED CLOTHES (source) + PEOPLE: WOMEN: WOMEN WEARING MURREY-COLORED CLOTHES (Target).
   4. *Smock* + CLOTHES: FEMALE CLOTHES: FEMALE UNDERGARMENTS: SMOCKS (source) + PEOPLE: WOMEN: WOMEN WEARING SMOCKS (Target).
   5. *Placket* + CLOTHES: FEMALE CLOTHES: PLACKETS (Source) + PEOPLE: WOMEN: WOMEN WEARING PLACKETS (Target).

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10. This is a submetonymy of CLOTHES FOR WEARER, in turn subordinate to OBJECT USED FOR USER, where the object used is a piece of clothing and the user is the wearer.

Table 9. (*continued*)

6. *Skirt* + CLOTHES: FEMALE CLOTHES: SKIRTS (Source) + PEOPLE: WOMEN: WOMEN WEARING SKIRTS (Target). 7. *Bikini* + CLOTHES: FEMALE CLOTHES: FEMALE SWIMMING CLOTHES: BIKINIS (Source) + PEOPLE: WOMEN: WOMEN WEARING BIKINIS (Target). ADDITIONAL REMARKS: The target can in some of these cases (i.e. *petticoat, murrey-kersey, skirt*) be just WOMEN or more specifically WOMEN WEARING X (x = the corresponding garment). And in some cases the metonymy may convey a pejorative overtone (as in *murrey-kersey, skirt*). Some of these terms as linguistic metonymies for women are now obsolete: *murrey-kersey*, *smock*, and *placket*.
13. Reference to the books/articles, papers, reports, etc. that have studied the metonymy. Grygiel, Marcyn (2007: 238): "Metonymic projection as a major factor in the rise of English historical synonyms of 'man' and 'woman'". In Kosecki, Krzyscztof, ed., *Perspectives on Metonymy. Proceedings of the International Conference 'Perspectives on metonymy', Held in Łódz, Poland, May 6–7, 2005* (227–240). Berlin: Peter Lang.

5.   A simple example of the application of the database

The digital version of the database is still under construction. Once it is complete, it will allow users to perform automatic searches across several fields and subfields, which will reveal important generalizations. In this section we offer a simple example of the type of search results that will eventually be obtained digitally, though the results presented in the chapter have been obtained manually. The (partial) manual search investigated the taxonomic domains activated in Field 4 in the randomly chosen entries for thirty metonymies in our database (in its present state). The thirty metonymies are listed in Table 10. The labels of the metonymies are those used by the researchers who proposed them.

Table 10. Metonymies involved in a partial manual search

ENTITY FOR ACTIVE ZONE
UP FOR MORE (as the metonymy motivating MORE IS UP)
CONDITION FOR RESULT
ARGUMENT FOR PROPOSITION
PART OF HIGH LEVEL SITUATIONAL MODEL FOR WHOLE MODEL
SALIENT MEMBER FOR CATEGORY
INSTANCE FOR TYPE
PROTOTYPICAL CHARACTERISTIC FOR WHOLE ENTITY (a subtype of SALIENT PROPERTY FOR CATEGORY)
CONTAINER FOR CONTENT

(*continued*)

Table 10. (*continued*)

PROCESS FOR A PARTICIPANT IN A PROCESS
CONTENT FOR CONTAINER
CAUSE FOR EFFECT: STATING A FACT FOR STATING ITS SALIENT IMPLICATIONS
FAILURE OF THE SOFT STRATEGY (IN A CONFLICT) FOR THE APPLICATION OF THE TOUGH STRATEGY
LOCATION FOR LOCATED
OBJECT USED FOR USER
PART OF A FORM FOR THE FULL FORM
PROTOTYPICAL ACTION FOR ACTIVITY
WHOLE THING FOR PART OF A THING
PLACE NAME FOR PRODUCTS
RELATION FOR SALIENT CONCOMITANT SUB-RELATION
MORPHEME M (FREE OR BOUND) OF A MORPHOLOGICALLY COMPLEX WORD X FOR THE WHOLE X
DESTINATION FOR (DESTINATION AND) PURPOSE
PLACE FOR (PLACE AND) ACTIVITY
FINAL SUBEVENT FOR COMPLEX EVENT
PROPERTY FOR OPPOSITE PROPERTY
DEGREE TO WHICH A CONTAINER IS FILLED FOR QUANTITY OF CONTAINER'S CONTENT
AUTHOR FOR WORK
SEE FOR KNOW
MEANS FOR (CAUSATIVE) ACTION
SALIENT PARTICIPANT FOR THE WHOLE EVENT (an active zone metonymy)
SALIENT CHARACTERISTC OF AN ANIMAL FOR QUALITY

Lack of space prevents us from presenting an additional table with all the examples illustrating these metonymies in Field 4 of the corresponding entries, as well as the classifications and subclassifications of the taxonomic domains represented by the target of these metonymies. Nonetheless the examples given in Tables 8 and 9 for the metonymy OBJECT USED FOR USER may give the reader an idea of the type of data gathered in the search. The result of the search in terms of the *general* taxonomies represented by the targets of the metonymies listed in Table 10 is summed up in Figure 1.
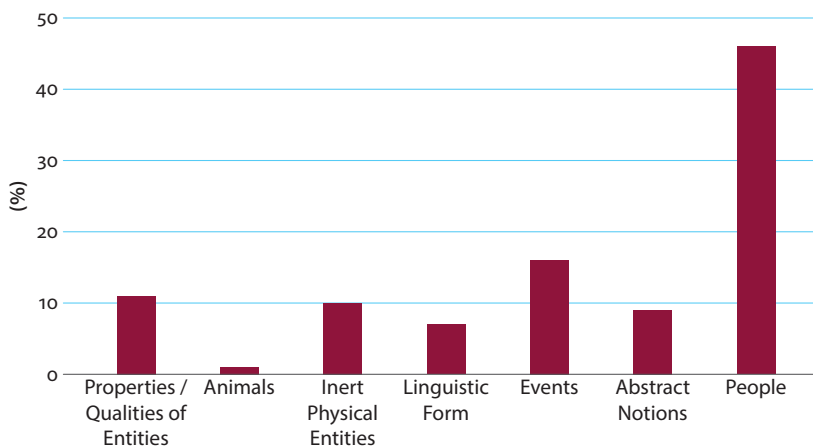
Figure 1. Types of taxonomic domains represented by the targets in the sample

6. Summary and conclusions

The main contribution of the research reported in this chapter and in those by Blanco-Carrión and Hernández-Gomariz is the design of the metonymy database briefly described in Section 1, especially its entry model. As stated in that section, one of our goals in the development of this database is to provide a guide for researchers trying to categorize a conceptual metonymy. The other goal is to gather systematic information, by means of the various entry fields, on a number of aspects of each conceptual metonymy registered in the database. Once this information is fed into the digital database, researchers will be enabled to perform rapid multiple searches over the whole database, combining information from several fields (or parts of those fields) with a variety of research purposes. For example, a search could be launched to investigate which metonymic categories (Field 1) at which hierarchical level (Field 2) guide pragmatic inferences (Field 7.2b). Or to investigate which metonymic categories (Field 1) at a generic level in the hierarchy (Field 2) tend to motivate prototypical constructional meanings (Field 7.2a(i)) and forms (Field 7.3(i)) at a given constructional rank and class, say, full verbs within lexemes (Field 7.1).

The potential usefulness of the database has been illustrated with a simple manual search for the prevalent taxonomic domains activated by the targets in a random sample of metonymies already included in the database.

The database will constantly be open to revision and new additions, and to contributions and feedback from other researchers. This database is compatible

and complementary with the MetaNet Project at Berkeley (https://metanet.icsi.berkeley.edu/metanet/node/3) and with the Croatian MetaNet (https://metafora.ihjj.hr:8041/Metafore/en). We are in touch with the teams developing these two impressive metaphor repositories.

The preceding discussion of the first four fields of the database entry model being currently developed has focused on some of the problems we have encountered in the completion of these fields, particularly those concerned with metonymic hierarchies (Fields 2 and 10), and the criteria we have had to establish in order to solve those problems. In the process, we have contributed to a clarification of the notion of "metonymic hierarchies", which should be taxonomic rather than meronymic. That is, the source and target in a subordinate level in the hierarchy should stand in a "kind-of" relation to its corresponding superordinate level. This proposal has not been made before to my knowledge. We also contributed the criterion to recognize a metonymy as a new major level (High, Basic or Low) in the metonymic hierarchy including it: the fact that it initiates a new "subtopic" or "sub-hierarchy".

The attempt at determining the metonymic hierarchy also often leads to capturing the subtle differences between highly similar metonymies. As far as I know, the distinction between DEGREE OF FULLNESS OF A CONTAINER ENTITY FOR DEGREE OF AMOUNT OF CONTAINER'S CONTENT, HEIGHT FOR QUANTITY and CONTAINER FOR CONTENT (that are normally lumped together) has not made before. Similar discoveries will be made once the hierarchies proposed by the team members are systematically compared.

The main contribution of the brief discussion of Field 3 and its application so far shows that Barcelona's (2003, 2011) grid to determine the degree of metonymic prototypicality of a linguistic expression seems to work efficiently. Most of the examples registered in the database were very easy to class as simply typical, prototypical or purely schematic.

The main contribution of the design and completion of Field 4 in a large number of entries is the very detailed information it provides on the types of domains that tend to act as *values* for the source and target *roles* of a metonymy at a particular hierarchical level. For example, in the metonymy UPPER PART OF SCALE FOR WHOLE SCALE the values for the source role UPPER PART OF SCALE in the examples registered for this metonymy so far are the domains of LARGE (general) QUANTITY, OLD AGE, HIGH (EMOTIONAL) INTENSITY, and LARGE STATURE; and the corresponding values for the target role WHOLE SCALE are the domains of (general) QUANTITY, AGE, (EMOTIONAL) INTENSITY and BODY HEIGHT. These results are due to the storage in Field 4 of the corresponding entries of these examples: *Not as much food as I'd like to see, anyway, How old are you?, He's six feet tall*, and *He loves you as much as John*. As the range of different examples for the same metonymy grows in our database so will the range of different values for the source and target roles. The accumulation of

detailed data for Field 4 across a large number of entries is likely to reveal important regularities in the functioning of metonymy.

The development of the database constitutes, in sum, a stimulus to refine the cognitive theory of metonymy, apart from constituting a useful consultation resource. It will lead to important additional knowledge about its actual functioning in language and cognition.

Acknowledgments

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Conventionality and linguistic domain(s) involved in the characterization of metonymies (for the creation of a detailed typology of metonymy)

Olga Blanco-Carrión
Universidad de Córdoba

This is the second of three chapters devoted to the presentation of a set of criteria included in a database resulting from a project on the characterization of conceptual metonymy. It discusses Fields 5 and 7 of the database entry model, concerning conventionality, either conceptual or conceptual and linguistic, and the linguistic levels where metonymies operate (grammatical rank, meaning, form, grammatical process, and function).

Keywords: database entry model, descriptive criteria, form, function, grammatical process, grammatical rank

1. Introduction

This is the second of three chapters devoted to the introduction of a set of descriptive criteria to characterize metonymies, which have been developed and included in a database built *ad hoc* as part of the results of a project for the description of conceptual metonymy. The three chapters, the one by Barcelona (this volume), the one by Hernández-Gomariz (this volume) and this one, form a coherent whole dealing with the application of the criteria to a sample of metonymies in English, Spanish, American Sign Language, and Spanish Sign Language. The database currently contains over 300 entries, corresponding to linguistic examples instantiating conceptual metonymies that have been extracted from specialized literature and annotated in terms of the aforementioned criteria. This chapter elaborates on criteria recorded in the entry Fields 5 and 7 of the database. The former concerns the degree of conventionality of a given metonymy; the latter, the linguistic level(s) at

which the given metonymy operates. Both criteria are illustrated with the information recorded in the relevant part of selected database entries.

Section 2 deals with Field 5 of the database entry model (see Table 1 in the chapter by Barcelona). In it, a metonymy is characterized with regards to its conventionality. The term "conventionality" is used to refer to the degree of conventionalization of a specific metonymy within a certain linguistic community. We distinguish between cases of conceptual conventionality only, i.e. those in which the metonymy only guides reasoning or serves a purely inferential purpose, and cases of both conceptual and linguistic conventionality, i.e., those in which the conventionality of the metonymy is also reflected in the motivation of constructional meaning or form of a lexical item, and/or in the guidance of the morphosyntactic categorization of a construction.

Section 3 discusses Field 7 of the database entry model, concerned with the linguistic domain(s) or level(s) where the metonymy has been attested. It includes five subfields: the first, 7.1, deals with the grammatical rank of the linguistic expression instantiating the conceptual metonymy. The second, 7.2, deals with meaning. The third, 7.3, deals with the motivation of constructional form by the metonymy in question. Subfield 7.4. registers data on any grammatical process that may be motivated in part by the metonymy. In subfield 7.5, we focus on the main function of the metonymy in question. Finally, subfield 7.6 registers the cases in which the metonymy under analysis involves compression.

2.   Discussion of Field 5: Conventionality

In this field of the entry model, the degree of conventionality of a conceptual metonymy is annotated. This is proposed according to the degree of social sanction of the conceptual metonymy as well as other factors such as the cognitive effort required to understand it. To assess the degree of social sanction of a conceptual metonymy we check dictionaries and / or corpora for linguistic expressions evoking it as the number of linguistic instantiations of a conceptual metonymy serves as an indicator of its degree of conventionality. Regarding the cognitive effort required for its understanding we follow Barcelona (2002, 2003a), who proposes a distinction between conventional metonymies, i.e. those that do not require "cognitive effort", and less conventional or unconventional metonymies, which may require a certain degree of cognitive effort, as in (1) *I bought a Mary*, when we understand *Mary* as a work of art created by Mary (an artist only known, however, to a small circle of followers). We are able to interpret *Mary* as referring to an art work because of our familiarity with the AUTHOR FOR WORK conceptual metonymy and with prototypical instances of it, such as (2) *I bought a Picasso* or (3) *I'm reading Shakespeare*.

Conventional metonymies are then further classified into two types: (i) those exhibiting conceptual conventionality only, i.e., those that only guide reasoning, or that have a purely inferential/pragmatic purpose, and (ii) those exhibiting both conceptual and linguistic conventionality, which is reflected in the fact that they are instrumental in the motivation of *conventional linguistic meaning* or *form*. Examples (1) and (2) illustrate cases of conceptual conventionality only.

(1)   If you have ever driven west on Interstate 70 from Denver to the Continental Divide, you have seen Mount Bethel.

Example (1) (Barcelona 2007, in preparation) invites the implicature "Mt. Bethel is located close to Interstate 70", guided by the metonymy EVENT FOR PRECONDITION with the aid of discourse context. In fact, we arrive at this inference on the basis of our experiential knowledge of the SEEING frame, according to which a basic condition for the visibility of an object is that the object should be relatively close to the viewer's vantage point. This is a case of conceptual conventionality only, as the metonymy does not motivate a conventional meaning of the construction. Similarly, Example (2), which reproduces a joke attributed to W. C. Fields, quoted by Barcelona (2003b: 92), is another instance of conceptual conventionality only:

(2)   A: Do you believe in *clubs* for young men?
       B: Only when kindness fails.

Barcelona (2003b: 92) proposes the following inferences:

a.   Meant, and perhaps conveyed, by Speaker A:
    1.   Speaker A wants to know whether Speaker B believes in the convenience, usefulness, etc. of (social) clubs for young men.
b.   Meant, and eventually conveyed, by Speaker B:
    2.   Speaker B believes in the use of clubs to hit young men in case of conflict with them only when kindness fails.

The default interpretation of A's utterance expressed by inference (a) seems to have been ignored by B as his utterance shows. I agree with Barcelona (2003b: 100, note 13) that this is highly likely done on purpose, giving rise to humoristic effects. As this author explains, the "intended misinterpretation" is possible thanks to a case of synchronic homonymy[1] which provokes the overlap of two frames: the CLUB frame, a subframe of the LEISURE SOCIAL INSTITUTIONS frame, and the CONFLICT frame, with the interpretation shifting to the latter.

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1.   There are two different lexemes here: Club-1: 'a social institution'; Club-2: 'a heavy stick'. See Barcelona (2003b: 112, n.14) for the common origin of these two currently different lexemes.

Inference a.1 is guided by the ARGUMENT FOR PROPOSITION metonymy as the argument *clubs* stands for a whole proposition like *clubs are useful / convenient /* etc. (Barcelona 2003b). The metonymy, though, does not motivate a conventional meaning of a construction. Table 1 presents Field 6 in the database entry for the metonymy ARGUMENT FOR PROPOSITION.

Table 1. *Clubs are useful / convenient*. Fields 1 and 5[2]

1. Category label (to be reproduced exactly from the source book/article at the lowest level mentioned by the author, if more than one are mentioned by her/him): ARGUMENT FOR PROPOSITION ADDITIONAL REMARKS:
5. Conventionality: (ii) Conceptual conventionality only (guiding reasoning, purely inferential/pragmatic purpose). ADDITIONAL REMARKS: The metonymy does not motivate a conventional meaning of a construction (i.e., none of the conventional senses of the lexeme *club* is "convenience / usefulness, etc." of clubs), nor is it necessary to recognize this construction as a noun. It simply guides the pragmatic inferencing of clubs as standing for the conceptual relationship or proposition "convenient / useful (clubs)".

The metonymy ARGUMENT FOR PROPOSITION is a type of "active zone" metonymy (Langacker 1999) because a participant (or argument) stands for its active zone, i.e. the relationship in which it participates (e.g. *A car is a good idea today*, i.e., 'having/ using a car is a good idea today'). On the other hand, considering the typical coercion of this metonymy by conventional constructions such as *Do you believe in X for Y?*, one could be tempted to argue that this kind of metonymy is also conventional from a linguistic perspective. Though this issue is interesting, the present chapter is not concerned with its solution.

In contrast, Example (3) illustrates a case of both conceptual and linguistic conventionality:

(3)   *America* will prevail (said by the U.S. president talking about the future victory of his country over its enemies).   (Barcelona 2011)

A metonymic target of the concept NATION is "the people who live in a nation"[3] and hence the noun *America*, being the proper name of a nation, inherits this feature. This is, in fact, recorded in the entry *America* in the OED (2nd ed. on CD-ROM).

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2. Entry elaborated by Isabel Hernández-Gomariz and revised by Antonio Barcelona.

3. According to the Merriam-Webster Online Dictionary, this is one of the senses of the common noun *nation*.

The Basic level metonymy in this case is LOCATION FOR LOCATED (see Barcelona, this volume, for another conventional linguistic manifestation of this metonymy). The type of conventionality of this metonymy as instantiated in Example (3) has been registered in Field 6 of the corresponding database entry.

3.   Discussion of Field 7: Linguistic domains/levels at which the metonymy is attested

This section elaborates on Field 7 of the database, which deals with the linguistic domains or levels where the metonymy has been attested. This is a complex field containing five subfields. Firstly, subfield 7.1, concerned with the grammatical rank (e.g. morpheme, lexeme, phrase, clause, sentence, etc.) of the linguistic material instantiating the metonymy is introduced in the entry. Secondly, in subfield 7.2 we explore the connection between the conceptual metonymy and meaning. Following Barcelona (2009), we check (a) whether the metonymy in question motivates constructional meaning, or (b) whether it only guides or facilitates utterance and discourse meaning. If it motivates constructional meaning we check whether it is (i) prototypical conventional meaning, (ii) non-prototypical conventional meaning; or (iii) implied (inferred), non-conventional meaning. We also annotate whether the metonymy guides morphosyntactic categorization and whether it involves compression (Fauconnier 2009). Thirdly, we discuss subfield 7.3, which aims at discovering whether the metonymy under analysis motivates constructional form, distinguishing between prototypical and non-prototypical conventional form. Then, subfield 7.4 provides information on the grammatical processes (e.g. grammaticalization, affixal derivation, conversion, etc.) motivated in part by the metonymy in question. Finally, in subfield 7.5 the main function of the metonymy under analysis is discussed.

Deciding about the prototypicality of a metonymy is a potentially problematic issue. For this, we follow Barcelona (2009: 366–369), who considers prototypicality a matter of degree and subject to social, cultural, historical, and individual variation. Although reliable ratings on the prototypicality of a metonymy, both in terms of form and meaning, could only be obtained through psycholinguistic experimentation, certain aspects may be taken into account to decide on the prototypicality status of a meaning or a form. Regarding the prototypical meaning of a construction, if we need a criterion to decide on the degree of prototypicality of the various senses of a polysemous construction, especially a lexeme, Barcelona proposes to consider the number of semantic attributes shared by the apparent prototypical constructional sense of the construction with its other senses and with semantically similar constructions. The larger the number of semantic attributes that sense

shares with other senses of the same construction, and the smaller the number of semantic attributes shared by that sense with the senses of semantically similar constructions, the more prototypical that sense will be. The reason is that such a sense maximizes the consistency and the distinctiveness of the polysemy network (a type of cognitive category) constituting the semantic pole of the construction. Regarding the distinction between prototypical and non-prototypical forms of a construction, he proposes to view the schematized forms of constructions as types of concepts, which can potentially constitute one or more categories. Therefore, he believes it is possible for "form categories" to exhibit the same mode of categorization as polysemy networks and other conceptual categories, i.e. prototype categorization. These form categories can be regarded then as cognitive frames with their frame elements and relations, one of which being the *meronymic* PART-WHOLE relation, which often gives rise to a metonymic connection between certain forms standing in that relation, especially when a form constitutes a salient part of a more complex form. For a form to be prototypical it must maximize category consistency and/ or category distinctiveness. For the former, the form should be the one with the largest set of "form attributes" in common with other forms in that category. For the latter, a constructional form must share its form attributes with no or few other form categories. This maximization of category consistency and distinctiveness allows the correct interpretation of certain "short" (or reduced) forms in ambiguous contexts. In sum, Barcelona's contribution to the analysis of this aspect provides us with a series of homogeneous criteria to determine the degree of prototypicality of a constructional sense or form.

3.1   Grammatical rank

This subsection deals with subfield 7.1 concerned with the grammatical rank of the linguistic material evoking the metonymy. The following pair of examples instantiate cases that differ in their degree of grammatical complexity. In (4) a metonymy is instantiated by a morpheme, the minimal constructional unit, whereas in (1) the metonymy EVENT FOR PRECONDITION operates at the sentential level.

> (4)   You are a fine arm*ful* now, Mary, with those twenty pounds you've gained.

The morpheme {ful} in (4) instantiates the metonymy degree to which a container is filled for quantity of content filling it (Barcelona 2009: 392). Similar cases of metonymy-motivated prototypical meaning would include *armful*, *bottleful*, and *churchful*. As Barcelona (2009) points out, the first time language users encounter derived nouns like these, a relevant frame is activated in their minds to help them identify the meaning of the derivational morpheme (e.g. 'he drank a spoonful of syrup') provided that they know the basic meaning of the lexical unit *full* from

which the derivational morpheme originates. In these cases the conceptual metonymy degree to which a container is filled for quantity of content filling it is pivotal for the identification of the meaning of the derivational morpheme, which can be expressed as "the quantity of X that fills (or can fill) Y". Although this type of morpheme may find counterparts in Spanish such as *puñado, bocado* (literally translated as 'handful' and 'mouthful'), the Spanish counterpart does not seem to profile the fullness of the container the English examples do.

At the other end in terms of structural complexity we find cases where the metonymy functions at the sentential level. For example in (1) the metonymy RELATION FOR SALIENT CONCOMITANT SUBRELATION (Barcelona, 2009: 382) is claimed to operate over a complex sentence. In it, the causal link between a hypothetically satisfied condition and its result activates its salient concomitant subrelation, namely the "built-in epistemic conditional connection between satisfied condition and result". The profiling of what Fillmore (1990a, b) called epistemic stance is due to this metonymy.

Table 2 illustrates subfield 7.1 of the entry for this metonymy.[4]

Table 2. *Epistemic conditionals*. Fields 1 and 7.1

1. Category label (to be reproduced exactly from the source book/article): RELATION FOR SALIENT CONCOMITANT SUB-RELATION ADDITIONAL REMARKS:
7. Linguistic domains / levels where the metonymy has been attested. 7.1 Grammatical rank: Complex clause / sentence. ADDITIONAL REMARKS: The metonymy is indirectly responsible for the development of the special forms of this construction, since premise-conclusion connections are now freed from any temporal sequence.

3.2   Meaning

Subfield 7.2 deals with the meaning of the metonymy. Metonymy may motivate constructional meaning or simply facilitate utterance and discourse meaning. In the former case we also annotate whether the meaning conventional, prototypical or non-prototypical, or non-conventional, i.e. implied or inferred. For example the metonymy MEANS FOR ACTION (Kövecses and Radden 1998) motivates the prototypical conventional meaning of the grammatical construction in (5):

(5)   He sneezed the tissue off the table.

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4.   Entry elaborated by Olga Blanco-Carrión and revised by Antonio Barcelona.

We also believe that the metonymy is partly responsible for the development of this new clausal type of construction, where an intransitive verb is used as the verb of a caused-motion construction based on the prototypical caused-motion construction (Goldberg 1995), rather than a new sense of the verb *sneeze*. The meaning could be paraphrased as 'X caused Y to move with respect to spatial reference point Z by doing non-causative action W'. With regards to the utterance and discourse meaning of (6), the metonymy helps the language user recruit the relevant part of the SNEEZ-ING frame, i.e. the expelling of air, which may cause the motion of an object placed nearby, and its subsequent change of location, required for its understanding. This English construction constitutes an instance of conceptual integration where there is the integration of a causal sequence of action and motion even though the frame semantics of this verb does not contain an object or the motion of such an object.

Within this field, in the new subfield 7.6, we also annotate whether the metonymy in question involves compression. Examples (6b) and (6c), as two possible continuations of Example (6a), instantiate this case:

(6) a. *Buckingham Palace* issued a statement.
     b. *They* expressed their satisfaction.
     c. *It* expressed its satisfaction.

The frequent alternation of third person plural anaphors as in (6b), which highlights the metonymic target, with third person singular anaphors as in (6c), which highlights the source, seems to suggest a degree of source-target compression. We could even combine both anaphors, but only if the first one corresponds to the source as a continuation of (6a) with *It expressed their satisfaction* (vs. **They expressed its satisfaction*). Ruiz de Mendoza and Pérez (2001) capture this constraint by means of their proposal of the Domain Availability Principle, according to which when a metonymy occurs in a sentence the matrix domain is primarily available for anaphoric reference.

Examples (7) and (8) instantiate metonymies that motivate non-prototypical conventional meanings of grammatical constructions.

(7) You are a *fine* fellow!

Regarding the meaning of *fine* in (7) (Stern 1931) it should be noted that the non-prototypical meaning of the adjective is registered by the OED, under sense (9c), which goes as follows: "often used ironically", derived from more prototypical sense (9a) "used as a general expression of admiration: excellent; admirable in quality; of rare or striking merit". In relation to its utterance and discourse meaning, the inference of the exact profile of the noun phrase, i.e. "bad person", derives here from the overall discourse meaning of the NP and the context where the example occurs,

not only from the PROPERTY FOR OPPOSITE PROPERTY metonymy that motivates this non-prototypical meaning of the adjective.

(8)   She was a *success*.

Similarly, the prototypical meaning of the construction in (8) is registered in the entry for *success* (n.), Section (3a), of the OED as "The prosperous achievement of something attempted". This entry also includes in Section (3b) the derived, non-prototypical meaning of "success" evoked in (8), defined as follows: "*transf.* one who or a thing which succeeds or is successful". The metonymy granting the meaning shift from achievement to its causer is, as proposed by Kövecses and Radden (1998: 56), STATE/EVENT FOR THING/EVENT/PERSON THAT CAUSED IT.

Table 3 includes subfield 7.2a of the database entry for another instance of a metonymy motivating a non-prototypical conventional meaning.

Table 3. Field 1 and subfield 7.2a of *reduce-slim down*[5]

1. Category label (to be reproduced exactly from the source book/article): CATEGORY (BECOMING REDUCED IN GENERAL) FOR MEMBER (BECOMING REDUCED IN WEIGHT) ADDITIONAL REMARKS:
7. Linguistic domains / levels where the metonymy has been attested.   7.2 MEANING: (a) *Constructional Meaning*:   (ii) non-prototypical conventional meaning of a grammatical construction;   + Guiding morphosyntactic categorization? YES   ADDITIONAL REMARKS: On 7.2a the conventional intransitive sense "become reduced in general" of the verb *reduce* derives through metonymy from its transitive sense "causing to become reduced in general", is further extended by means of the metonymy CATEGORY (BECOMING REDUCED IN GENERAL) FOR MEMBER (BECOMING REDUCED IN WEIGHT) to the sense "become reduced in weight". In both cases, the historical metonymic motivation is proposed by Barcelona 2009: 383).

Examples (9–11) instantiate the last type of cases we consider when analyzing the meaning of a grammatical construction motivated by a conceptual metonymy. Unlike examples (5–8), where the meaning of the grammatical construction is conventional, in (9–11) the meaning is non-conventional so they are annotated in the database as "(iii) implied (inferred), non-conventional meaning of a grammatical construction". Since the meaning is non-conventional we need to search the context in which it would arise. The non-conventional meaning of a construction is in fact

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5.   Entry completed by Ana-Laura Rodríguez-Redondo and Carmen Guarddon and revised by Antonio Barcelona.

an element of utterance and discourse meaning, and could have been registered under subfield 7.b ("Utterance and discourse meaning"). However, we preferred to reserve the latter subfield for the general pragmatic inferences that establish discursive *relational coherence* (Dirven and Verspoor 2004 following Mann and Thompson 1988), mainly in terms of general pragmatic inferences guided in part by metonymy. These general pragmatic inferences are often invited by sentential constructions but even more often they are jointly prompted by longer discourse stretches (Barcelona 2003b, 2007).

For example, in (9) the metonymy FOOD FOR CUSTOMER proposed by Lakoff and Johnson (1980: 35) does not instantiate the conventional meaning of the NP *The ham sandwich*. This utterance is likely to be uttered in a restaurant by one waiter (or waitress) addressing another and probably pointing at the customer who ordered the ham sandwich (and whose name is probably unknown).

(9)   *The ham sandwich* is waiting for his check.

The conversational exchange between a patient and a doctor reproduced in (10) constitutes another example where a metonymy operates at the level of discourse meaning and guides a general pragmatic inference.

(10)   Patient: Excuse me, but *have you been to medical school to get your M.D. degree?*
Doctor: No, madam, I just got it at a lottery.
(After this, the patient files a complaint writing, in all seriousness, that she cannot understand how the health centre can hire a doctor who got his degree at a lottery).

The discourse meaning guided by the metonymy CONDITION FOR RESULT in this conversation (analyzed by Barcelona 2003b: 90) is the implicature that the patient has serious doubts about the doctor's qualifications. This inference coheres relation-ally in the overall conversation with those invited by the doctor's reply and equally guided by metonymy. The most important of them is "the belief that a doctor can get his degree without attending a school of medicine is as absurd the belief that a doctor can get his degree at a lottery prize" (Barcelona 2003b: 89–92). Similarly, the PRECONDITION OF A REQUEST FOR THE REQUEST metonymy, proposed by Ruiz de Mendoza and Mairal (2007: 35), does not only activate the conventional meaning of *I'm getting cold* in (11):

(11)   I think *I'm getting cold*.

According to them, the most plausible interpretation of this utterance is that a language user is indirectly asking another to take action to solve the problem she is complaining about. The clause expresses the speaker's circumstances, which present

the inconvenience that she is getting cold (a precondition of a directive speech act), and which, in turn, can be seen as an indirect directive speech act (indirect request). A possible reconstruction of the particular context of this metonymic utterance would be a situation with two participants in which the temperature is colder than desired for the one who uttered (11) and the hearer may potentially solve the problem. For politeness issues, instead of expressing a direct request or command, the speaker conveys her getting cold (precondition) for the addressee to become aware and solve it (request), without imposing an obligation on him. Ruiz de Mendoza and Mairal (2007) claim that this interpretation derives from the existence of generic (higher order) cognitive models and the operation of a metonymy whereby part of a generic model, called SPEECH ACT SCENARIO by Panther and Thornburg (1998), may stand for the whole of it. According to this model one is expected to help anyone in need.

Although the research presented here is part of work in progress, a frequency analysis of the types of meaning motivated or guided by metonymy on a randomly-chosen sample of 30 metonymies has provided the results illustrated in Figure 1.
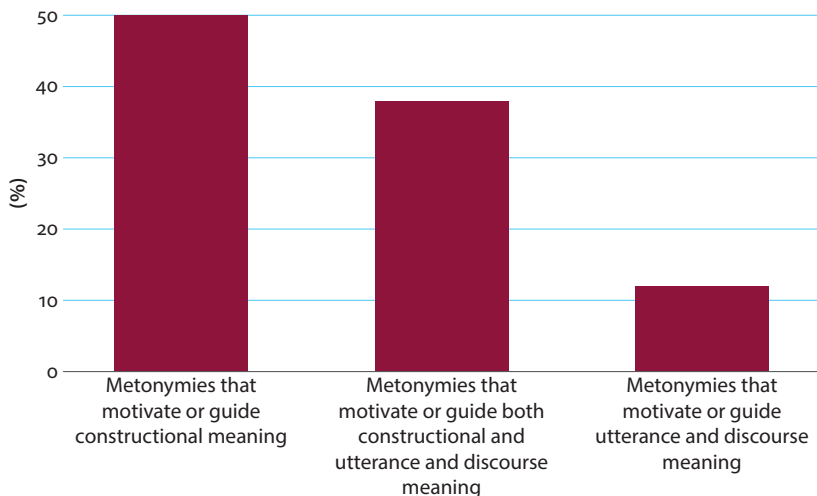
Figure 1. Type of meaning motivated or guided by the metonymy

50% of the entries contain metonymies that motivate constructional meaning; 38% of the entries contain metonymies that both motivate constructional meaning and guide utterance or discourse meaning, and only 12% of the data include metonymies that only guide utterance and discourse meaning. These numbers may serve as an illustration of the most frequent type of meaning motivated by metonymy

in that sample, i.e. constructional meaning. These results are doubtless due to the fact that just a relatively small number of metonymies *only* guiding pragmatic inferences have been included in the database so far. The percentages will probably have to be modified when the database incorporates a larger number of this type of metonymies. In any case, once these additional entries and all our other entries have been fed into the digital version of the database, the searches will be done automatically, which will allow us to discover important regularities in the functioning of metonymy.

3.3   Constructional form

In subfield 7.3 we specify whether the metonymy under analysis motivates constructional form. We also distinguish whether the constructional form is prototypical conventional or non-prototypical conventional, and annotate if the metonymy guides morphosyntactic categorization.

We can use the NP *Interstate* as it appears in example (1) to illustrate a case of metonymy motivating a prototypical conventional form. In this example, the lexeme is used to designate the notion 'Interstate highway'. According to Barcelona (2009), the metonymy SALIENT PART OF FORM FOR WHOLE FORM, in its lower-level instantiation MODIFIER FOR MODIFIER-HEAD CONSTRUCTION, motivates in part the ellipsis leading to the form of this noun. In addition to this, this metonymy constitutes an instance of metonymy guiding the morphosyntactic categorization of the lexeme *interstate* as a noun rather than as an adjective.

On the other hand, (12) illustrates a case where the SALIENT PART OF FORM FOR WHOLE FORM metonymy motivates the non-prototypical conventional form of a construction (e.g. *of table*) whose prototypical form would include a determiner since *table* is a count noun:

(12)   MARY: *You surely have, James. No one could deny that. (She laughs and sits in the wicker armchair at right rear* of table […].
        [Fragment of the initial conversation in Act 1 of Eugene O'Neill's *Long Day's Journey into Night*]   (Barcelona 2009: 387).

As previously mentioned, the elliptical form *table* for the NP *the table* is possible due in part to its metonymic part-whole connection to the full, prototypical form. However, additional factors responsible for the activation of the full NP by the nominal *table* are the co-text, which makes the referent definite, and the convention in the cultural model of stage directions that allow this reduced form of the NP.

The same metonymy is responsible for the existence of the non-prototypical conventional form *ex* of a number of grammatical lexical constructions such as *ex-husband, ex-boyfriend, ex-girlfriend, ex-partner, ex-king, ex-Catholic*, all used to

refer to someone who formerly belonged to a certain category, especially a former spouse or sentimental partner. In these cases, a morpheme of a morphologically complex word stands for the whole word. This metonymy, defined by Bierwiaczonek (2007: 54) as MORPHEME M (FREE OR BOUND) OF A MORPHOLOGICALLY COMPLEX WORD FOR THE WHOLE WORD, may guide morphosyntactic categorization only in contexts where the construction may not be recognized as such, although the most likely interpretation, as just stated, is that of "ex-spouse/ex-boy/girl–friend". The Merriam-Webster online Dictionary supports this interpretation by providing the following information for entry *ex* (n.): "one that formerly held a specified position or place; *especially*: a former spouse"; so does the OED (see *ex, n.¹*). The assignment of a separate dictionary entry for this originally non-prototypical form seems to indicate that *ex* is synchronically a separate construction, although its metonymic links to the "parent" constructions can still be perceived.

Table 4 includes another example of the SALIENT PART OF FORM FOR WHOLE FORM metonymy, called by Radden (2005: 17) PART OF A FORM FOR THE FULL FORM.

Table 4. Fields 1 and 7.3 of *Crude for crude oil*⁶

1. Category label (to be reproduced exactly from the source book/article at the lowest level mentioned by the author, if more than one are mentioned by her/him, such as EFFECT FOR CAUSE, etc.):
PART OF A FORM FOR THE FULL FORM
ADDITIONAL REMARKS:
7. Linguistic domains / levels where the metonymy has been attested.
7.3 FORM:
Constructional Form: (i) prototypical conventional form of a grammatical construction: It is the modifier that stands for the full NP and never the modified noun.
+ Guiding morphosyntactic categorization? YES

3.4   Grammatical process involved

The next subfield of the database entry model, 7.4, includes information regarding the grammatical processes motivated, at least in part, by the metonymy in question, i.e., whether they are cases of grammaticalization, affixal derivation, conversion, etc. For example, in (4) the metonymy DEGREE TO WHICH A CONTAINER IS FILLED FOR QUANTITY OF THE CONTAINER'S CONTENT motivates in part the grammaticalization of the adjective (full) as a derivational morpheme ({ful}) operating in an instance of affixal derivation. In this case {ful} in *armful* is a derivational suffixal morpheme.

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6.   Entry completed by Carmen Guarddon and revised by Antonio Barcelona.

Another instance is the case of the lexicalization of the noun phrase *a lot of* as a multal quasi-determiner profiling the notions "large quantity", "large number". Barcelona (2009: 376–379, 2015) argues that this grammaticalization is due to the gradual polysemous extension through history of the noun "lot" from its original meaning "object used [normally a piece of wood] in deciding a matter by chance" into its abstract meaning ("great number or amount") within the present-day quasi-determiner *a lot of*. Barcelona claims this extension was motivated by a long series (or "chain") of metonymies and one metonymy-based metaphor. The last of these metonymies, he claims, is WHOLE SCALE FOR UPPER END OF SCALE (Radden and Kövecses 1999), which extends two older senses of *lot* ("an amount of a non-count entity" and "a number of count entities forming a class") into the senses "a large quantity of a non-count entity" and "a large number of entities forming a class" (cf. *a lot of money; a lot of books*). This extended meaning of the noun is registered in the OED like this: "A considerable number, quantity or amount; a good deal. Used in sing. (*a lot*) and plu.; also as quasi-adv. Often a*bsol*., without explicit mention of the persons or things intended. Also with adjective, as *a* good *lot; a* great *lot*, (this, that) little *lot*".

Instances of conversion motivated by metonymy are the conversion of proper names into common nouns, such as *camembert, bordeaux, java, china* (Stern 1931) granted by the metonymy PLACE FOR PRODUCT. This type of conversion seems to be motivated by the strong cultural connection between the name of the place of origin of a product and the product itself.

Conceptual metonymy is also a motivating factor for instances of the word formation process known as clipping, or "shortening", whereby a word is reduced to one of its parts. The SALIENT PART OF FORM FOR WHOLE FORM metonymy motivating the existence of the already mentioned construction *ex* is also responsible for similar lexical units, such as *mini* for miniskirt, *sub* for submarine/subeditor, *lab* for laboratory or *exam* for examination (see Barcelona 2016 for a detailed study of the factors determining the salience of the parts of constructional forms selected as the source in SALIENT PART OF FORM FOR WHOLE FORM).

3.5   Main function

In subfield 7.5 we discuss whether the main function of the metonymy at hand is motivational, inferential or referential. We follow Barcelona's view that metonymy is not necessarily referential.[7] In fact, he further claims it to be less frequently

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7.   See Barcelona (2003b) for a detailed analysis of an exchange between a Prime Minister and an opposition Member of Parliament, which invites a large number of implicatures, and whose underlying metonymies do not perform any act of reference.

referential than inferential or motivational (Barcelona 2005). This perspective is partly due to his very notion of metonymy, not restricted to nominal metonymies but including other types, such as predicational, propositional, illocutionary and purely inferential (Barcelona 2009, 2011). In fact, according to him, the motivational and referential roles of metonymy are, typically, consequences of its main function, i.e. the inferential one,[8] as he claims that there is an inherent link between metonymy and its inferential role. This is based on the fact that when language users are exposed for the first time to an expression whose meaning or form is new to them, they perform a metonymic operation to process it, if it is metonymically connected to another meaning or form.

Furthermore, there seems to be an interaction between the inferential, motivational and referential functions of conceptual metonymy. Examples of the interaction between the inferential and motivational roles of metonymy are provided in (4), where the prototypical meaning of the morpheme {ful} in *armful* is guided by the metonymy DEGREE TO WHICH A CONTAINER IS FILLED FOR QUANTITY OF CONTENT FILLING IT (Barcelona 2009: 392), in (12), where the definiteness of the NP *table* in "(…) *at the right rear of* table" is guided by the metonymy SALIENT PART OF FORM FOR WHOLE FORM, and in the case of the noun *lot* described in Section 3.4. On the other hand, the interaction between the inferential and referential function of metonymy is the rule, since speakers are often helped by metonymy to infer an intended target. The metonymy SALIENT PART OF FORM FOR WHOLE FORM motivating the prototypical meaning and form of the noun *interstate* is an instance of the interaction, as it motivated the existence of this lexeme by guiding in part the interpretation of the ellipsis whose entrenchment gave rise to the grammatical conversion from the adjective *interstate*. However, the same metonymy would have an inferential role again in ambiguous contexts priming the homonymy between the adjective and the noun, as in *The U.S. Food and Drug Administration proposes to ban the interstate shipment of products containing carbon tetrachloride because of health hazards* (see OED, under *interstate*).

In subfield 7.6, a recent addition to the entry model, we annotate the type of compression the metonymy seems to involve. Very few data have been entered in this subfield so far.

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8.   Panther and Thornburg (2003) include several chapters evidencing how frequently metonymies have a purely inferential role.

4.   Summary and conclusions

This chapter elaborates on two of the eleven criteria developed as part of a project that focuses on the description of conceptual metonymy. One of the main applications of this project has been the creation of a database aimed at compiling a selection of metonymies and annotating them according to the aforementioned criteria. The criteria dealt with in this chapter correspond to Fields 5 and 7 of the database entry model created for the inclusion of metonymies in the database. The criteria corresponding to the database entry Field 5 are the conventionality of the linguistic expression and whether the metonymy motivates an instance of conceptual conventionality only, or of both conceptual and linguistic conventionality. Conventionality is related to the social sanctioning of the linguistic expression evoking the metonymy which influences the cognitive effort required for its understanding. To assess the degree of conventionality we check dictionary entries for linguistic expressions evoking a certain metonymy and we also attend to the entrenchment of the metonymic operation. The metonymy motivating the sense of *Stradivarius* in *I bought a Stradivarius* (see the OED entry for *Stradivarius*) instantiates a case that does not require cognitive effort. Although not registered in standard dictionaries, the metonymy underlying a sentence like *I bought five Picassos* does not require cognitive effort, if compared to (1) (*I bought a Mary*), which requires some cognitive effort. In entry Field 5 we also distinguish between instances of conceptual conventionality only, such as "Do you believe in *clubs* for young men?", and cases instantiating both conceptual and linguistic conventionality, such as the use of *Stradivarius* above or of *America* to refer to the people that live in this country.

The second criterion illustrated in this chapter corresponds to the database entry Field 7, where metonymies are annotated according to the linguistic domain(s) where they function. In our database we register the following parameters of the operation of metonymies at certain levels:

1.   the grammatical rank of the expression instantiating it, annotated in subfield 7.1. In this subfield we have illustrated cases of metonymies operating at the lowest grammatical rank (e.g. the morpheme {ful} in *armful*) and at the other end of the grammatical rank in terms of complexity, e.g., at sentence level such as the type of conditional construction instantiated by *If you have ever driven west on I-70 […], you have seen Mt. Bethel*, where the metonymy RELATION FOR SALIENT CONCOMITANT SUBRELATION is at work;

2.   the meaning of a construction, annotated in subfield 7.2, where we have illustrated cases where metonymies motivate the prototypical conventional meaning of a construction, such as the caused-motion construction with the verb *sneeze*, motivated by the MEANS FOR ACTION metonymy, as well as the

non-prototypical conventional meaning of a construction, such as *fine* in its ironic understanding. We have also illustrated cases where metonymies operate but where the meaning of the construction can only be retrieved by analyzing the situational context in which the utterance occurs (e.g. *The ham sandwich* is waiting for his check), or the pragmatic inferences guided by the metonymy (e.g. *I think I'm getting cold* uttered as an indirect request);

3. constructional form, annotated in subfield 7.3, where we have illustrated cases of both prototypical conventional form of a grammatical construction, such as *Interstate* as a noun to refer to a type of highway, and non-prototypical conventional form of a grammatical construction such as *of table* as an elliptical form of *of the table* in the STAGE DIRECTIONS frame;

4. grammatical process, annotated in subfield 7.4. We have illustrated cases such as: (i) the grammaticalization of an adjective *full* as the derivational morpheme {ful}; (ii) the lexicalization of the quasi-determiner *a lot of*, crucially motivated by the metonymy-motivated polysemous extension of the noun *lot*; (iii) the conversion of proper names into nouns as in *china, java, camembert*; and (iv) clipping, such as *mini* for *miniskirt*.

In Field 7, subfield 7.5. we annotate the main function of the metonymy and whether there is an interaction between the inferential, motivational and referential functions. A couple of examples dealt with in the chapter illustrates the interaction between the inferential and motivational roles of metonymy and one of them instantiates the interaction between the inferential and referential functions. Subfield 7.6 gathers data on the type of compression achieved by metonymy; we only recently begun to apply this subfield.

The main contribution of this chapter to current research in the description of conceptual metonymy consists in the refinement of part of the descriptive apparatus used for the characterization of metonymy, especially regarding the criteria applied in the database. We believe the comprehensive entry model introduced in the database developed as part of our research project (Barcelona, this volume) and designed to provide a consistent description of metonymies has no antecedents in the field, not to mention the possibilities it provides for conducting research on metonymy with its use. Researchers will be able to perform personalized searches via the selection of the criteria they are interested in. Barcelona (this volume) provides examples of the many types of searches that will be possible to perform on the digital version of our database.

We believe this tool will definitely contribute to a deeper understanding of the functioning of conceptual metonymy at the different levels of linguistic analysis where this cognitive phenomenon operates.

Acknowledgments

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CHAPTER 3

Analysis of metonymic triggers, metonymic chaining, and patterns of interaction with metaphor and with other metonymies as part of the metonymy database in the Córdoba project

Isabel Hernández-Gomariz

Universidad de Córdoba

This chapter offers a continuation of the chapters presented by Antonio Barcelona and Olga Blanco-Carrión in this same volume. Consequently, it deals with part of the results of the project FFI2012–36523, focused on the development of a detailed database on metonymy. The present chapter discusses the issues addressed in the remaining fields of the database entry model, namely Fields 8, 9 and 11. First, the chapter addresses the identification of the triggers leading to the operation – or blockage – of the metonymy (Field 8). The subsequent section analyzes the cases of metonymic chaining (Field 9), as proposed in Barcelona (2005). Finally, it studies the patterns of interaction that the metonymy may have with metaphors and/or other metonymies (Field 11).

Keywords: metonymic triggers, metonymic chaining, patterns of interaction

1. Introduction

This chapter is the last of a series of three devoted to the presentation of all the aspects under analysis in the metonymy database that is currently being developed by a team of researchers led by Professor Antonio Barcelona. The aim of the database is to establish a set of parameters and criteria that could be used to characterize any given metonymy, regardless of the type of text or language where it is attested. Concerning their language, the metonymies analyzed so far (over 300 instances) belong to English (in both American and British varieties), Spanish, American Sign Language and Spanish Sign Language. As far as their original text is concerned, all of the examples are drawn from the academic literature on metonymy, although our aim is, in the near future, to expand our corpus from a variety of sources.

In the two chapters by Antonio Barcelona and Olga Blanco-Carrión, most of the fields in the entry model have already been presented and discussed, namely Field 1 (the category label reproduced from the source), Fields 2 and 10 (metonymic hierarchy), Field 3 (prototypicality), Field 4 (examples of the metonymy and their taxonomic domains), Field 5 (conventionality), Field 6 (language of the metonymy registered) and Field 7 (linguistic domains in which the metonymy is attested).

Consequently, this chapter presents and discusses the remaining analytical fields: 8 (metonymic triggers), 9 (metonymic chaining) and 11 (patterns of interaction). The present chapter will complete the discussion of the database entry model applied throughout this project.

2.   Field 8. Metonymic trigger(s): (Factors) leading to the operation of the metonymy under analysis

The first field in the entry model that we are going to discuss in detail in this chapter is Field 8. As its name suggests, it is *mainly* concerned with the identification of the factors leading to the operation of the metonymy under analysis.

In this volume, the chapter by Panther and Thornburg and the one by John Barnden also apply and discuss this term. However, before continuing, it seems appropriate to highlight the novelty of this notion as it has been defined and applied in this particular project. The term was first introduced – in this sense – by Antonio Barcelona in his "technical annex" for Project FFI-2008-04585 (the project that preceded Project FFI2012-36523). Although the term "trigger" had already been used in the literature in relation to metonymy, it had always been used in a very different sense: that of "metonymic source" mainly, but with some frequency under other various senses.

Brdar and Brdar-Szabó (2014) and Ruiz de Mendoza (2001) have sometimes discussed the existence of "constraints" on metonymy, i.e., factors that, due to grammatical reasons, block the application of metonymy; their examples have not yet been included in the database. We initially set up Field 8 with the purpose of registering only the factors that *lead to* the operation of the metonymy under analysis and the field was accordingly labeled *metonymic triggers*. From the 2013 version of the entry model (there have been minor modifications on the model after this chapter was written), the field is supposed to register also the factors that *block* a metonymy i.e. the factors that should more properly be called "metonymy inhibitors" or "metonymy constraints". However, identifying the possible constraints on each metonymy registered in the database is a difficult task, since this would require imagining contexts in which the metonymy would not work. Therefore, we will only note in this field these "negative metonymic triggers" when we include in the

database a metonymy claimed by a given researcher (like those just mentioned) to be subjected to a specific constraint. As Brdar and Brdar-Szabó (2014) state, these notions of trigger and constraints are in line with Lakoff's (1987) characterization of "motivation".

The factors leading to the activation of a metonymy, i.e. metonymic triggers proper, are being carefully analyzed, explained and classified in the present project. We have classified metonymic triggers into two different types: (i) co-textual, and (ii) contextual (other than co-textual). The first type, co-textual factors, consists of all the linguistic and textual factors that actually surround a metonymic expression and, consequently, facilitate its operation. On the other hand, contextual (other than co-textual) factors are more difficult to identify, as we are about to see.

Although I am going to comment on these two subfields separately, it is very common to find both co-textual and contextual factors operating on the same metonymy. Figure 1, which summarizes the occurrence of these metonymic triggers as they have been identified in a randomly chosen sample of thirty metonymies registered in our database, illustrates this fact:
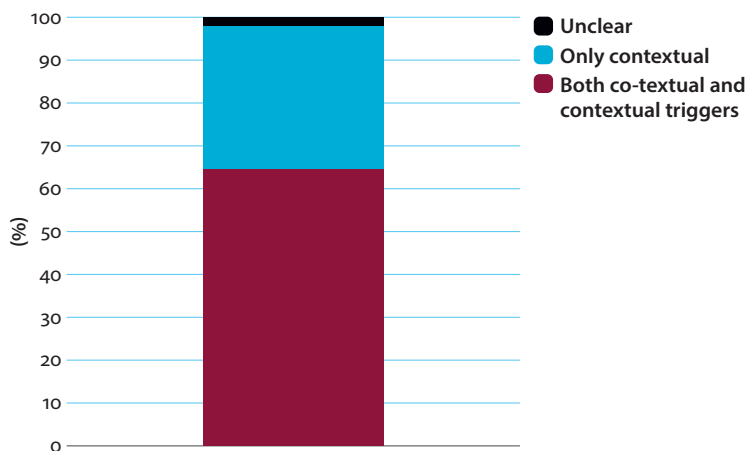
Figure 1. Presence of metonymic triggers in a sample of the metonymies analyzed in our database

As can be observed, the figure shows that, although the presence of only contextual factors is more important than the presence of only co-textual factors (in fact, we still have not found any case in which only co-textual factors are operating, which is already remarkable in itself), more than sixty percent of the factors triggering the metonymies analyzed represent a combination of both types. In a negligible number of examples, it was impossible to determine the type of trigger. These were mostly decontextualized lexical examples.

As a demonstration of the way in which the first subfield works, I am applying Field 8 to an instance of the metonymy CONTAINER FOR CONTENT, as presented by Radden (2005: 11–28): *The bottle is sour*. Table 1 shows the way Field 8 has been filled out in the database entry corresponding to that example:

Table 1. *The bottle is sour*. Field 8[1]

8. Metonymic trigger(s) (factors) leading to or blocking the operation of the metonymy.
    i.   Co-textual.
    ii. Contextual other than co-textual (Grammatical knowledge, Frames / ICMs, cognitive-cultural context, situational context, communicative context (participants, time and place of utterance, etc.), communicative aim and rhetorical goals of the speaker / writer, genre. Other contextual / pragmatic factors).
    ANSWER:
    i.   Co-textual: The syntactic predicate is sour
    ii. Contextual other than co-textual:

    (a) The DRINKABLE LIQUID ICM / frame. This frame specifies that the containers for this type of liquid are not typically tasted; only their content is.
    (b) Other contextual / pragmatic factors: The discourse topic.
    ADDITIONAL REMARKS: In this example, both main types of triggers cooperate to induce the metonymic reading.
    On (ii, b): If, as is quite likely, this example occurs in a discourse portion where the DRINKABLE LIQUID ICM / frame is active (due, for example, to an earlier mention or implication of the notion of "drinking milk"), this topic would be a contextual trigger further inducing the metonymic reading.

As can be gathered from the contents of Table 1, both co-textual and contextual triggers are present in the operation of this metonymy. I will comment below only on the first type of trigger.

As Radden (2005: 11–28) points out, the statement *The bottle is sour* is an example of the metonymy CONTAINER FOR CONTENT, where the speaker uses a container (the bottle) to refer to a property (its sour taste) characterizing therefore its content (the liquid contained inside the bottle) as such. In this example, the metonymy is partly triggered by a co-textual factor: the syntactic predicate "is sour". To prove this we can use another simple example: If we replaced this predicate with a different one referring to a property of the bottle (for example, "The bottle is heavy"), the metonymy would not operate. For this reason, we can state that in this case the predicate "is sour" triggers the metonymy. This analysis differs from Radden's one (2005) on the fact that this author only talks about the perceptual salience of containers as a cognitive-perceptual factor facilitating the activation of the metonymy CONTAINER FOR CONTENT, but not about the role of the predicate. In his analysis, this salience could then be regarded as a cognitive contextual, but not as co-textual, trigger.

1.   Entry elaborated by Carmen Guarddon and revised by Antonio Barcelona.

Another example of the operation of co-textual triggers is in our entry for Panther and Thornburg's (2007: 236–263) metonymic sentence *Buckingham Palace issued a statement this morning*. In this case, the metonymy LOCATION FOR LOCATED (or, more specifically, AN OFFICIAL RESIDENCE FOR THE PEOPLE/INSTITUTION LOCATED IN IT [e.g. the British monarch]) is triggered by the predicate "…*issued a statement this morning*". Without this predicate, 'Buckingham Palace' would directly refer to the Queen's official residence, as in *Buckingham Palace was built between 1703 and 1826*, and the metonymy would be, again, inoperative. The predicate mentioning the issuing of a statement triggers the metonymy, consequently making the reader realize that the subject phrase does not refer to the building itself, but to the people located in it or the institution that these people represent.

Contextual (other than co-textual) triggers, as has already been stated, are more difficult to identify. Therefore, we have not been able to establish a fixed set of parameters yet. The factors that we have identified so far are five (see Table 1): (i) knowledge of grammatical structure, (ii) frames / ICMs, (iii) cognitive-cultural context, (iv) communicative context (participants, time and place of utterance, etc.), (v) communicative aim and rhetorical goals of the speaker / writer, genre, etc. Moreover, we have added a sixth subsection labelled "Other contextual / pragmatic factors", which is meant to subsume all the further factors that we may identify in the future.

Up to this moment, the second and third factors have proven to be the most common ones. Indeed, the vast majority of the thirty metonymies in the mentioned sample are triggered by an ICM or frame, by the cognitive-cultural context, or by a combination of these factors, as shown in Figure 2:
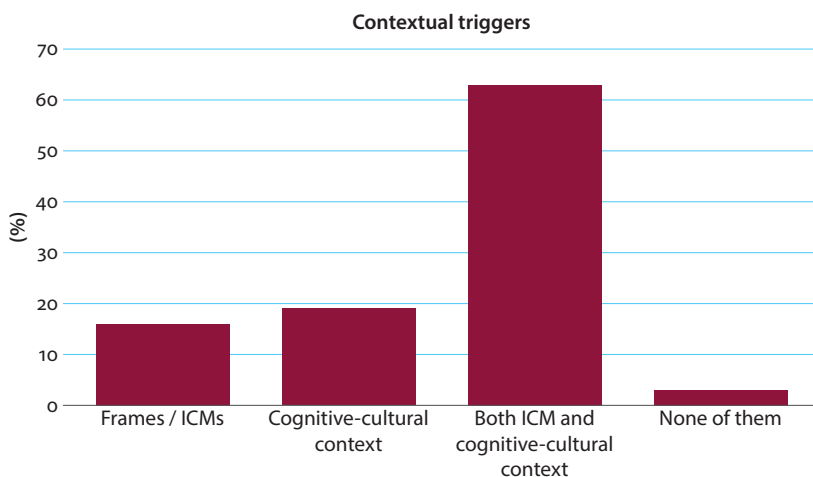
Figure 2. Contextual triggers identified in a sample of the metonymies analyzed in our database

As can be observed, out of all the metonymies in the sample, only 2% do not involve an ICM, the influence of the cognitive-cultural context, or a combination of both these factors as contextual triggers, showing that factors two and three are the predominant ones.

This subfield is illustrated below with the entry *Start a book*, which registers Brdar's (2007) metonymic example "*'East of Eden' was originally titled 'The Salinas Valley' because Steinbeck started the book as a history of his family*". The metonymy functioning here is SALIENT PARTICIPANT FOR THE WHOLE EVENT (i.e., the book stands for the salient event "X writing a book"), and Table 2 reports the relevant analysis in our database:

Table 2.   *Start a book*. Field 8[2]

8. Metonymic triggers:
i.   Co-textual: 'East of Eden' was originally titled 'The Salinas Valley' because Steinbeck *started* the book as a history of his family.
ii. Contextual:
Frame-based knowledge of the event schemas associated with the entity book: writing, reading (vs. cleaning, eating, etc.).
Culture-specific knowledge (of literature) by which we know that Steinbeck is a writer (vs. our knowledge about Messi as a soccer player).
ADDITIONAL REMARKS:
i.   The choice of subject can influence the interpretation of the object (Lapata, Keller and Scheepers 2003: 651). Cf.
ii. The *student* enjoyed the book ('reading it').
The *author* enjoyed the book ('writing it').
The direct object tends to belong to several fairly compact semantic classes (e.g. printed matter, movies, pieces of music, objects that can be eaten or drunk…).
iii. The direct object is interpreted through type coercion, a semantic operation that converts an argument to the type expected by a function (Pustejovsky 1991). In this case, the expectation is an event-type complement rather than a concrete object.

Table 2 shows that two types of contextual factors are operating in the triggering of this particular metonymy: Frames/ICM and culture specific knowledge. As regards the knowledge of the frame, in the example "*'East of Eden' was originally titled 'The Salinas Valley' because Steinbeck started the book as a history of his family*", one needs to take into account the speaker's knowledge of the frame BOOK: books are most commonly written or read, while they are not associated to other actions such as 'to establish' (as in *start a business*) or 'to run' (as in *start a race*).

In her completion of this entry, Carmen Portero reports on Lapata, Keller and Scheepers' (2003: 649–668) observation that the choice of the subject can influence

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2.   Entry elaborated by Carmen Portero and revised by Antonio Barcelona.

the interpretation of the object. Accordingly, by knowing that the subject is a student, one interprets *start a book* as 'start reading a book' as the most likely interpretation, whereas if the subject is an author, the most likely interpretation would be 'start writing a book'. This is where the second factor becomes important: thanks to the cultural knowledge of the situation, one knows that Steinbeck is an author, and that *East of Eden* is a novel written by him. With this culture-based information, one can interpret, without any doubt, that *start a book* in this particular context means 'start writing a book'. And this is due to the metonymic triggers operating in the reasoning underlying this metonymy.

Another representative example is the one offered by Radden (2002: 424) in the sentence *Go to the bathroom*, which is an instance of the metonymy DESTINATION FOR PURPOSE.[3] This metonymy works thanks to the presence of the construction "to go + location", which links a destination with a specific purpose. This way, an example such as *The child goes to the playground* is usually understood as *The child goes to the playground to play*, as playing is the main function of that particular place.

Carmen Portero's "additional remarks" on Field 8 of this entry remind us of the euphemistic uses of *go to the bathroom* and similar constructions like *go to bed*: When we use *go to the bathroom*, we often do not typically refer to the great number of "neutral" uses related to that particular room (such as shaving or brushing one's teeth), but to the taboo part of the BATHROOM ICM, namely the elimination of bodily waste. This is possible thanks to our knowledge of the contextual factors surrounding the use of this statement. The first one of these contextual factors is the BATHROOM ICM, which includes all the actions related to that specific room and, on the other hand, makes us exclude all the daily actions that do not take place there (such as cooking or sleeping). The second one is our knowledge of the specific social-communicative aim of the speaker: using euphemism to avoid mentioning the taboo elements of that particular ICM.

3.   Field 9. Metonymic chaining

Field 9, as its name shows, deals with metonymic chaining (Barcelona 2005), that is, with the possibility of the metonymy under analysis being chained to one or more metonymies, according to the author who originally discussed it.

Metonymic chaining will be illustrated with two examples. The first (Table 3) is taken from Ruiz de Mendoza and Mairal (2007: 33–49), and it demonstrates the phenomenon of chaining with other metonymies of the AUTHOR FOR WORK metonymy that is at the base of the understanding of a sentence like *Proust is on the top shelf*:

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3.   Entry elaborated by Carmen Portero-Muñoz and revised by Antonio Barcelona.

Table 3. *Proust is on the top shelf.* Field 9[4]

9. Metonymic chaining (as in **Barcelona 2005**)? YES / NO Indicate the metonymy/ies chained to the metonymy under analysis according to the author (in the diachronic or synchronic motivation of the form or the meaning of a construction; in the referential value of an NP; or in a metonymy-guided inferential chain). Chained to WORK FOR MEDIUM / FORMAT. ADDITIONAL REMARKS: **Ruiz de Mendoza and Mairal (2007**: 39) claim that the understanding of *Proust is on the top shelf* involves the metonymic chain AUTHOR FOR WORK FOR MEDIUM / FORMAT, where the first metonymy achieves "domain reduction" and the second one achieves "domain expansion".

As reported in Table 3, according to Ruiz de Mendoza and Mairal, the metonymy AUTHOR FOR WORK is chained to the metonymy WORK FOR MEDIUM/FORMAT. In addition, they observe that the first metonymy achieves domain reduction (mention of Proust to refer to Proust's work), while the second one achieves domain expansion (reference to the specific format of one of Proust's works, namely a printed book).

The concepts of domain reduction and expansion have been explained by Ruiz de Mendoza and Peña Cervel (2005). In their words, throughout domain reduction "we perform a cognitive operation which results in the reduction of the conceptual domain involved in the metonymy" whereas domain expansion is "a cognitive mechanism by means of which a subdomain is developed into its corresponding matrix domain".

Another interesting case of metonymic chaining can be observed in the analysis of the ENTITY FOR ACTIVE ZONE metonymy proposed by Brdar and Brdar-Szabó (2007) and illustrated with the example *Steven has a bag of tricks, a good passer, can operate in confined areas and is the Zidane of Villa whose left foot is nearly as good as his right.*

Table 4 reproduces the contents of Field 9 in the relevant database entry.

According to Brdar and Brdar-Szabó, in this case we have an example of a double chaining (ENTITY FOR ACTIVE ZONE + BEARER OF PROPERTY FOR CHARACTERISTIC PROPERTY + WHOLE SCALE FOR UPPER/LOWER END OF SCALE). In the first case (ENTITY FOR ACTIVE ZONE), 'Zidane' is metonymically used to refer not to the whole individual, but to his most relevant aspect as a public person: that of being a football player. This is chained to the second metonymy (BEARER OF PROPERTY FOR CHARACTERISTIC PROPERTY), thanks to which, obviously, Zidane as a public person represents the property of being a football player. And, finally (WHOLE SCALE FOR UPPER/LOWER END OF SCALE), thanks to the chaining, the aspect of Zidane as football player is also related to excellence (as he, as a good football player, is

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4. Entry elaborated and revised by Antonio Barcelona and Isabel Hernández-Gomariz.

Table 4. *The Zidane of Villa*. Field 9[5]

9. Metonymic chaining (as in **Barcelona 2005**)? YES / NO

Indicate the metonymy/ies chained to the metonymy under analysis according to the author (in the diachronic or synchronic motivation of the form or the meaning of a construction; in the referential value of an NP; or in a metonymy-guided inferential chain). ENTITY FOR ACTIVE ZONE + BEARER OF PROPERTY FOR CHARACTERISTIC PROPERTY + WHOLE SCALE FOR UPPER/LOWER END OF SCALE.

ADDITIONAL REMARKS:

1. The target of this metonymic tier is something like 'excellent qualities in general', and consequently the proper name comes to refer rather to a type of person than an actual person.

2. Brdar and Brdar-Szabó's analysis is quite different from Barcelona's (2003, 2004, 2009) analyses of these phenomena. Barcelona analyses these cases as different phenomena: in Barcelona 2004 he studies the idea of names used as paragons (*Mike is a Shakespeare*) and in 2009 he studies the metonymic base of the partitive-restrictive construction (*The young Joyce already showed signs of the genius of the mature Joyce*).

3. The idea is that the mention of Zidane activates his characteristic property and that this property in understood as possessed in its highest / lowest degree for the processing of examples like (1) (the Zidane of Villa) or (2) (the Zidane of Finance): In order to understand the core meaning of the phrase in the context of the clause where it is included, it is necessary to pay attention to a second metonymy: IDEAL MEMBER OF THE CLASS (Zidane as an excellent football player) FOR THE CLASS (excellent football players in general). In this way, by putting together two metonymies (ZIDANE FOR ZIDANE AS AN EXCELLENT FOOTBALL PLAYER + ZIDANE, AN IDEAL MEMBER OF THE CLASS, FOR THE CLASS OF EXCELLENT FOOTBALL PLAYERS), we can conclude that Steven's excellent ability when playing football can be equalled to that of Zidane, who prototypically stands for his excellence on the football pitch.

located in the upper end of the scale). Consequently, 'Zidane' ends up representing "excellent qualities in general" instead of a specific actual individual, as Brdar and Brdar-Szabó point out.

However, Barcelona (2003, 2004, 2009) analyzes this case as representing a different phenomenon. According to this author, names can be used as paragons. This way, when we say that somebody is "a Shakespeare", we are highlighting the ability of that person as a good writer, and, therefore, using Shakespeare as a paragon of elite authors (Barcelona 2004: 357–374). Moreover, Barcelona also mentions that there is also a partitive-restrictive construction when we distinguish, for example, between *the young Joyce* and *the mature Joyce*, referring to the different features that can be found in the various stages of the development of a person (Barcelona 2009: 33–56). According to Barcelona, then, in *The Zidane of Villa* we can find an example of the name 'Zidane' as being used as the paragon of an excellent football player.

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5. Entry elaborated by Miguel Ángel Torres and revised by Antonio Barcelona.

As can be observed, Barcelona and Brdar and Brdar-Szabó present completely different interpretations of the very same example. As the aim of this field is to reflect the various interpretations provided by different scholars, both points of view have been reflected in our database entry, without giving preference to one over the other.

4. Field 11. Patterns of interaction with metaphor and with other metonymies

Field 11 in our analytical model is focused on the patterns of interaction that the metonymy experiments with metaphor and with other metonymies.

Table 5 reflects the structure of this field in the entry model:

Table 5. Field 11

11. Patterns of interaction with metaphor and with other metonymies:
11.1 In the conceptual motivation of metaphor or metonymy (Introduction to **Barcelona 2000**; **Barcelona 2002**):
  1. A metonymy motivates a metaphor (register only if the author mentions this point).
  2. A metaphor motivates the existence of a metonymy (register only if the author mentions this point).
11.2 In the conceptual motivation of the conventional form or meaning of a construction.
11.3 In discourse understanding: Indicate any combination observed between the metonymy under analysis and one or more metaphors or metonymies in the example analyzed by the author, *whether or not the author states this.*
  ADDITIONAL REMARKS:

As can be observed, this field is divided into three different subfields, depending on the type of interaction that takes place.

Subfield 11.1 registers the interaction resulting in the conceptual motivation of a metaphor or a metonymy (Barcelona 2000, 2002). This subfield presents, then, two different possibilities: a metonymy may motivate a metaphor or, on the other hand, a metaphor may motivate the existence of a metonymy. In either case, this should only be reflected in our analysis if the author mentions it. It has to be specified that, up to this point, we have not found a single example of the second case, with a metaphor motivating the existence of a metonymy. Nevertheless, it is a possibility that cannot be ruled out, and therefore, must be reflected in the entry model.

Given the current absence of instances of the opposite directionality in motivation, I am going to exemplify the analysis of this subfield by means of an expression in which a metonymy motivates the existence of a metaphor, as illustrated by Radden (2002: 421) with examples such as "*I saw it, therefore, I know it*".

Table 6. *Seeing for knowing*. Field 11.1[6]

11.   Patterns of interaction with metaphor and with other metonymies:
11.1 In the conceptual motivation of metaphor or metonymy (Introduction to **Barcelona 2000** and **Barcelona 2002** ("Clarifying")):
1.   A metonymy motivates a metaphor (register only if the author mentions this point). YES
2.   A metaphor motivates the existence of a metonymy (register only if the author mentions this point). NO
ADDITIONAL REMARKS:
On 11.1 (1): According to **Radden (2002**: 420–423), this metonymy partly motivates metaphors like KNOWING IS SEEING. This metaphor is manifested by examples such as *I see what you mean, I see your point*, which Radden claims to involve only 'mental processing' and not 'vision' at the same time (compare with the first example in Field 4). The author, surprisingly, treats these examples as metonymic and not metaphorical. The reason is that he postulates a continuum from literalness ('see') through partial metonymy, i.e. SEE FOR SEE AND KNOW (due to "conflation" of SEE and KNOW, typical of child language), through full metonymy, i.e. SEE FOR KNOW (due to the "deconflation" phase of SEE from KNOW and the superimposition of PRECEDENCE FOR CAUSE), to metaphor, i.e. KNOWING IS SEEING, where 'seeing' and 'knowing' are in altogether distinct cognitive domains (**Radden 2002**: 421–422). The main reason SEEING can metonymically activate KNOWING is that normally SEEING precedes (and is believed also to cause and implicate) KNOWING, as in the tautology *I saw it with my own eyes.*

As pointed out in the analysis within the entry, according to Radden, the metaphor KNOWING IS SEEING is partly motivated by the metonymy SEEING FOR KNOWING.

This metaphor, which is manifested by examples such as *This is an obscure text*, involves, according to Radden, only MENTAL PROCESSING and not VISION at the same time. As our entry explains, the interesting fact is that Radden treats examples like *I see your point* or *I see what you mean* as metonymic and not metaphorical. The reason, according to him, is that there is a continuum from literalness ('see') to metaphor (KNOWING IS SEEING), through "partial" and "full" metonymy. As an example of partial metonymy, Radden mentions *I see the solution* (in "a situation in which two chess-players brood over a chess-problem and one of them finds a solution, visualizing the moves on the chessboard" (Radden 2002: 421–422)); the metonymy involved is SEE FOR SEE AND KNOW, due to the "conflation" of visual and mental processing. The examples of "full metonymy" that he mentions are *I see your point* or *I see what you mean*, where seeing and knowing are deconflated but the former (due to its usual precedence and imputed causal role) activates ("substitutes", Radden claims) the latter: SEE FOR KNOW.

Subfield 11.2, which is closely related to Field 9, analyzes those cases in which the interaction is claimed to be involved in the conceptual motivation of the

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6.   Entry first completed by Isabel Hernández-Gomariz and revised by Antonio Barcelona.

conventional form or meaning of a construction. Again, we are only supposed to reflect this in our analysis if the author who initially proposed the example mentions it.

For the sake of exemplification, I use the entry for the sign meaning 'stubborn' in American Sign Language. First of all, it is necessary to show how this meaning is represented in ASL. In order to do so, we are going to analyse the following two images, personally sent to me by Dr. William G. Vicars, the editor of the *American Sign Language University* website (www.lifeprint.com). He sent them to me because he believes they illustrate the sign for "stubborn" better than the ones on the website. Both the editors of this volume and I are extremely grateful to him.

STUBBORN:

Figure 3. ASL sign for the meaning 'stubborn'

The metonymy operating here would be SALIENT CHARACTERISTIC OF AN ANIMAL FOR QUALITY (SALIENT PROPERTY FOR ENTITY). This is how Wilcox's analysis is reflected in the entry model (Table 7).

The entry reflects Wilcox et al.'s (2003: 143–146) analysis of the way which this metonymy motivates a construction, namely, the sign "donkey / mule" in ASL. According to them, the metonymy SALIENT CHARACTERISTIC OF AN ANIMAL FOR QUALITY (SALIENT PROPERTY FOR ENTITY) also interacts with other metonymies in the motivation of the basic and figurative senses of this sign. These metonymies are those registered in the entry (Additional Remarks 11.2).

Finally, the entry completes Wilcox's analysis on the basis of the description of the "stubborn" sign in the ASL dictionary: Although this is not pointed out by Wilcox et al., a further metonymy must be taken into account: FACIAL EXPRESSION FOR PSYCHOLOGICAL ATTITUDE.

Table 7. *Stubborn.* Field 11.2[7]

11. Patterns of interaction with metaphor and with other metonymies:
   – In the conceptual motivation of metaphor or metonymy (introduction to Barcelona 2000 and Barcelona 2002 ("Clarifying…")):
      1. A metonymy motivates the existence of a metaphor (register only if the author mentions this point). YES
      2. A metaphor motivates the existence of a metonymy (register only if the author mentions this point).
   – In the conceptual motivation of the conventional form or meaning of a construction (register only if one or more authors studying the metonymy and cited in the entry have mentioned this point). YES
   ADDITIONAL REMARKS:
   – On 11.1: As Wilcox et al. (2003: 146) state, "the sign DONKEY / MULE, which iconically depicts a mule's large ear flapping downward, also means 'stubborn'. This metonymy appears to motivate a more abstract metaphor in which the sharp, downward motion of the hand (what formerly represented the ear) is the source of a metaphorical mapping onto an abstract target domain of stubbornness or refusal to act. This metaphor itself seems motivated by a metonymy suggesting that a sharp, tense movement downward (think of how someone might move her head while she refused to do something), the external behavioral response, stands for the internal emotion or attitude (Barcelona 2000)".

   This ASL metaphor might be called STUBBORNNESS IS A SHARP DOWNWARD HAND MOTION.
   – On 11.2: To the extent that this metonymy motivates the metaphor described above, it also motivates the further figurative extension of the DONKEY/MULE sign into the "stubborn" sign in ASL.
   The metonymy, according to Wilcox et al. (2003: 143–146), also interacts with other metonymies in the motivation of the basic and figurative senses of this sign:
   THE SHAPE OF THE HANDS FOR THE OBJECT
   THE HANDSHAPE STANDS FOR THE PROTOTYPICAL FEATURE OF THE ENTITY (mule's ear)
   PROTOTYPICAL ACTION OF THE HAND STANDS FOR OBJECT'S PROTOTYPICAL ACTION
   THE OBJECT'S PROTOTYPICAL ACTION (bending fingers downward with a double movement) STANDS FOR THE ENTITY (mule)
   THE CHARACTERISTIC FOR ENTITY (Wilcox et al., 2003: 146)
   THE ENTITY FOR QUALITY (Wilcox et al., 2003: 146).
   On the other hand, according to the web-based ASL University (http://lifeprint.com/asl101/pages-signs/s/stubborn.htm), the signer's facial expression must be serious-looking (FACIAL EXPRESSION FOR ATTITUDE): if it is smiling or neutral or if the hand is not moved twice, then the literal 'donkey' sense is signed.

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7.   Entry elaborated by Ana-Laura Rodríguez-Redondo and revised by Antonio Barcelona.

To the extent that the SALIENT CHARACTERISTIC OF AN ANIMAL FOR QUALITY metonymy motivates the metaphor described in the Additional Remarks (11.1) of the entry, it also motivates the extended figurative sense of the DONKEY/MULE sign in ASL (Figure 4), as can be observed in the representation of the sign, where the movement of the hand is made twice, and the facial expression, a smile, differs from the previous one, a serious expression:[8]

DONKEY:

Figure 4. ASL sign for the meaning 'donkey'

Finally, subfield 11.3, registers the patterns of interaction observed in discourse understanding. In other words, here we record any combination, with an effect on discourse understanding or inferencing, between the metonymy under analysis and one or more metaphors or metonymies present in the example(s) offered by the author. These we record and analyze in the entry also even when the author makes no mention of them. This phenomenon is exemplified with subfield 11.3 of the entry for the metonymy FAILURE OF THE SOFT STRATEGY (IN A CONFLICT) FOR THE APPLICATION OF THE TOUGH STRATEGY (Barcelona 2003: 11–41).

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8.   Source: http://www.lifeprint.com/asl101/pages-signs/d/donkey.htm.

Table 8. *Kindness fails*. Subfield 11.3[9]

11. Patterns of interaction with metaphor and with other metonymies:

11.1 In the conceptual motivation of metaphor or metonymy (Introduction to **Barcelona 2000** and **Barcelona 2002** ("Clarifying"): NO

 1. A metonymy motivates a metaphor (register only if the author mentions this point).
 2. A metaphor motivates the existence of a metonymy (register only if the author mentions this point).

11.2 In the conceptual motivation of the conventional form or meaning of a construction. NO

11.3 In discourse understanding: Indicate any combination observed between the metonymy under analysis and one or more metaphors or metonymies in the example analyzed by the author, whether or not the author states this. YES

ADDITIONAL REMARKS:

On 11.3 According to the **Barcelona 2003**: 11–41, in the interpretation of the Speaker B's utterance (the inference that Speaker B believes in the use of clubs to hit young men only when kindness fails), this metonymy interacts with other metonymies to which it is chained:

– "First, there is a PART OF A FRAME FOR A WHOLE FRAME metonymy. This metonymy is triggered by the word *kindness*, i.e. KINDNESS, a possible behavior in the HUMAN INTERACTION frame, activates the whole frame. The HUMAN INTERACTION frame contains the CONFLICT frame as a sub-frame.

– Second, the words *when kindness fails* trigger another PART FOR WHOLE metonymy but this time within the CONFLICT frame, which is already implicit in the HUMAN INTERACTION frame: STRATEGY (IN A CONFLICT) FOR CONFLICT. Acting with kindness towards an opponent is one of the possible alternative strategies in a conflict. The mention of the strategy, and what is more, of the possibility that it may fail, invokes the whole CONFLICT frame.

– Third, once the CONFLICT frame is activated, *failure* of the "soft" strategy (acting with kindness to the opponent) invokes the application of the "tough" strategy (exerting violence on the opponent), because this failure is the condition for the application of the alternative strategy. The underlying metonymy is a CONDITION FOR RESULT (PART FOR PART) metonymy within the CONFLICT frame: THE FAILURE OF THE SOFT STRATEGY STANDS FOR THE APPLICATION OF THE TOUGH STRATEGY.

– Fourth, once the APPLICATION OF THE TOUGH STRATEGY subframe is activated, of the two lexemes conventionally sharing the phonological sequence /klʌb/ (and the morpho-graphological sequence <*club*>), the SOCIAL INSTITUTION sense is discarded, and the lexeme with the sense PHYSICAL OBJECT USED FOR HITTING is activated. This lexical and semantic shift is achieved on the basis of INSTRUMENT (club) for ACTION (hitting with a club), and on the basis of the metonymy TYPE (i.e. using a tough strategy) FOR TOKEN (hitting the opponent). Hitting the opponent is one of the possible tokens of a tough strategy. The re-interpretation of *clubs* thus brings about the specification of the tough strategy as the use of clubs (sticks) for hitting" (Barcelona 2003: 93).

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9. Entry elaborated by Isabel Hernández-Gomariz and revised by Antonio Barcelona.

For a better understanding of the metonymy at issue, I include the example in which it operates:

(1) • SPEAKER A: *DO YOU BELIEVE IN CLUBS FOR YOUNG MEN*?
    • Speaker B: *Only when kindness fails.*

In Example (1), the metonymy FAILURE OF THE SOFT STRATEGY (IN A CONFLICT) FOR THE APPLICATION OF THE TOUGH STRATEGY is present in the (probably intentional) misunderstanding of speaker B, who interprets the term *club* as a stick and not as a social institution. In this case, four different metonymies have been suggested by Barcelona to guide the inference that Speaker B believes in the use of clubs to hit young men only when kindness fails, as we have seen in Table 8, Additional Remarks. One of them is the metonymy registered and systematically analyzed in the corresponding entry and this is why subfield 11.3 is completed with the option YES. On the other hand, this and the other metonymies mentioned in Table 8 are chained to each other, and their chaining has also been registered in Field 9 (Metonymic chaining) of the entry.

5.   Summary and conclusions

The discussion of Fields 8, 9 and 11 of the database entry that is being currently developed throughout the project FFI2012–36523 concludes the exposition and discussion, started with Barcelona's chapter and continued in Blanco-Carrión's one, of all the parameters that we are using to characterize any given metonymy. In this last chapter I have tried to introduce and exemplify the co-textual and contextual factors leading to the operation of metonymy, the chaining of metonymy with metaphors or with other metonymies, and the patterns of interaction in which a metonymy may be involved.

Antonio Barcelona first advanced the notion of *metonymic triggers*, as used in our database, in his "technical annex" for Project FFI-2008-04585 (the project that preceded Project FFI2012-36523). As stated above, the term *metonymic trigger* is used in a very different sense elsewhere in the literature (usually as somehow equivalent to *metonymic source*). However, Mario Brdar (2007) and Ruiz de Mendoza and Hernández-Gomariz (2001) have sometimes discussed the existence of "constraints" on metonymy, i.e., factors that block the application of the metonymy; these factors can also be registered in Field 8.

Metonymic triggers have proven to be essential to the operation of metonymy. Co-textual factors, easily identifiable, consist of all the linguistic and textual factors that are present around the metonymy, facilitating its operation. Nevertheless, these factors have not been found in isolation yet in our database: they are normally accompanied by other factors (that we have termed "contextual") which, despite being

more difficult to identify, cannot be ignored: we are referring to those elements such as the cultural context in which the metonymy is used, the communicative context, the aim of the speaker, the frames involved, and other factors that are key for the successful operation of the metonymy involved. In this chapter, we have stated how the analysis of some examples by other authors – such as Radden in his analysis of the CONTAINER FOR CONTENT metonymy in "*The bottle is sour*" – differ from our analysis, in this case, due to the prominence that we give to the role of the predicate as a co-textual factor.

Metonymic chaining is another phenomenon that needs to be taken into account when analyzing any metonymy: thanks to chaining, several metonymies operate in the same context, and their successful operation will influence the functioning of the rest. Thus, both the speaker and the hearer must be able to identify and understand the relevant metonymies, as well as to comprehend the relationship between them, to achieve effective communication. Metonymic chaining helps the listener to infer in context the whole pragmatic meaning of a given piece of language. In this same volume, Panther and Thornburg speak about indirect speech acts (as in the example "*I can make you some lunch*", understood as an indirect offering), demonstrating that metonymic chaining is crucial in the comprehension of this kind of speech acts. More examples of this phenomenon can be found in Blanco-Carrión (this volume) and Pannain (this volume).

Finally, the patterns of interaction involving metonymies are also important: as our analysis shows, they can be involved in the conceptual motivation of a metaphor or another metonymy; they can motivate in part the conventional form or meaning of a construction; or they can have an influence discourse understanding. In the first case – the conceptual motivation of a metaphor or another metonymy – we have contemplated two different possibilities: a metonymy motivating the existence of a metaphor or a metaphor motivating the existence of a metonymy. In my analysis of over 300 entries, I have not found any example of this second possibility, which seems to be quite revealing.

In conclusion, all the aspects of metonymy featured in the various fields of the database have proven to be relevant to describe, classify and understand how metonymy works. Studies on metonymy normally highlight two or three of these aspects depending only on their main purpose. For example, studies on the role of metonymy in grammar focus on the constructional meaning and forms involved, or on the grammatical process affected (anaphora, ellipsis, etc. (Blanco-Carrión, this volume)), but may not look at other aspects such as triggers or metonymy hierarchy (Barcelona, this volume). This is understandable because those aspects lie outside the scope of these studies. This database, by contrast, provides a unified analysis of each metonymy from a rich variety of perspectives. Through this comprehensive project, we aim to contribute to the refinement of the cognitive theory of metonymy and to deepen our understanding of this complex phenomenon.

Acknowledgments

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Discussion of some general properties of metonymy

CHAPTER 4

Some contrast effects in metonymy

John Barnden
University of Birmingham

This chapter analyses important, variegated ways in which contrast arises in me-tonymy. It explores, for instance, the negative evaluation of the target achieved in *de-roling*, where the source chosen is a target feature that is largely irrele-vant to the target's role in a described situation, therein contrasting with other target features that would have been more appropriate. This form of contrast, amongst others, can generate irony, so that the chapter elucidates some of the complex connections between metonymy and irony. It also explores the mul-tiple roles of contrast in transferred epithets, especially as transferred epithets can be simultaneously metonymic and metaphorical. Finally, the chapter makes contrast-related suggestions regarding the metonymy database described by Barcelona and colleagues in other chapters.

Keywords: de-personalization, evaluative effects, highlighting, irony, metaphor, transferred epithets

1. Introduction

We will be examining various roles that contrast plays in metonymy. We will be looking at various types of contrast, including but going beyond that between the source and target of a case of metonymy. It is unusual to focus on contrast as a theme in its own right when analyzing metonymy. A notable exception is the use by Herrero Ruiz (2009) of contrast as a common theme around which to discuss various figures, including metonymy, irony, metaphor and hyperbole. Otherwise, specific contrast issues have mostly arisen piece-meal in the study of other phenom-ena. For instance, Herrero Ruiz (2011), Littlemore (2015), Panther and Thornburg (2008), and Voßhagen (1999) have, between them, looked at antonymy as a case of metonymy, oxymoron as involving metonymy, and ironies associated with meton-ymy. Also, Burkhardt (2010a,b), Gradečak-Erdeljić and Milić (2011), Herrero Ruiz (2011), Littlemore (2015) and Pauwels (1999) have considered the involvement of metonymy in euphemism and dysphemism, which can be regarded as relying

on contrast. Radden (this volume) makes the interesting point that when metonymy rests on "external" contiguity it may need to be accompanied by considerable source/target dissimilarity (contrast). The notion of (contextual) incongruence discussed by Panther & Thornburg (this volume) is an important type of contrast not specifically addressed in the present chapter, though related to the issue of source/target contrast.

In a recent book, Littlemore (2015) comprehensively reviews types and functions of metonymy, and, while she does not select contrast as an explicit theme, she discerns contrast in many aspects of metonymy. The present chapter will largely use that work as a launchpad but will not represent all the ways in which contrast features there. It will instead contribute certain refinements and new angles. Also, it will address contrast in transferred epithets, which can be argued to involve metonymy. An example of a transferred epithet is "idle hill"[1] when this refers to a hill on which someone has had a major bout of idleness.

This chapter's contributions are often to do with evaluative functions of metonymy that are related to contrast. Evaluative functions of metonymy have, as Littlemore (2015) points out, been relatively overlooked until recent years, and it is encouraging to see the attention to evaluation by Pannain (this volume) and Portero-Muñoz (this volume). The relative neglect may partially explain why contrast itself has not been addressed more explicitly and comprehensively. Also, contrast is dissimilarity, and metonymy is almost always thought not to rest on similarity, leaving metaphor to grab similarity as its turf; so, the fact that source and target in metonymy are dissimilar has been tacitly regarded as unremarkable. However, I have previously argued (Barnden 2010) that certain types of metonymy do importantly involve similarity. Accepting this then encourages one to consider also the distinctive contributions that its opposite, contrast, can make.

The work in Barnden (2010) is the start of an exploration of fundamental dimensions that underlie types of figurative expression. The guiding thesis is that it is these underlying dimensions that are scientifically important, not so much the traditional figuration types such as metaphor, metonymy, irony, hyperbole, etc. These types may just be ill-defined, fuzzy, overlapping regions in the space spanned by the dimensions. Barnden (2010) did not consider contrast, but contrast is of course fundamental to various traditional figures such as irony, antonymy and oxymoron. Contrast is also important for metaphor, as is intuitively obvious, but the point is given flesh and bite by work such as Birgisson (2012), Fass (1997) and Mac Cormac (1985) on how particular points of dissimilarity can be important for a metaphor's effect. By adding contrast to the multi-dimensional analysis of figures,

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1.   In the poem *A Shropshire Lad* by A. E. Housman.

we stand to gain new insights into the way different figures relate to each other as well as into how metonymy itself works. The concern with contrast goes beyond the rich dimensional analysis that Peirsman and Geeraerts (2006) apply to metonymy, as their dimensions do not focus on contrast.

The issue of contrast in metonymy is related to but should not be confused with the question of how metonymy interacts with constructs such as domains, domain matrices, semantic fields, idealized cognitive models, etc. (see Barcelona 2002 for some of the complex issues here.) Two elements in a single cognitive domain can be of wildly different qualitative types. For example, the journey domain could be taken to contain paths, people, thoughts, speeds and times. Conversely, two very different domains could share a type of element: the love-relationship and journey domains both involve people. The question of how much and in what way two things contrast with each other goes well beyond the question of whether they are in the same domain or not.

The structure of the chapter is as follows. Section 2 sets the stage by discussing the wide variation there can be in the degree of contrast between source and target in metonymy. Section 3 considers the role of contrast in some evaluative functions of metonymy. It looks at the conditions under which de-personalizing metonymy is negatively evaluative, argues that a particular sort of contrast is central to a phenomenon of "de-roling" involved in some negatively evaluative metonymy, and also shows various types of contrast in forms of irony associated with metonymy. Section 4 analyses transferred epithets as a form of contrastful metonymy and also discusses metaphorical aspects that some transferred epithets have. Section 5 summarizes the main claims and issues of the article. It also comments briefly on how the considerations in the article could possibly affect the development of the metonymy database model set forth by Barcelona (this volume), Blanco-Carrión (this volume) and Hernández-Gomariz (this volume), or could at least affect the behaviour of someone entering information into the database.

In this chapter I will usually not characterize metonymic examples as falling within particular general metonymic schemata that other researchers have identified, with a few exceptions such as PART FOR WHOLE. This is because precise classification within such schemata does not usually affect the issues in this chapter.

2. Degrees of source/target contrast in metonymy

Many important types of metonymy involve a large qualitative contrast between source item and target item, in the sense of their being intuitively very different types of thing, whereas in other cases there is much weaker contrast. The examples below give an idea of the range. There is no claim at this point in the article that

the contrasts play an important communicative function in the examples (although sometimes they do) – that is the topic of later sections. In our first example,

(1) "I'm parked out back"   (Nunberg 1995; and see Littlemore 2015: p. 57)

meaning that the speaker's car is at the back of the car park, we have a metonymy going from a person to a car – two very different types of thing.
    In

(2) "John ate three bowls"

we are likely to have a metonymy from bowls to their contents, for example, tortilla chips. In

(3) "England lost the [football] match"

we have a metonymy going from a country to a football team. In

(4) "England's bid is now worried about the impact of an investigation into FIFA by the BBC's *Panorama*"[2]

we have a metonymy from a highly abstract object, a bid to host the football World Cup, to people involved in the bid. In

(5) "Steam irons never have any trouble finding roommates. … Stereos are a dime dozen. … [O]ur electric typewriter got married and split …" [3]

we have metonymies from inanimate physical artefacts to people who supplied those artefacts.
    In some of these examples there is an obvious and large qualitative difference in type between the source and target, such as between a bid and the people preparing the bid. But the difference in some cases is not quite as straightforward as it might appear. In (3), we might think of England as largely made up of its residents, and of course a football team is (or includes) a set of people. So source and target are qualitatively similar to the extent of being partially composed of people. In (2), both chips and bowl are dry, rigid, inanimate physical objects, not very different in size, although they have different levels of fragility and only one is a foodstuff.[4]

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2. Heard on BBC News at Ten, BBC1 TV channel, UK, 18 November 2010.

3. Example cited by Gibbs (1994), Warren (2006: p. 32) and others. Gibbs (1994) draws it from a humorous passage by Erma Bombeck.

4. But note: in some restaurants a bowl is fashioned from a foodstuff such as tortilla-chip material.

But, some important types of metonymy have a much lower degree of contrast. Consider first the following:

(6)   "Pass me a bowl".

Suppose that this is a command to pass a bowl of tortilla chips. We now have a metonymy going from a bowl to a *bowl-plus*-tortilla-chips, rather than *just* to the tortilla chips as in (2). Example (6) can therefore be seen as using PART FOR WHOLE metonymy. Clearly, the inclusion of the source bowl within the target bowl-plus-chips gives confers considerable similarity on the source and target: the bowl without the chips is similar to the bowl with the chips in that they both include a bowl, and indeed the very same bowl (see more on this type of situation in Barnden 2010). A low degree of contrast arises similarly in

(7)   "The coffee break is at 11 a.m."

This would tend to mean that the break where you can have coffee or tea or water or … is at 11 a.m.: we have a metonymy from one type of sustenance to a broader class. It is therefore a subtype-for-type metonymy (hence synecdoche: Burkhardt 2010a, Nerlich 2010). The degree of contrast depends on how much we broaden the class: including cakes would amplify the contrast.

Fairly low contrast can arise in some forms of representational metonymy (Warren 2006: 48–49), where a representation stands for what is represented, or vice versa, as in the following two examples.

(8)   "Sean Connery defeated the evil genius once again"

meaning that James Bond, played by actor Sean Connery, defeated the genius. We have a metonymy from actor to drama character.

(9)   "My boss has scheduled our meeting for 9am"

meaning the speaker's boss's secretary has scheduled the meeting (with the boss) at 9am. Here we have a metonymy from person to controlled person.

Although of course Sean Connery and James Bond are very different types of people, the source and target items are both people at least, and furthermore Connery's filmed behaviour is outwardly similar to Bond's fictional behaviour. Less obviously, the boss and the secretary are also similar to the extent that both of them are people who serve particular aims of the organization in question and who (probably) work in close physical proximity to each other.

Person-to-person metonymies do not have to be representational, as shown by the following ad-hoc metonymy uttered in my academic department:

(10) "Xin Wang is actually me".

In my department the progress of a PhD student, such as Xin Wang, is formally monitored by a member of staff different from the student's supervisor. The speaker of (10) meant that he was Xin Wang's monitor. So there is an ad hoc metonymy from student to monitor. (Sentence (10) included "actually" because it corrected someone else's statement about who Xin Wang's monitor was. The word does not suggest literal identity in this case).

Low source/target contrast arises when a current state metonymically stands for a future or potential version of the state, as in

(11) a. "I'm out of here"
       b. "Mary is the new boss"

meaning that the speaker will soon be out of the current location and Mary will soon be the new boss. (Cf. an example of ACTUAL FOR POTENTIAL in Littlemore 2015: 11).

We should also note that a perception of contrast is highly dependent on context, just as a perception of similarity is. Context affects which aspects of the two things are relevant. Also, two things of broadly the same type may be strongly contrasting in some respect. For instance, one's friends and enemies are similar to the extent that they're other people with some connection to oneself, but of course in many contexts there will be a large perceived contrast. This observation is relevant to an ironic statement such as "You're a real friend" meaning that the addressee is actually an enemy in some sense.

The question now is: does the degree of (context-dependent) contrast play a significant role in its own right in metonymy, or is it purely an incidental side-effect of other factors? It might be thought that what is important is purely the type of metonymy involved – part/whole, subtype/type, representational, artist/artwork, etc. etc. – with the particular degree of contrast arising having no semantic or pragmatic significance in itself. In following sections I suggest that contrast is in fact not purely incidental. We will also see that types of contrast other than that between source and target are important.

3.   Contrast and evaluation

This section's main contrast-related contributions concern (a) "de-roling", an important way in which metonymy can have a demeaning effect, and (b) a form of irony that de-roling provides. I will lead into de-roling via the phenomena of euphemism, dysphemism and de-personalization, and on the way make a proposal about when and why de-personalization has a negative effect.

3.1   (De-)emphasis and de-personalization

Metonymy is widely viewed as often serving to highlight, i.e. relatively emphasize, some aspect of the target (e.g. Black 1993; Lakoff and Johnson 1980: 36; Panther and Thornburg 2007; Radden and Kövecses 1999; Littlemore 2015: 66–68). For instance, a sentence "The BBC believes that …" emphasizes the actual believer's/s' role in the BBC. The point of such a sentence is not just to mention that certain people believe the thing in question, nor even that certain people who just happen to work for the BBC have that belief, but rather that certain people *in their capacity as qualified representatives of the BBC* have the belief (cf. similar example in Lakoff and Johnson *loc. cit.*).

This illustrates the more general point that metonymy typically keeps the source-target linkage itself as part of the meaning of the utterance. Barnden (2010), Dirven (2002), Radden and Kövecses (1999), and Warren (2006) offer different versions of this feature, which I call *link survival*. It plays a central role in Radden (this volume).

In emphasizing some aspects of the target, metonymy de-emphasizes others. This is key to some euphemisms (Burkhardt 2010a,b; Gradečak-Erdeljić and Milić 2011; Herrero Ruiz 2011; Littlemore 2015; Pauwels 1999). Littlemore gives the example of "restroom" for what we might baldly call a body-waste discarding facility. "Restroom" emphasizes the matter of having a rest from normal activities in the world, and draws the mind away from distasteful specifics. The word can be analyzed as involving a metonymy from resting to the full activity that takes place in a restroom (this is a sort of PART FOR WHOLE metonymy). Clearly, such euphemisms rely on a contrast of a certain sort between source and target. The contrast is as regards how immediately positive or negative the source and target are (cf. Littlemore 2015).

Another important special case of (de-)emphasis in metonymy is de-personalization, where the target is a person but attention is drawn away from personal qualities in general, or from the target's particular personal qualities. This has been discussed by others, including Littlemore (2015), but the following discussion will contribute two elements: in this subsection, clarification of when and why de-personalization is negative; and in the next subsection, elucidation of a related phenomenon that I call *de-roling*. *Caveat*: in my use of the term, "de-personalization" is a neutral, technical term concerning any sort of de-emphasis of personal features, and does not imply that the speaker is necessarily adopting an unduly impersonal stance to the person in question.

De-personalization happens to varying degrees in Examples (3, 4, 5, 9, 10). In (9) and (10), the source is itself a person (the boss or the student's monitor, respectively), so what is de-emphasized is the particular personal qualities of the target. But in (4, 5), the sources are not people, but instead a World Cup bid or inanimate

artefacts such as steam irons, so attention is, furthermore, drawn away from personal qualities in general, so that the de-personalization effect is stronger. Still strong but a little less so is (3), because here the source, a country, may be considered to include people in its very nature. In brief, many cases of de-personalization involve a thoroughly non-person source, and here the qualitative target/source contrast contributes to the de-personalization effect. Some sources can include people – so that the effect is somewhat weakened – or can even be people – so that the effect is yet weaker.

(5) arguably shows an important evaluative effect that de-personalizing metonymy can have. Warren (2006) claims the speaker has a mercenary attitude towards the people referred to. More generally, if Warren is right, we can say that those people are being demeaned – the speaker is not regarding them as rounded people in their own right, but only important insofar as they have contributed to the economy of the rented apartment.

But Warren's claim is not self-evidently correct, and perhaps the speaker holds no such mercenary attitude, or the hearer does not discern or adopt such an attitude. De-personalization is one pressure towards, but not a definitive cause of, a demeaning evaluation. I propose that a key extra feature that exerts further pressure towards such evaluation is information from discourse that suggests that the speaker *should* be regarding the target person(s) in a rounded, personal way. For instance, if (5) were uttered in a context in which the speaker was friendly with the roommates, then the metonymy would probably convey a demeaning attitude (or at least a humorous pretense of such an attitude). However, in (3, 4, 9, 10), there is no reason to expect the speaker to have, in the situation at hand, any attitude to the target people other than is attendant upon the role they serve towards the source, i.e. as players for England, assistant to a boss, etc. Hence, these examples do not come over as bearing a demeaning evaluation.

Thus, we see a new type of contrast that can be important in metonymy. The first type was the source/target contrast in cases of de-personalization. The new type is *a contrast between the attitudes (or lack of them) suggested by the speaker's choice of metonymic source and the attitudes the speaker is contextually expected to hold towards the target*. In the case of (5), when the speaker is or was friendly with, or should have been friendly with, the roommates, the contrast would be between the lack of friendly speaker-attitudes directly associated with the source and the expected friendly attitude of the speaker.

It should also be recognized that de-personalization can be positive. Littlemore (2015: 33) gives the following example of metonymy:[5]

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5. The classification of the example as de-personalizing is my own, not Littlemore's.

(12)   "Number 10 refused to comment"

and points out that the tradition and heritage associated with the address 10 Downing Street in London transfers, to some extent, to the particular people such as the UK Prime Minister who are based at that address.

But the phenomenon does not rely on the use of famous locations or particularly noteworthy personages. Consider:

(13)   "The Daily Mirror believes it has solved the mystery [of the 'Essex lion'], reporting that the creature was none other than a ginger cat named Tom".[6]

Arguably, to say that "The Daily Mirror believes" causes importance and seriousness to be attached to the belief. Beliefs of random individuals should be treated with caution. In emphasizing the people's role with regard to an important, unified entity, the newspaper, (13) gives the belief extra importance and suggests a unity of thought amongst the editors, owners, etc. of the newspaper.[7]

3.2   De-roling

In the de-personalizing cases we have been discussing, the target persons' important roles in context (being a member of a World Cup bid team, being a provider of a steam iron, etc.) are nevertheless made prominent and are the bases of the metonymies. So at least the target people are being shown respect to that extent, even in cases where there is a demeaning attitude. However, I propose that the reason that some de-personalizing metonymy has a negative effect is an additional phenomenon of *de-roling*, where the source *de*-emphasizes the important relevant role of the target in context. De-roling can occur separately from de-personalization, but I will discuss it here as a supplement to de-personalization.

First, cases of dysphemism can be de-roling. Consider the mentions of crooked noses in the following:

(14a)   "I finished school Friday … but ms Mc Crooked nose said i have to come back until i actually walk across stage … Yeah a bitch mad …".[8]

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6.   http://www.bbc.co.uk/news/uk-19394219 (accessed on 11 August 2014).

7.   Lakoff & Johnson (1980: 36) makes the point about importance, but not the point about unity of thought.

8.   https://twitter.com/Sum12mer, accessed 21 August 2014.

(14b)   "The boy sprinted in front and spun around. 'Take a good look, Inyenzi,' he said. His nose veered crookedly to one side, giving his face an off-balance look. … Six runners remained for the 800m final, including three of the four Kigali boys. Crooked Nose mouthed something to Jean Patrick that he didn't catch. Jean Patrick looked him in the eye and laughed. Coach had instructed him to let Crooked Nose win the semifinal. It took every ounce of willpower, but he did it. Now came revenge".[9]

Assuming that having a crooked nose is irrelevant to being a teacher or running races, the mentions of crooked noses in (14a,b) de-emphasize the significant role the person actually plays in the situation – i.e., the role of being a teacher or an important runner in the races. The de-roling amplifies to some extent the dysphemism – the negative, demeaning quality inherent in emphasizing a (potentially) negative feature of appearance.

However, a de-roling source need not be a negative feature of the target. Suppose (14b) had instead referred to one of the girl runners in the story as Pretty Nose:

(15)   "Pretty Nose mouthed something to Jean Patrick that he didn't catch".

We would still have de-roling and a consequent demeaning effect, even though having a pretty nose may itself be regarded positively by all concerned.

The demeaning-through-de-roling effect of Crooked Nose and Pretty Nose are arguably not very marked in (14b) and (15), because running a race is at least a physical activity, and noses are bodily features, albeit not related to running. However, suppose now (15) were about a female philosopher in a committee meeting. Here the metonymic source is entirely unrelated to the person's role in the committee, greatly boosting the demeaning effect. A similar point applies to (14a).

Another example of de-roling is

(16)   "I don't know what upstairs would think of that".   (Littlemore 2015: 75)

This was said by workers in a child nursery. The reference of "upstairs" is to the nursery managers, given that they have offices upstairs. Again, having an office upstairs contributes little if anything to a manager's actual functions.

Consider now the metonymic use of the noun "suit" to mean a corporate manager, FBI agent, government official, etc. (see also Littlemore, 2015: 10, 154). Such people are stereotypically thought to be soberly dressed in suits when at work, and the "suit" metonymy is appropriate in contexts where other people are more informally dressed. For example:

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9.   On http://www.runnersworld.com/rt-miscellaneous/running-rift-800m?page=single, accessed 20 August 2014. It is an excerpt from the novel R*unning the Rift: 800m* by Naomi Benaron.

(17)   "Funny this thread popped up. Today as I sat in Paradise Park with my [boy-
friend] for ever just enjoying everything and relaxing, a bunch of suits walked
into the planter right behind us pointing to the hidden fountains…pointing
to the boxes in middle of planter…and one had a binder and in it was a map
of Paradise Park with the colored sections".[10]

The use of "suit" de-emphasizes the person's salient role as some sort of offi-
cial. Instead, the source chosen is something that is only an incidental, largely
non-functional accompaniment to that role. The suits do not contribute to the role,
other than through serving to convey the role and its status to onlookers. Thus, it is
very different from saying something like "The FBI walked into the room" where the
source explicitly emphasizes the relevant role of the person/people being referred to.

Because of the de-roling, it is plausible that the suit metonymy conveys negative
affect such as a degree of ridicule. The speaker is refraining from according respect
to the target person even with regard to their important role in the situation. There
is a tinge of ridiculousness about focusing on a peripheral aspect of the people such
as their clothing.

Nevertheless, "suit" can be metonymically used in situations where the wearing
of a suit is indeed role-relevant. Consider

(18)   "A whole line of 'young humourless suits' walked into the theatre".[11]

Nearby, the document contains the following explanation:

> Another factor that affects the quality of programming is the fact that the big net-
> works are … run by MBAs instead of people with creative credentials. … [A]ctors
> and directors refer to these folks as 'the suits'.

Plausibly, the actual suits, which are contextually implied to be conventional, con-
servative items of clothing, are regarded as symptomatic of the corporate executives'
lack of creativity. So the source item is indeed a relevant characteristic of the target,
intimately tied up with the role the executives do play in the situation at hand. Thus,
the negativity of the metonymy is not so much now from de-roling – through the
choice of a role-*irrelevant* source – as from dysphemism consisting in emphasis on
a *relevant* but negative characteristic of the people referred to.

In general, metonymy can involve some mix of dysphemism and de-roling de-
pending on the intensity of role-relevance of the source and its degree of negativity
in context. Littlemore (2015: 83) discussed the slang use of "stiff" to mean a corpse

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10. http://micechat.com/forums/disneyland-resort/136935-world-color-seating-chart-2.html,
accessed 21 August 2014.

11. http://changingchannels.org/pages/articles/the-tv-business/corporate-suits.php, accessed 29
July 2014.

as dysphemism. However, there is a case for saying that it is also negative because of de-roling. Stiffness is irrelevant to the person's roles as a recently-deceased member of a family and community. It would not have mattered to that role if the body had *not* been stiff.

Antonio Barcelona (p.c.) has suggested that one should consider whether extra complexity in the array of metonymic patterns is caused by the distinction implied by this chapter between (i) irrelevant properties such as "stiff" as a source, with negativity coming from the de-roling inherent in the *irrelevance*, and (ii) relevant properties such as "pea brain" as a dysphemistic source, with negativity coming from negative features of the way the source is *relevant* (namely, having a small brain supposedly causes one to be unintelligent). One could argue that while both metonymies conform to a pattern such as PROPERTY FOR ENTITY, it is useful to consider subpatterns such as, perhaps, IRRELEVANT PROPERTY FOR DE-ROLED ENTITY and RELEVANT NEGATIVE PROPERTY FOR DEVALUED ENTITY. But the alternative that this chapter advocates is to analyze the question of (ir)relevance as a contextually sensitive and graded pragmatic factor.[12]

The phenomenon of de-roling once again introduces a new type of contrast beyond source/target contrast. The new type is *a contrast as regards degree of relevance between the metonymic source chosen and the actually relevant role of the target*. In some cases, the relevant roles could have led to more appropriate sources, such as "the FBI" instead of "the suits" when referring to FBI agents.

3.3   Irony through de-roling and other means

De-roling can constitute a form of irony. Precisely because it would be normal to use a source item that was genuinely role-relevant in context, to use a role-irrelevant source item is tantamount to saying (ironically) that suits or being upstairs make a key contribution to what the FBI agents, managers or whatever actually do. An ironic contrast is drawn between the suits or being upstairs and genuinely key aspects of agents, managers, etc.

This type of irony is outside the interesting array of types of metonymy-related irony covered by Littlemore (2015). Those types of irony constitute further ways in which contrast operates in metonymy. I will now survey Littlemore's illustrations of irony. All of course involve contrast, but I attempt to go a little further by classifying the type of contrast involved. Page numbers are all implicit references to Littlemore (2015).[13]

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12. Terms of a type similar to "pea brain" are analysed by Barcelona (2011) and Portero-Muñoz (this volume) in terms of metonymy and metaphor.

13. The explanations below of ironicity of the examples borrow heavily from Littlemore, but there may occasionally be differences of detail, or omissions of detail that she provides.

(19)   "What those boys need is a good handbagging".

(p. 12, 29; from Bank of English)

The handbagging refers metonymically to bossy women hitting people, notably men, with handbags. Plausibly there is an ironic contrast between the handbag and stereotypical instruments of violence, and between the idea of a man suffering a beating by a woman and the stereotypical idea of a man being physically superior to a woman. Thus, the irony and contrast lie *between the metonymic target scenario and normally expected scenarios*. This is different from the case of de-roling, where the contrast is between the source chosen and more role-relevant aspects of the target.

(20)   "[She was] wearing Primark".   (pp. 31–32)

This is hypothetical variant of an example found in the Bank of English: "If she had been wearing Dior and diamonds …". The producer name Dior is here being used metonymically to stand for clothes made by Dior, so we have an example of PRO-DUCER FOR PRODUCT metonymy. While this metonymic pattern can apply to any sort of producer or any sort of item, the particular template "wear + BRAND-NAME" is typically used with expensive, quality brands such as Dior. Thus, (20) could have an ironic effect, because Primark is a brand of low-cost, everyday clothing. The irony here again involves contrast between the metonymic target and something that would normally be expected. This sort of contrast arises also in:

(21a)   "The artefact turned out to be a plastic Biro with the words 'Barclays Bank' down the side".   (p. 32; from the Bank of English)
(21b)   "No doubt the hand of God is directing her Biro as she writes the Gospel According to Eileen".   (p. 32; from Bank of English)

Littlemore points to a (humorous or) ironic contrast between the product type, namely a cheap plastic pen, and more "serious" entities (as she puts it), such as God or the sort of things implied in context by the word "artefact". In the case of (21b) I would say that the contrast is more exactly between the biro and the sort of writing implement one might hope that important religious documents are written with. This contrast is part of a more sweeping contrast between the type of document that Eileen is actually writing and the type of document that a God-directed Gospel would be.

(22)   "That's me all over isn't it".   (p. 33; from the British National Corpus (BNC))

Such a statement could be made with a connotation of self-criticism, when something one has done is an illustration of a general trend in one's behaviour. In the actual context of the example as given in the BNC, the speaker appears to be commenting critically on his having felt guilty about doing something even though he had permission to do it and therefore should not have felt guilty. The metonymy

is from "me" and to the speaker's general behaviour. Any irony lies in how that behaviour contrasts with what one (or the speaker) would normally hope for, so again it is a metonymy-target/normal-expectation contrast.

As a further illustration, Littlemore (2015: 76) mentions the fact that pieces of music can contain short, adapted extracts of other pieces of music. She says the extracts amount to metonymic and often ironic shorthand references to the other music (or its style). So the metonymy is between the extract as source and the referenced piece or style as target. I presume that the ironic contrast is between that target and contextually appropriate forms of music. For instance, suppose a sad piece of music P contains a happy lilting tune taken from another, happy, piece Q. That tune then contrasts with the type of music that is appropriate to P – namely sad music. The allusion to Q or its style could then be perceived as ironic. Of course there is also a contrast between the happy tune and P itself, but arguably it is the contrast with sad music in general that is the important point for the irony.

Littlemore (2015: 88) discusses the claim by Lakoff and Johnson (1980) that "pretty face" can be used metonymically to refer to a pretty-faced person (usually a woman). Littlemore presents evidence that the normal usage in English is in phraseology such as "she's not just a pretty face". The ironic element is presumably that stereotypically and prejudicially someone might take a pretty-faced woman not to be intelligent, etc. The ironic contrast is between the reality about the person mentioned and a stereotypical expectation (that some people might have) about pretty-faced people, so again we have a metonymy-target/normal-expectation contrast.

Littlemore (2015: 84–85) mentions the common usage of "our friends the" to connote that the things in question are in fact enemies or otherwise undesirable, as in saying "our friends the cockroaches". Such usages can straightforwardly be regarded as irony (cf. "You're a real friend", said ironically to someone). But if Littlemore is right to say that, at the same time, a FRIENDS FOR ENEMIES metonymy is operative, then we have a case of ironic contrast between source and target of a metonymy.[14]

(23)   "Grrrrrreen. Every Saab is green. Carbon emissions are neutral across the entire Saab range".   (p. 120)

This is from an advertisement discussed by Pérez Sobrino (2013). The advertisement shows a red car and arguably the "Grrrrrreen" sounds like a roar. The redness and roaring suggest a high-performance type of car that may be thought by a fast-car aficionado to contrast with an environmentally friendly car. So there is a

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14. Littlemore (2015) discusses other, non-ironic, cases of metonymy where there is a relationship of oppositeness between source and target. One is on page 82, where empty chairs round a table stand poignantly for people who used to occupy them. This involves an absence/(past-)presence contrast.

certain amount of irony targeting the attitudes of such aficionados. To the extent that the evocation of high-performance cars is a matter of metonymy, we again have a metonymic-target/normal-expectation contrast.

(24)   "What are [the French army] doing in Mali?"   (p. 85)

Littlemore analyses this as involving an EFFECT FOR CAUSE metonymy. She likens the example to the "What's that fly doing in my soup?" joke opening, where the real question is about why on earth the fly is in the soup, rather than with the question of what observable actions the fly is taking (such as swimming around); and there is an implication that the fly should not be in the soup. So there is a metonymic jump from the actions the fly is literally "doing" to the cause of them. It is this cause that is the speaker's actual interest. Similarly (24) can be taken to question the reasons for the French army being in Mali, with an implication that it should not be there. Those reasons (causes) are the metonymic target. So, there is a metonymic-target/normal-expectation contrast, in that the normal expectation is that the French army would not have reasons for being in Mali, or even that it would have strong reasons for not being in Mali.

However, Littlemore does not claim that this contrast is where the irony itself lies, which is instead a matter of both the literal reading of (24) (i.e., just asking neutrally what activities the army is engaged in) and the metonymic reading being possible in context. My own claim about what this amounts to is that the ironic contrast is between the two readings – or more precisely between the speaker being concerned about the source (the army's actions) and the speaker being concerned about the target (the reasons for the actions). The speaker is ostensibly just asking neutrally about the actions, but is in fact critically asking about the reasons. This contrast between speaker-concerns about the source (the actions) and target (the reasons) is importantly different from the contrast between the source and target themselves.

(25)   "It's not rocket science"   (p. 85)

This commonly used comment can serve to convey sarcastically that something is easy despite someone else (e.g. the addressee) finding it difficult. Littlemore suggests that there is a metonymy from something (rocket science) at the extreme end of the scale of things that are difficult to understand to a more central but still high part of the scale. The ironic contrast is then between that high part and the actual ease of the thing in question, so it is a metonymic-target/normal-expectation contrast.

In summary, metonymy relates in a variety of ways to irony, depending on the locus the contrast. In de-roling, the contrast is between the target feature chosen as source and more role-relevant features that the target has. But another possibility is that it can be between the target and (normal expectations about the)

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world context the target is embedded in (as in most examples above from (19) onwards). There can be ironic contrast between the metonymic source and target themselves (our friends the cockroaches). Finally, there can be contrast between being concerned about only the source and being concerned about the target (as in (24)). There may be further ways.

4. Transferred epithets

4.1   The phenomenon and its metonymic aspect

Some examples of transferred epithets are as follows:

(26) "Cozy exit ahead".[15]

This is about an upcoming highway exit from which a Hampton Inn can be accessed. That hotel chain characterizes their hotels as "cozy". Thus, the qualifier or epithet "cozy" is transferred grammatically to apply to the exit itself. But still, what is cozy is the hotel that you can reach via the exit, not the exit itself.

(27) "Tasty Thursdays is an entertainment series in the heart of Toronto that runs from mid July to late August. The event combines delicious food at great prices [from various restaurants] and free noon-hour concerts".[16]

The transferred epithet here is in "Tasty Thursdays". You cannot eat the Thursdays!

(28) "Talons in the petrified fur".[17]

The owl's talons have caught a prey animal such as a mouse. The animal, not the fur, is petrified in the sense of being very frightened.

(29) "Idle hill".[18]

This concerns a hill on which someone has spent an idle time.

(30) "Female prison".

(31) "Disabled toilet".

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15. Road sign seen by author on I-40 freeway in Oklahoma, USA, August 2011. The sign is visible on a Flickr page, http://www.flickr.com/photos/mr quan nguyen/1397325003/in/set-72157602053604078/. NB: "cozy" is the US alternative to British "cosy."

16. http://www.searchingtoronto.com/tasty-thursdays, accessed 11 August 2014.

17. In George MacBeth's poem *Owl*.

18. From a Housman poem – see footnote 1.

Expression (30) is often used for a prison for female prisoners. When (31) is on a sign concerning a nearby toilet, it does not indicate that the toilet is itself disabled in any sense, but rather that the intended users are "disabled".

Wang (2013)[19] collects several definitions of transferred epithets, and adopts the following: "a figure of speech where a modifier (an adjective, the present and past participles, prepositional phrase, nouns or descriptive phrase) is transferred from the modified it should rightly modify to another which it should not modify or belong under the condition that the [modifier and modified] are closely associated". I will follow this definition, but for simplicity I will mainly concentrate on adjective/noun, or possibly noun/noun, forms as in the examples above, as these appear to be the forms most commonly discussed.[20]

Discussions of transferred epithets often relate them to metonymy. For example, Wang (2013) sketches a blending-based treatment of transferred epithets that is cast partly in terms of metonymy. Indeed, it is plausible that transferred epithets do involve metonymy. In "female prison" there is a metonymic jump from the idea of a prison to the idea of prisoners in a given prison. Similarly, in "cozy exit" there are a metonymic jump from the exit to the Hampton Inn, and in "Tasty Thursdays" from (some) Thursdays to food available then (actually one can see a metonymic chain here, from Thursdays to a certain type of event happening then, and from the events to a central feature, the food).[21]

But there is a significant difference here from the way metonymy normally works. Consider the metonymy in "British prisons play football", when it means that teams of prisoners from British prisons play football. The teams are not only the target of the metonymy on "British prisons", but also the referents of that noun phrase from the point of view of providing a subject for the verb "play". But in "Female prisons are located mainly in the countryside", even though the metonymy is from prisons (in general) to prisoners, and the referents of "prisons" are the prisoners, the referents of "female prisons" (from the point of view of providing a subject for "are located") are the *prisons* themselves, not the prisoners. It is almost as if, after

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19. This author, Xinmei Wang, is not to be confused with the Xin Wang mentioned in Example (10).

20. In "female prison" and "disabled toilet," one could hold a debate about whether "female" and "disabled" are adjectives or nouns, given that they are frequently used as nouns. There is less pressure in the case of other examples above, even though for instance "the idle" is a possible non-elliptic noun phrase meaning idle people in general. But the issue is tangential to the present chapter.

21. A competing account is that the adjective is metonymic, not the noun. So the property of femaleness leads metonymically to some property that can apply to prisons. I believe this is ultimately a less satisfactory analysis, but will argue the case elsewhere. It would not fundamentally affect the contrast issues raised below.

taking the metonymic step from prisons-in-general to prisoners-in-general, and then selecting the female prisoners, there is a reverse metonymic step back from the female prisoners to female-containing prisons.

Clearly, other things being equal, a transferred epithet (in adjective/noun form) is the more striking the more that the adjective contrasts with the noun, i.e. the more the relevant domain of application of the adjective contrasts with the meaning of the noun. Wang (2013) analyses a transferred epithet example as achieving an artistic effect of "prominence" through contrast between adjective and noun.

In fact, Wang states that the literal meanings of the modifier and the modified must obviously conflict with each other. This is too simple. Many examples given of transferred epithets do not obey this restriction, or do so only partially or controversially; and furthermore it is not necessarily the literal meaning of the modifier that is operative in the transferred epithet in any case. A toilet can be literally disabled. The notion of petrification (biological material turning to stone in the ground) could apply literally to fur. But anyway the literal meaning of "petrified" is not the issue in the phrase "petrified fur", but rather a conventional metaphorical meaning (being very frightened). We will discuss metaphorical uses of the modifiers below.

But contrast between adjective and noun is certainly a feature of many transferred epithets. In "tasty exit ahead" (also seen by the author on a freeway sign), it is highly implausible that a freeway exit could be literally tasty. Thus, there is very large contrast between adjective and noun (when literally interpreted). This is even more so in the case of "Tasty Thursday". You could just about physically crouch down and lick the tarmac at an exit, but this is impossible with a Thursday. "Cozy exit ahead", is less striking than "tasty exit ahead" in that a freeway exit could, conceivably, itself be (literally) cozy, in the way it is laid out, in having pleasant greenery, etc. And "Scenic exit" would work as a transferred epithet describing an exit leading to a scenic area, but an exit itself could be scenic. Thus, even when the intention is not to apply the adjective literally to the noun, the possibility of doing so in principle reduces the level of contrast.

A complication is that "scenic exit" could be interpreted as meaning that both the exit itself and the area that it leads to are "scenic" in the *same* sense of that word. In such a case a simpler analysis is to decline to take the noun phrase as a transferred epithet at all, and just take there to be a PART FOR WHOLE metonymy on "exit", giving as target the exit plus the area that it leads to. Then, "scenic" just applies straightforwardly to the whole. But it is not clear that this alternative analysis would be natural for other examples, because it depends on being able naturally to regard the noun as designating a part of some relevant whole.

4.2   Metaphorical aspects of transferred epithets

We have seen that in "petrified fur" it is actually a conventional metaphorical meaning of "petrified" that applies to the implicit animal. And there seems to be no bar to non-conventional metaphorical meanings, or other sorts of non-literal meaning, to be used in this way. If someone has been metaphorically described as, say, "lemony" because of acidic things she has said, this non-conventional metaphor can then be used in the transferred epithet "lemony hill" if the person has been lemony on the hill. Nor is it just a question of metaphor. If someone is ironically described as "idle" when in fact she had a busy time on a hill, "idle hill" could be used as a transferred epithet relying on the contextually established ironic meaning.

But also, the adjective in a transferred epithet sometimes applies metaphorically to the noun as well as applying (literally or in some other way) to the noun's metonymic target. Note that "tasty" and "cozy" have broad metaphorical application. One common metaphorical meaning of "tasty" is that the thing in question is very pleasurable or satisfying (a movie can be tasty in this sense), and a common metaphorical meaning of "cozy" is that the thing in question is very beneficial and security-providing (a job or personal relationship can be cozy in this sense). Such meanings, and also more novel metaphorical meanings of adjectives, could generate meanings for adjective-noun combinations that are alternatives to their meanings as transferred epithets. For example, a "tasty exit", where the exit is still one off a highway, could merely be one that looks especially nice, and a "tasty Thursday" could *merely* be an especially pleasurable Thursday even when no food is involved. A "lemony" hill could be one that looks like a lemon, or gives one feelings of shocking refreshment, etc. I will use the term *direct metaphorical qualification* for an interpretation where a metaphorical meaning of the adjective is applied directly to the noun meaning (which may be of any sort, including metaphorical).

The link to this paper's contrast theme is that typically there is considerable qualitative contrast between the source and target of a metaphor, and directly pairing two such qualitatively contrasting things can invite an attempt at metaphorical interpretation.

Sometimes we can even interpret an adjective/noun combination simultaneously as a transferred epithet and as a direct metaphorical qualification. "Tasty Thursdays" could be interpreted to say that the Thursdays in question are very pleasurable, in ways not necessarily connected to food, *as well as* being times at which tasty food may be had. Indeed, given that in Example (27) part of the attraction is free concerts, this double meaning is a plausible one. This does not mean that the two meanings are on a par with each other – arguably the message concerning the tasty food is the primary one, and is the primary reason for choosing the term "tasty", whereas the other, directly metaphorical meaning is then just brought along for the ride.

Another case is (28). Here, it is plausible that the fur is petrified in the metaphorical sense of sticking up stiffly as well as the animal itself being very afraid. The fact that both the animal and the fur are petrified (in different senses, *both* metaphorical) where the state of the fur is the result of the fearful state of the animal gives an especially unified, rich interpretation.

Of course, a direct metaphorical qualification may not always be a plausible interpretation. The adjective "female" is used metaphorically to describe an object into which something else is snugly inserted, that something else being said to be "male". This usage is standard in talking about connectors on electronic cables for example. But a "female prison" is in most contexts not felicitously regarded as a socket-like physical object into which things are snugly inserted (even prisoners).

5.   Conclusions

Contrast is not normally singled out as a noteworthy issue in theories of metonymy, and indeed the main (if implicit) attention to it is, if anything, to minimize its importance by, for instance, claiming that metonymy works within domains rather than across domains. But this chapter lends weight to the contention that contrast is an important matter for theories of metonymy to address. Contrast is important in various aspects of metonymy in itself, and is also a useful dimension along which to analyse metonymy's relationships to other figures, such as irony and metaphor. In this regard the chapter gives additional, detailed support to Herrero Ruiz's use of contrast as a central theme around which to explore different figures. The contrast dimension is one of several (together with contiguity, similarity, link-survival degree, etc.) that define a multi-dimensional space into which various types of figuration can be located. While contrast is just dissimilarity and could be thought of as the negative portion of the similarity dimension, it is intuitively natural to consider it in its own right because elements of dissimilarity as well as elements of similarity can positively contribute to the meaning or pragmatic effect of a given utterance, metonymic or otherwise.

Contrast is not a simple dimension along which cases of figurative language can be graded, as there are several different types of contrast that can be important. Types that we have seen in this chapter as connected to metonymy are:

1.   contrast between target and source, arising for instance in de-personalization and antonymic metonymy;
2.   in negative cases of de-personalization, contrast between speaker-attitudes (or lack of them) associated with the chosen source and attitudes the speaker would be normally or contextually expected to have about the target;

3. in de-roling, contrast between the role-irrelevance of the chosen source and the greater relevance of other features of the target (which in some cases could serve as more appropriate metonymic sources for the target);
4. contrast between the chosen target and more appropriate targets that would have arisen in other circumstances (the Primark/Dior type of case, in (20));
5. and contrast between being concerned about the source and being concerned about the target (24).

We saw in particular how various types of contrast can operate to provide various types of irony.

The phenomenon of de-roling is an important way in which metonymy can connote negative evaluations, in addition to the ways covered by Littlemore (2015) and others. It often accompanies de-personalization, though it is a logically separate phenomenon.

Contrast can play an especially complex role in transferred epithets. Not only can contrast phenomena attend the metonymic link in a transferred epithet just as with any other metonymy, but also the close combination of a modifier and modified that strongly contrast with each other creates especially striking effects. In addition, the contrast can be an important aspect of an additional channel of meaning, namely the simultaneous metaphorical application of the modifier to the modified.

Finally, I comment on the relationship to the metonymy database discussed by Barcelona (this volume), Blanco-Carrión (this volume) and Hernández-Gomariz (this volume). Matters of (similarity and) contrast could at least be mentioned in the additional-remarks parts of various fields, for instance in Fields 1 and 4 because of their concern with what types of things the targets and sources are; and there may be a case for having the Field 1 and 4 instructions specifically refer to contrast, or to have a separate field concerned with contrast. Attitudinal and affective matters could be mentioned in the additional-remarks part of Field 7, because of its concern with what aspects of language are engaged by the metonymy in question. In the case of a transferred epithet, there is a case for additional remarks to be made in Field 7 because of its concern with grammar, in Field 8 because of its concern with triggers, and Field 11 because of its concern with interactions with metaphor. On the grammatical side, special mention in Field 7 should probably be made of the fact that in a transferred epithet such as "cozy exit" the target of the referential metonymy (namely, the hotel, etc., with the exit as source) does not equal the reference of the whole expression (which is the exit itself); in short, stating that a metonymy is referential is at best half of a grammatical story to be told. A more sweeping issue raised is that the instructions to users of the database entry model may need to guide them in a particular way into taking coordinated actions on various fields,

in the case of certain types of metonymy. Thus, in the case of a transferred epithet a user may need to be guided to be sure to take appropriate actions on Fields 7, 8 and 11, for example.

Acknowledgments

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CHAPTER 5

What kind of reasoning mode is metonymy?

Klaus-Uwe Panther and Linda L. Thornburg
University of Hamburg / Independent Scholar

In this chapter we present new arguments for a conception of metonymy as a *contingent*, i.e. defeasible, inferential relation between a source and a target sense within the same conceptual frame. Some scholars have raised objections against our approach to metonymy, claiming that there exist entailment-based metonymies. We demonstrate that the "counterexamples" in support of this thesis are in fact not entailments but cancelable inferences based on encyclopedic knowledge. We develop an account of metonymy inspired by the Peircean concept of abduction, a mode of reasoning that is pervasive in both scientific and everyday inferencing. Finally, we propose a distinction between default and incongruence-based metonymies and point out some parallelisms between metonymies and Gricean conversational implicatures.

Keywords: abduction, conceptual frame, encyclopedic knowledge, entailment, implicature

1. Introduction

A basic theoretical tenet in contemporary pragmatics is that utterances do not code the full range of meanings intended by the utterer, but rather merely provide linguistic *prompts* or *clues*, i.e., semiotically speaking, *indices* that have to be fleshed out conceptually by the hearer in order to arrive at the interpretation presumably intended by the speaker (Sperber and Wilson 1995, Levinson 2000). In other words, the retrieval of meanings requires the ability to *reason* or draw *inferences* in a given extralinguistic situation (including assumptions about the speaker's beliefs and intentions) and in a certain linguistic context. Figure 1 represents both the speaker's and the hearer's perspective: speakers imply more than they explicitly express in their utterances, and hearers have to invest cognitive effort in order to figure out the intended speaker meaning.[1]

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1. It should be mentioned in this connection that the mental activies of implying and inferring are not restricted to linguistic communication, but operate in other semiotic domains as well, for example, in the production and interpretation of pictorial representations (see e.g. Panther 2005a).

REASONING

Speaker ⟶   IMPLYING   INFERRING   ⟵ Hearer
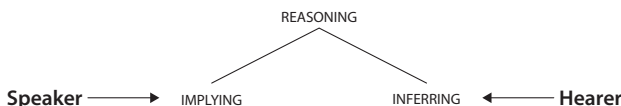
Figure 1. Reasoning in linguistic communication

Reasoning or inferencing is often thought of as a *conscious* and *deliberate* mental activity. Kahneman (2011) dubs this kind of reasoning *System 2* and contrasts this "slow" thinking with "fast" and automatic thinking, which he refers to as *System 1*. Mercier and Sperber (2009) draw an analogous distinction between *reflective* and *intuitive* inferencing. In linguistic communication, fast and automatic thinking and inferencing is especially relevant. For reasons of economy, the process of inferencing has to be spontaneous and swift – otherwise communication would be seriously hampered. In this chapter we assume that metonymic thinking is a kind of fast and intuitive reasoning, i.e., it belongs to System 1 in the parlance of Kahneman.

Metonymies, as aptly formulated in the title of Jeannette Littlemore's new monograph on this topic (Littlemore 2015), are "hidden shortcuts in language, thought and communication". It is generally accepted in cognitive linguistics that metonymy is an important conceptual tool that allows language users to convey meanings beyond those that are explicitly coded in a linguistic message. The classical definition proposed by Kövecses and Radden (1998) and Radden and Kövecses (1999), which characterizes metonymy as a conceptual means to access target meanings on the basis of explicitly coded source meanings, is compatible with the idea that metonymies are natural inference schemas (e.g. Panther and Thornburg 2003b). It is also compatible with Langacker's (2008: 69) characterization of metonymy as a reference-point phenomenon. The inferential nature of metonymy has been argued for by a number of cognitive linguists (see e.g. Barcelona 2011 for an overview).

If metonymy is a kind of thinking or reasoning process, it is useful to briefly address the notions of thinking and reasoning themselves before proceeding to a more detailed analysis of the workings of metonymic reasoning. A good starting point is Holyoak and Morrison's (2005: 2) description of reasoning as "*the systematic transformation of mental representations of knowledge to characterize actual or possible states of the world, often in the service of goals*" [authors' italics]. Holyoak and Morrison go on to claim that "[a] *mental representation* of knowledge is an internal description that can be manipulated to form other descriptions" (2). The authors conclude that "[t]o count as thinking, the manipulations must be *systematic* transformations governed by certain constraints" (2).

Holyoak and Morrison's defining criteria hold for metonymy as well. The mental activity of metonymic reasoning involves a "transformation" of (at least) one mental representation into another mental representation (i.e. a conceptual mapping from a source meaning to a target meaning), and this transformation

is systematic. In the case of metonymy, it has always been assumed that there are general principles that guide the transformation from one mental representation (source) to another (target). Furthermore, metonymic reasoning and interpretation are certainly guided by constraints. However, the formulation of such constraints, i.e., the question of what kind of metonymies are possible and what kind of conceptual relations cannot or are unlikely to be exploited metonymically in natural language has not been attended to systematically in contemporary research; it remains, to a large extent, a task for the future (for discussion of this issue, see the chapters by Barcelona and Hernández-Gomariz, this volume).

As pointed out above, language users interpret utterance meanings in ordinary communication spontaneously and effortlessly, and they are usually not aware of the crucial role that implications and inferences play in the interpretation of meaning. These subconscious processes of meaning construction are in stark contrast with the deliberate and methodical hermeneutics applied by "experts", such as literary critics, historians, legal analysts, Bible exegetes, and so forth, in their efforts to obtain plausible, i.e. intersubjectively verifiable, interpretations of written documents. Meaning in everyday communication functions quite differently: the interpretation process would be slowed down intolerably if implications and inferences were controlled at all times by consciously applied hermeneutic principles. The subconscious and spontaneous nature of reasoning activities in ordinary oral communication does however not imply that these activities are unsystematic. On the contrary, it seems that language users exhibit remarkable heuristic skills in drawing the "right" inferences about non-coded intended meanings intuitively, swiftly and effortlessly.

The title of this chapter conveys the presupposition that metonymy is a cognitive phenomenon, and more specifically, a reasoning mode. The first and more general of these implicit assumptions hardly needs any argumentative backing for cognitive linguists. The second is, at least for some scholars working in a Gricean or relevance-theoretic paradigm, probably also unproblematic; there have been attempts to reduce metonymy to a kind of pragmatic implication, i.e. conversational implicature (e.g. Ruwet 1975, Papafragou 1996).

Before the problem of what kind of reasoning mode metonymy is can be tackled, it is necessary to dissect the notion of metonymy itself, i.e. to provide a reasonably precise characterization of metonymy – all the more so since conceptions of metonymy, even within cognitive linguistics, differ to some extent. A recent debate in the journal *Cognitive Linguistics* between Janda (2014) and Brdar and Brdar-Szabó (2014a) about the role of metonymy in word formation revealed very clearly that there exists no uniform conception of metonymy in cognitive linguistics.

The organization of this chapter follows from the above remarks. In Section 2, a conception of metonymy is presented that relies on and further develops the one proposed by the present authors throughout the last two decades (see e.g. Panther 2006, 2011; Panther and Thornburg 1998, 2007, 2014). In particular, we focus on the

nature of the conceptual relation between source and target meaning. We argue that this relation is not one of entailment, but rather a relation of real-world contingency. Furthermore, we contend that, from an intensional perspective, metonymies are always *source-in-target* metonymies (see Ruiz de Mendoza for the terms *source-in-target metonymy* and *target-in-source metonymy*). Metonymies elaborate a source meaning, which remains a conceptual part of the target meaning. On the most schematic level, metonymies are thus always PART FOR WHOLE relations. We argue that many of Grady's (1997) and Lakoff and Johnson's (1999) so-called primary metaphors are better viewed as (experientially grounded) metonymies. We also reject Croft's (2006) thesis that metonymy applies only to "autonomous predications" (in the sense of e.g. Langacker 2008: 199–202), which amounts to saying that all metonymies are referential. In Section 3 we briefly characterize the well-known reasoning modes of deduction, induction and abduction. In Section 4, we propose that a large class of metonymies can be modeled in terms of spontaneous abductive reasoning. Section 5 considers counterexamples to this hypothesis, and discusses the relationship between metonymic inferencing and implicature. Section 6 concludes with a summary of the main results of our discussion and open questions for further research.

2.   Properties of metonymy

2.1   The basic metonymic relation

What Panther and Thornburg (2007) call the basic metonymic relation is given in Figure 2.
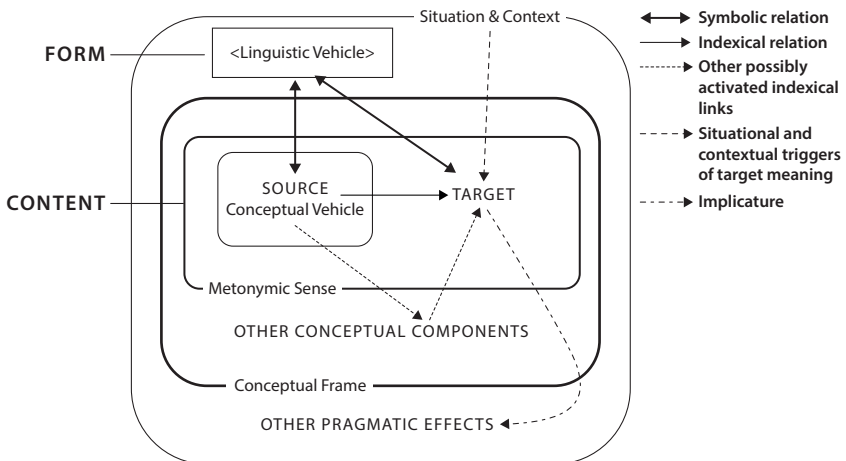
Figure 2. The metonymic relation

Figure 2 represents the properties of *linguistic metonymy*, but we presume, in accordance with most cognitive linguists, that linguistic metonymy is ultimately a reflection of a figure of thought, i.e. *conceptual metonymy*, which is exploited in natural language(s) to varying degrees. The information diagrammed in Figure 2 is explained and elaborated in more detail in the following sections.

2.2   Metonymy as an associative and indexical relation

We view metonymy as an *indexical relation* among meaning components that form an associative network within a conceptual frame.[2] Such associative relations exist independently of language; metonymy (like metaphor) can be found in other semiotic modes, e.g. the visual arts (see e.g. Panther 2005a). One component in a conceptual frame, the source (meaning), serves as a *conceptual vehicle* (an *index* in the sense of Peirce) for accessing a *target* (meaning) (cf. Kövecses and Radden 1998; Radden and Kövecses 1999).[3] The source meaning is conceptually integrated into the target meaning as the result of the metonymic operation.

The conception of metonymy as an operation that exploits associative connections is already inherent in Roman Jakobson's (2002: 42–43) distinction between metaphor as a paradigmatic relation of similarity and metonymy as a syntagmatic relation of *contiguity* (see Koch 1999). The latter term comes close, or is even equivalent, to what is here called 'association', i.e., it is not to be taken in its literal sense of spatial adjacency.

It is worth noting in this connection that associative relations seem to be already exploited by primates. Petitto (2005: 87–88) reports research on chimpanzees who learned rudiments of American Sign Language. According to Petitto, chimpanzees use the sign for the English word *apple* not only for the fruit itself but also for "the action of eating apples, for the location where apples are kept, events and locations of objects other than apples that happened to be stored with an apple (the knife used to cut it) and so on and so forth […]" (87). These associations look like metonymies such as APPLE → ACTION INVOLVING APPLES, APPLE → APPLE LOCATION, APPLE→OBJECTS ADJACENT TO APPLES, etc. Petitto describes them somewhat derogatorily as a "hodgepodge of loose associations" (87). Although these associative relations seem rather unconstrained, which distinguishes them from metonymies

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2.   In contrast, metaphor can be seen as a (partially) *iconic* relation, i.e. a structure-preserving mapping from one frame into another (for discussion, see Panther 2006).

3.   Whereas we regard metonymy as a conceptual relation, i.e. a connection between meanings, some linguists have proposed the existence of 'formal metonymies', i.e. connections between conceptual representations of form (see Barcelona 2011, Bierwiarczonek 2013). A discussion of the concept of formal metonymy is beyond the scope of this chapter.

in human languages, they certainly deserve better than being characterized as a "hodgepodge" and should be taken seriously as potential evidence of metonymic thinking in primates.

2.3   Situation, context and conceptual frame components

Access to the target meaning of a metonymy is facilitated by (i) *situational* and *contextual* factors, and (ii) other *conceptual components* within a conceptual frame. In actual communication, these parameters often work hand in hand.

It is obvious that the interpretation of some linguistic unit as metonymic depends, among other things, on the linguistic context and/or the extra-linguistic situation. For purposes of illustration, consider (1):

(1)   Lanchester is in on the second floor.

Without further context, linguistic or situational, the proper name in (1) may refer to Lanchester, the writer, or to his works, or to a statue of Lanchester, etc. When a student asks a librarian where she can find Lanchester's works, the answer (1) to this question would metonymically refer to Lanchester's works rather than Lanchester himself. If the question is about where Lanchester is autographing his latest book and the answer is (1), the referent of the proper name is the author himself.

As to OTHER CONCEPTUAL COMPONENTS in Figure 2 and their possible role in the identification of intended metonymic target meaning, consider the following:

(2)   I can make you some lunch.   (COCA 2009)[4]

Utterance (2) often functions as a conventionalized indirect speech act with the illocutionary force of an offer. This indirect meaning comes about through metonymic chaining. The (literal) source, an assertion that the speaker is able to make the hearer some lunch, automatically activates the (unexpressed) meaning component '(I assume) that you would like me to make you some lunch' (hearer's benefit), which is a component of the offer scenario, and this component, together with the source meaning, facilitates access to the illocutionary target meaning 'I offer to make you some lunch'. The component '(I assume) you would like some lunch' can also be openly referred to by an attached conditional clause such as in (3):

(3)   We can do you a latte, if you like.   (COCA 2012)

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4.   COCA is the abbreviation for Corpus of Contemporary American English. The four-digit number in parentheses refers to the year of attestation of the example in the corpus.

Utterance (3) is immediately interpreted as an offer. As already observed in connection with example (2), one component of the offer frame (or, equivalently, offer scenario) is that the offerer is able to perform the action – here, of preparing a latte for the hearer. The assertion of this component is often sufficient to link it metonymically to the target meaning 'Speaker(s) offer(s) to do a latte for Hearer'. In addition, this target interpretation is facilitated by the openly expressed supposition *if you like*, which alludes to the 'hearer's benefit' component. The desirability of the offered action for the hearer is an important conceptual component of the *offer* frame.

Imagine now that a speaker offers a drink to another interlocutor uttering (4):

(4)   There is some chilled white wine in the fridge.

In this case, which is a less conventionalized way of offering than (2) or (3), OTHER CONCEPTUAL COMPONENTS (see Figure 2) of the offer scenario play a crucial role in the interpretation process. One could imagine an inferential, i.e. metonymic, chain like the following from the source to the intended target meaning (with S = Speaker, H = Hearer):

(5)   a.   S asserts that there is some chilled wine in the fridge. [SOURCE]→
      b.   S assumes that H would like some chilled white wine & S can/is able to
           treat H to some chilled white. [OTHER CONCEPTUAL COMPONENTS]→
      c.   S offers H some chilled white. [TARGET]

The importance of additional conceptual components that are derivable from the discourse context and facilitate access to metonymic meanings is discussed in more detail in Panther and Thornburg (1998: 767–768).

2.4   Experiential and sociocultural grounding of metonymy

Metonymies have an *experiential* basis, i.e., they are grounded in the "human condition", or they are part of the *socio-cultural knowledge* of language users. Culture-independent experientially based metonymies are good candidates for universals; culturally based metonymies may vary across language communities. If many (and maybe all) linguistic metonymies are rooted in experience and/or cultural knowledge, one may ask how metonymies relate to "primary metaphors", a term introduced by Grady (1997) and adopted by Lakoff and Johnson (1999). The latter authors propose that from early infancy on children link emotions and feelings, on the one hand, and physical experiences and perceptions like warmth, spatial adjacency and verticality, on the other. At a later stage in a child's cognitive development, these experiential correlations are supposedly conceptualized as metaphors such as AFFECTION IS WARMTH, INTIMACY IS CLOSENESS and HAPPY IS UP, respectively.

In contrast to Grady and Lakoff and Johnson, in Panther (2006: 164) it is argued that some primary metaphors are better analyzed as metonymies. For example, the experiential correlation between intimacy and spatial closeness, which Lakoff and Johnson believe is reflected in the primary metaphor INTIMACY IS CLOSENESS, can be regarded as a subtype of the pervasive metonymy EFFECT → CAUSE: the effect CLOSENESS evokes the underlying cause INTIMACY. Other putative primary metaphors such as HAPPY IS UP (vs. SAD IS DOWN) and KNOWING IS SEEING have also been argued to be based on metonymy (see e.g. Barcelona 2000: 43–44, and Radden 2002).

To conclude, we propose that 'primary metonymy' is a more adequate term than 'primary metaphor' to capture basic correlations between sense experience and emotions. It is certainly plausible that the early physical experience of parental "warmth" is strongly associated with the emotion of parental love and affection but it is hard to see why this association should be called "metaphorical".

2.5   Contiguity

Traditionally, metonymy has been characterized as a relation of conceptual contiguity between two entities (see Jakobson 2002). The two conceptual components that are linked by means of metonymy are preferably immediate conceptual "neighbors", i.e., they are semantically *contiguous*. The shorter the conceptual distance between two components (measured as the number of conceptual links between them), the more likely they are exploited for metonymic purposes. As the *conceptual distance* between components increases, the probability of their metonymic use decreases (see Panther and Thornburg 1998).

The term *contiguity* evokes the notion of contiguity in space. It is however hard to flesh out the notion of contiguity so that it becomes precise and meaningful enough to be used as a theoretical term. Peirsman and Geeraerts (2006) is an interesting explorative study with exactly this aim in mind. These authors view metonymy as a prototypically organized category, whose central property is *spatial* contiguity – more precisely, spatial part-whole relations, where a part is properly contained in a whole. Peirsman and Geeraerts' conception might be referred to as the *Spatial Contiguity Model* of metonymy. Using a three-dimensional graphical presentation mode, Peirsman and Geeraerts locate metonymies relative to the two central spatial parameters 'strength of contact' (between source and target) and 'boundedness' (279). In this way, the authors are able to classify a large set of metonymical data with regard to their conceptual distance from the assumed spatial prototype. The Spatial Contiguity Model is an impressive attempt to provide a virtually exhaustive taxonomy of metonymies. It has, however, also certain drawbacks and undesirable consequences, some of which we address below.

The main problem in the Peirsman and Geeraerts model is how degrees of prototypicality can be determined on the basis of the notion of space (see also Barcelona 2011: 26–30 for a detailed critique of their approach, especially their metaphorical use of the notion of contiguity). To illustrate, according to these authors, *the Prime Minister of England*, where *England* metonymically evokes 'the United Kingdom' (SPATIAL PART → SPATIAL WHOLE), is a more prototypical metonymy than the metonymy SUBEVENT → COMPLEX EVENT, underlying e.g. the German expression *ein Mädchen zum Altar führen* 'lead a girl to the altar', which metonymically stands for the act of marrying (Peirsman and Geeraerts 2006: 291). As far as these two metonymies are concerned, Peirsman and Geeraerts' account seems to square with native speakers' intuitions, but in other cases their approach might not be in accordance with native speaker judgments about prototypicality. For example, the pervasive metonymy PRODUCER → PRODUCT, as in *I bought a Ford* (for 'a car produced by Ford'), seems intuitively as basic, or prototypical, as the part-whole metonymy *England* (for 'the U.K.') or the whole-part metonymy *America* (for 'the U.S.').

As further examples that demonstrate problems in Peirsman and Geeraerts' prototypicality ranking of metonymies consider sentences (6) and (7):

(6)   We need some good heads on the project. (Peirsman and Geeraerts 2006: 280, citing Kövecses 2002: 145) (PART → WHOLE)

(7)   I drank a glass too many. (Peirsman and Geeraerts 2006: 281) (CONTAINER → CONTAINED)

Since the meaning of (6) conveys a higher degree of strength of contact between the part (BODY PART) and the whole (PERSON) than the one expressed in (7) between *glass* (CONTAINER) and the alcoholic drink (CONTAINED), Peirsman and Geeraerts are forced to conclude that the PART → WHOLE metonymy in (6) is more prototypical than the metonymy CONTAINER → CONTAINED in (7). But why should configurations with parts that are supposedly less readily detachable from a whole (as in (6)) generate more prototypical metonymies than contained-container configurations, in which the CONTAINED (probably a liquid) can be separated easily from its CONTAINER? The 'strength of contact' criterion does not provide intuitively satisfying results, nor is it bolstered by any experimental evidence tapping into native speakers' judgments.

At this point, one might want to bring up the distinction between 'inalienable' and 'alienable' possession, which is grammatically marked in some languages. A head is an inalienable part of a human being, but a liquid is not an inalienable part of a glass. Although the function of a glass is to be filled with liquids, it remains a separate entity and intact without such a 'contained'. In contrast, a person cannot exist without a head. Nevertheless, Peirsman and Geeraerts have not shown that

the distinction between inalienable and alienable possession is crucial for the identification of varying degrees of prototypicality in metonymy.

As a further problematic case, consider the metonymic meanings exemplified by the French noun *tonte* (Peirsman and Geeraerts 2006: 296). The French dictionary *Le Petit Robert* (1992) cites three meanings for this word, all of which are metonymically related: (i) "Action de tondre" ('action of shearing'), (ii) "Laine obtenue en tondant les moutons" ('wool obtained as a result of shearing sheep'), and (iii) "Époque où l'on tond les moutons" ('period/season when sheep are shorn'). The relation between meanings (i) and (iii) instantiates the metonymy ACTION → TIME (observed by Peirsman and Geeraerts) and that between (i) and (ii) the metonymy ACTION → (RESULTING) PRODUCT. Both metonymies are productive and, intuitively, look like excellent examples of metonymy, as good as (in Peirsman and Geeraerts' parlance) the more "prototypical" metonymies in (6) and (7).

The gist of the preceding comments is that Peirsman and Geeraerts must provide evidence that the implications immediately following from their approach to metonymy are empirically valid, i.e. match the intuitions of native speakers. While it is plausible that a robin or a finch is a more prototypical bird than an ostrich, it is not obvious that spatial configurations are at the "heart" of prototypical metonymy. Why should e.g. *experiential* correlations not be as basic as *spatial* contiguity, and, why should dynamic *events* and the participants they involve not be regarded as just as elementary as spatial configurations? Actions, or more generally, events and their unfolding in time, appear as fundamental to the human conceptualization of the sociophysical world as the perception of objects in certain static spatial configurations such as PART-WHOLE and CONTAINER-CONTAINED.

A final comment on Peirsman and Geeraerts' study concerns the status of their data. The authors have consulted a variety of sources, many of which stem from the historical-comparative tradition of the late nineteenth and early twentieth century, such as Albert Waag (1901), Hermann Paul (1970) and Kristoffer Nyrop (1913). Peirsman and Geeraerts draw no distinction between synchronically active metonymic principles and meanings of linguistic units that, at some period, have undergone metonymy-induced semantic change – with the likely consequence that their metonymic origins are no longer transparent to the present-day language user. The diachrony-synchrony distinction is of course an idealized structuralist construct. Nevertheless, for methodological reasons, it seems advisable to adhere to the Saussurean dichotomy between synchronic and diachronic descriptions. At a first approximation, at least the following temporal stages in the development of metonymic meanings must be distinguished (see also Riemer 2002):

1. Metonymies that are used productively at a given time;
2. Meanings (e.g. of lexemes) that have become conventionalized at a given time but are still recognizably motivated by metonymic principles (e.g. in lexical polysemy) and are still used actively by speakers to produce new meanings;
3. Meanings that have become conventionalized and whose source meaning is so backgrounded (and infrequent) that it requires a conscious effort on the part of the language user to uncover their metonymic origin;
4. "Dead" metonymies (or "post-metonymies" in the terminology of Riemer 2002), i.e., metonymies whose source meanings are extinct and consequently no longer accessible to the ordinary language user.

To cite one example from Peirsman and Geeraerts' article where the distinctions in 1–4 are relevant, speakers of present-day German are most certainly not aware of the fact that *Eingeweide* 'intestines' is etymologically related to *Weide* 'pasture, grazing land': thus for speakers of present-day German there is no metonymic connection between the source meaning 'food eaten by grazing animals' and the target 'intestines'. This holds for a number of the examples provided by Peirsman and Geeraerts, as noted by Croft (2006: 324) in his critical assessment of their study.

To conclude, the conception of metonymy as a prototypically structured category meets with serious theoretical and methodological problems. It is doubtful that the Spatial Contiguity Model provides a cognitively and linguistically realistic model for the organization of metonymies in the minds of language users.

2.6   Contingency

In various publications (e.g. Panther 2005b: 60; Panther and Thornburg 2007, 2009), the present authors have argued that metonymic relations are *contingent*, in the sense that the relation between a metonymic source meaning and its target meaning is *not* one of semantic implication, i.e. *entailment*. Contingency can be related to what in Gricean pragmatics is called 'defeasibility' or 'cancelability' of an implicature. In other words, metonymic inferences are cancelable (defeasible), and they share this property with conversational implicatures (see e.g. Levinson 2000). This constraint on the metonymic relation can be called the *contingency criterion*. It is important to keep in mind that the metonymic relation between source and target *per se* is contingent. However, just as in the case of implicatures, there may be *contextual* factors that block the defeasibility of a metonymic target. This issue is discussed in more detail in Section 5.1.

For purposes of illustration, let us consider an authentic example retrieved from COCA:

(8)   Sleeves rolled up, his baton beating a steady four-to-the-bar, he is admonishing the violins to hold back […].

(Susan Elliot, *Atlanta Journal Constitution*, May 14, 2000)

In (8), the definite description *the violins* metonymically refers to the violinists, instantiating the metonymical schema MUSICAL INSTRUMENT → MUSICIAN. As required by the contingency criterion, there is no entailment relationship between the 'the violins hold back' and 'the violinists hold back'. The metonymic meaning 'violinists' is induced by the predicate *hold back*, whose subject must be HUMAN (or at least, ANIMATE).

In the following subsections, we discuss data that appear to challenge the validity of the contingency criterion. The criterion could be questioned or perhaps even falsified from three perspectives. First, examples of metonymy have been adduced in which source and target are supposedly related by a "logical", i.e. entailment relation (Section 2.6.1). Second, we consider a case in which the metonymic target is an intrinsic semantic property of the conceptual frame evoked by the linguistic vehicle (2.6.2). Third, we discuss metonymies that operate on hierarchically organized taxonomies, specifically, between subordinate and superordinate levels, instantiating relations of meaning inclusion (Section 2.6.3). Finally, we address cases where the metonymic sense is more or less strongly enforced, or "coerced" (Section 2.6.4).

2.6.1   *Entailment and metonymy*

Let us start with an example that was brought to our attention several years ago by Andrew La Velle, a then graduate student in the Department of Linguistics at the University of New Mexico:

(9)   a.   I'll fight as long as I breathe. [SOURCE]→
       b.   I'll fight as long as I am *alive*. [TARGET]

We agree that the relation between (9a) and (9b) is based on a metonymy BREATHING → BEING ALIVE. However, we disagree with La Velle's contention that the relation between the source and the target of this metonymy is one of entailment, and that it therefore falsifies the contingency criterion of metonymy.

The fact that a person breathes is indeed a strong *index*, or more narrowly, a *symptom*, that this person is alive. There is obviously an *empirically* robust correlation between breathing and being alive. However, it is not a semantic relation and, in particular, not a relation of semantic implication. Respiration can be artificially induced by medical breathing apparatuses that mechanically push oxygen into and out of the lungs of even brain-dead patients.

The *real-world connection* between breathing and being alive is not of the same kind as the relations that obtain, for example, between the following pairs of semantic predicates ('⊩' = 'entails'):

(10) a.   GIVE (x, y, z) ⊩ HAVE (y, z)
     b.   NECESSARY (p) ⊩ POSSIBLE (p)
     c.   LOSE (x, y) ⊩ NOT-HAVE (x, y)
     d.   ASSASSINATE (x, y) ⊩ KILL (x, y) ⊩ DIE (y) ⊩ DEAD (y)

As a concrete example of a series of entailments, consider (5):

(11) a.   The revolutionaries assassinated the premier. ⊩
     b.   The revolutionaries killed the premier. ⊩
     c.   The premier died. ⊩
     d.   The premier was dead.

Given that *the revolutionaries* and *the premier* have the same referents in (11a–d), there are no circumstances in which (11a) is true and (11b–d) are false (cf. Hurford, Heasley and Smith 2007: 112).

To repeat the main point, the semantic entailment relations exemplified in (10a–d) hold by definition, i.e. conceptual necessity. In contrast, the real-world relation between breathing and being alive is not of the same type. There are circumstances in which the proposition 'someone breathes' is true but 'someone is alive' is false. Thus the metonymy BREATHING → BEING ALIVE is not based on an entailment relation between its source and its target meaning and hence does not falsify the contingency criterion.

2.6.2   *Intrinsic frame features as metonymic targets*

In this section, we discuss cases such as the relation between (12a) and (12b), which instantiates the metonymy COMPOSER → COMPOSITION, or more generally, PRODUCER → PRODUCT. In such examples, the target meaning is an intrinsic feature (also called *facet*) of the linguistic vehicle.[5] Consider the following utterance (12a) and its metonymic interpretation (12b):

(12) a.   I like German composers. [SOURCE]→
     b.   I like the *music* of German composers. [TARGET]

The COMPOSER frame has as one of its intrinsic components or facets the attribute MUSIC. Nevertheless, the relation between the (literal) source meaning (12a) and its metonymic target meaning in (12b) is not one of entailment. It is, for example, possible that the speaker of (12a) likes German composers as persons, but does not like their music.

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5.   Example (12a) is discussed in more detail in Brdar and Brdar-Szabó (2014b: 230–231) where one of the authors of the present chapter (Panther) argues that the metonymy COMPOSER → COMPOSER'S MUSIC constitutes a problem for the contingence criterion. In contrast, in the present contribution, we reach the conclusion that this metonymy does not falsify the hypothesis that the relation between metonymic source and target meaning is contingent.

Now compare (12a) and (12b) with (13a) and (13b), respectively:

(13)   a.   I like Brahms. [SOURCE]→
       b.   I like Brahms' music. [TARGET]

In one respect, examples (12a, b) and (13a, b) are conceptually analogous in that they both exhibit a metonymic connection between COMPOSER and COMPOSER'S MUSIC. However, in another respect, the two cases differ. While the component MUSIC is an intrinsic conceptual feature of the noun *composer*, i.e., of the frame that it evokes, in the case of the proper name *Brahms*, the attribute MUSIC could be called *extrinsic*, i.e., it is part of the language users' *world* or *encyclopedic* knowledge about Brahms. Encyclopedic knowledge about Brahms, especially his musical activities, is not of the same kind as linguistic-semantic knowledge of native speakers that the word *composer* has the semantic feature MUSIC.

To conclude, it appears that the traditional distinction between semantic information, as listed in dictionaries, and real-word world information, as contained in encyclopedias, sneaks in through the backdoor again – a contrast that is usually regarded as irrelevant in cognitive linguistics. We propose that the distinction between semantic and encyclopedic knowledge should not be abandoned altogether. Instead it should be acknowledged that, in analogy to the cline between the lexicon and grammar, there exists a continuum from linguistic-semantic competence to encyclopedic knowledge – but to pursue this train of thought is beyond the thematic scope of this chapter.

2.6.3   *Taxonomic relations and metonymy*

Another challenge to the conception of metonymy as a contingent relation is based on the existence of cases where the metonymic source has a sense that is conceptually subordinate to its assumed target sense; in other words, there seem to be metonymies of the type HYPONYM → HYPERONYM or SPECIFIC → GENERIC. As an example, Radden and Kövecses (1999: 34) stipulate a metonymy ASPIRIN → (ANY) PAIN RELIEVER, as exemplified by (14):

(14)   I have a terrible headache; I need some aspirin.

Utterance (14) is often understood as conveying that *any* pain-relieving drug is welcome as long as it relieves the headache of the speaker.

In Panther (2006: 155–156) it is argued that the relevant conceptual relationship is only indirectly one between hyponym (ASPIRIN) and a hyperonym (PAIN RELIEVER). The pertinent metonymic relationship is one between ASPIRIN (source) and *co-hyponyms* of PAIN RELIEVER, such as IBUPROFEN, DICLOFENAC, and so forth. This relationship is represented in Figure 3.
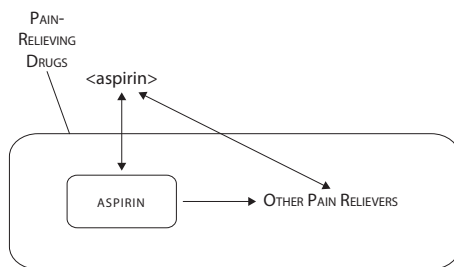
Figure 3. The metonymy ASPIRIN → ANY PAIN RELIEVER

If the metonymic targets of ASPIRIN are defined as its co-hyponyms (including ASPIRIN itself), then the contingency criterion is clearly satisfied in (15) because the a.-sentence does not entail the b.-sentence:

(15)   a.   Give me some aspirin.
       b.   Give me any pain-relieving drug.

We have argued that the interpretation of (14) involves a metonymic relation between ASPIRIN and its co-hyponyms. But let us assume for the sake of the argument that the relationship between aspirin and other pain relievers is, as Radden and Kövecses (1999: 34) claim, an instance of the metonymy MEMBER OF CATEGORY FOR CATEGORY, or alternatively formulated, HYPONYM → HYPERONYM. The hyponym-hyperonym relation is a case of *meaning inclusion*, which is often considered to be an entailment relation (when expressed in a propositional format). Examples are:

(16)   a.   This is a rose. [hyponym] ⊩ This is flower. [hyperonym]
       b.   This is a *dog*. [hyponym] ⊩ This is an *animal*. [hyperonym]
       c.   Marry *chatted* with Bill. [hyponym] ⊩ Mary *spoke* with Bill. [hyperonym]

The pairs of propositions in (16a–c) express relations of meaning inclusion that do not seem to be defeasible and can thus be likened to entailments. Nevertheless, the relation between a hyponym and its hyperonym is often not a matter of fixed dictionary meaning but also of encyclopedic knowledge, which, by its very nature, is more fluid and flexible than dictionary meaning. To illustrate, consider the obsolete English compound noun *whalefish*. The online Oxford English Dictionary contains a number of attestations of *whalefish* ranging from the sixteenth to the eighteenth century, some of which are given in (17). The fact that the head of the compound is *fish* is an indication that there was a period in the history of English when whales were categorized (even by scientists) as FISH:[6]

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6.   According to the online *Encyclopedia Britannica*, the Swedish botanist Carl von Linné, alias Carolus Linnaeus (1707–1778), originally categorized whales as fish in his work *Systema Naturae* (<http://academic.eb.com/EBchecked/topic/657959/zoology>: accessed January 15, 2015). In the tenth edition (1758) of this work, whales were reclassified as mammals (Romero 2012: 25).

(17)   a.   There by be many walefysshes & flyinge fysshes. (c. 1511)
    b.   The whale fishes lay wallowing in the waves. (1635)
    c.   About two Years ago there came a Stranger to me, who had two Penis's of the Whale Fish. (1712)

The correct classification of whales is of course that they are marine *mammals* – and this new categorization was certainly a motivational force for the disappearance of the morphological head *fish* in *whalefish*.

    Another example that illustrates a conceptual conflict arising from a clash between folk or cultural models and scientific models is exemplified in (18):

(18)   a.   HUMAN (x) ⊩ ANIMATE (x)
    b.   HUMAN (x) ⊩ ANIMAL (x)

While everybody would presumably accept the entailment relation between HUMAN and ANIMATE in (18a), many people, for religious or other reasons, would reject the idea that being a human being entails being an animal, although, from an evolutionary perspective, animals and humans have a common origin. The conclusion to be drawn from these examples is that hyponymic relations are not of the same kind as the prototypical examples of entailment listed in e.g. (10) (Section 2.6.1). Taxonomies, be they folk or scientific classifications, are a matter of empirically acquired knowledge. They may stabilize into subordinate-superordinate relations resulting, at least temporarily, in entailment relations until new empirically based insights change their taxonomic structure. It is however hard to see how world knowledge could change the entailment relationships of the meaning postulates given in (10).

    To return to *aspirin*, the classification of this lexeme as a hyponym of *pain reliever* is, like that of *whalefish* as a hyponym of *fish*, a matter of (changeable) world knowledge. In other words, the relation between *aspirin* and *pain reliever* is not so much a static lexico-semantic relationship but rather a case of dynamic construal. In this context it should also be noted that *aspirin* can be related to a variety of superordinate categories, which are the result of empirical research into possible medicinal benefits of its active ingredient acetylsalicylic acid (see Figure 4).
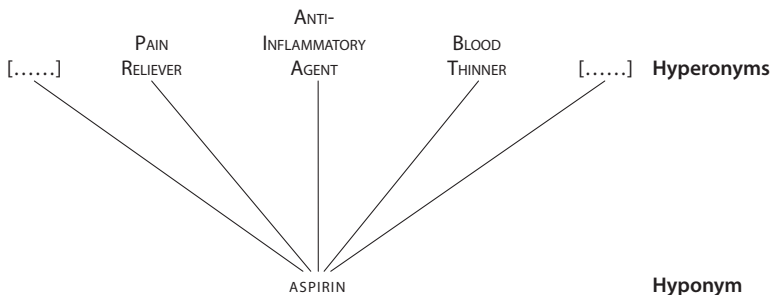
Figure 4. Some hyperonyms of *aspirin*

It is well established that aspirin is a pain-reliever; but it is probably not so well known by the general public that it is also a blood-thinning drug. The discovery that aspirin is an anti-inflammatory substance that relieves pain and has an anti-coagulate (thinning) effect on the blood constitutes encyclopedic knowledge and, at the same time, has linguistic repercussions in the lexicon of English and other languages in creating new taxonomies, in particular, new hyponym-hyperonym and new co-hyponym relations. As already mentioned, the organization of such taxonomies is a matter of empirical knowledge, and the structure of taxonomies may change over time as a function of newly acquired knowledge.

Since, as we have seen, taxonomies are often permeated with world knowledge, it is possible to say:

(19)   I didn't know that aspirin is a blood-thinning drug.

(20)   I didn't know that humans are mammals.

However, as far as prototypical entailment relations are concerned, it is hardly possible to say:

(21)   ?I didn't know that when you lose your keys you don't have them anymore.

(22)   ?I didn't know that when you manage to open the window, the window is open.

(23)   ?I didn't know that when somebody dies, that person is dead.

While (19) and (20) are about the speakers' ignorance of some scientific facts about aspirin and human beings, respectively, (21)–(23) are about the speakers' competence concerning the conceptual structure of the verbs *lose*, *manage* and *die*, respectively.

Again, as at the end of Section 2.6.2, the foregoing discussion suggests that the traditional distinction between linguistic knowledge and world knowledge is justified although the boundary between the two domains may be fuzzy.

2.6.4   *Coercion*

To begin with, let us review some objections that have been raised by Antonio Barcelona (2011: 52) to the contingency criterion. This author acknowledges the existence of contingent metonymies but he claims that there are also non-contingent metonymies. As an example of a contingent relationship between source and target meaning he cites (24):

(24)   The white horse acted very cleverly.

In (24), *the white horse* may be interpreted literally as denoting a familiar white horse, but it may also metonymically refer to the rider of the white horse. There is clearly no entailment relation between (25a) and (25b):

(25) a. The white house acted very cleverly. [SOURCE]→
      b. The rider of the white horse acted very cleverly. [TARGET]

The relation between HORSE and RIDER is a real world, i.e. contingent, relationship, and can be exploited for metonymic purposes. Thus far we are in agreement with Barcelona's analysis. Now consider the often-cited example (26):

(26) The kettle is boiling.

Sentence (26) has a metonymic sense such as 'The water in the kettle is boiling'. Barcelona (2011: 53) argues that the relation between (27a) and (27b) is not contingent, but necessary:

(27) a. The kettle is boiling. [SOURCE]→
      b. The liquid substance in the kettle is boiling. [TARGET]

According to Barcelona's analysis, the CONTAINER → CONTAINED metonymy is applied *obligatorily* or, in another terminology, *coerced* in example (26), which is equivalent to claiming that (27a) entails (27b). In contrast, we contend that the relation between the proposition expressed in (27a) and that in (27b) is *not* one of entailment. Admittedly, it is highly unlikely that the kettle itself is boiling. Nevertheless, in the world at large, this is not an impossible or conceptually inconceivable event. Suppose the kettle consists of stainless steel. The melting point of stainless steel is 1510^0 C; its boiling point is 3000^0C. It is thus possible, although improbable, that the kettle *itself* might boil. The difference between examples (25a,b) and (27a,b), regarding the coerciveness of a metonymic interpretation, is one of degree, not of binary contrast. The plausibility of a non-metonymic or a metonymic interpretation is determined by the more or less realistic scenario evoked by the sentences in question. To repeat the main point again, a non-metonymic interpretation of (26) is very unlikely, but it is definitely not excluded on conceptual grounds.

The notion of coercion, in particular, *type coercion*, was first introduced in the literature by Pustejovsky (1996) in his monograph on the generative lexicon. An example of type coercion (also sometimes called 'logical metonymy') is given in (28) (Pustejovsky 1996: 115):

(28) a. Mary enjoyed the movie. [SOURCE]→
      b. Mary enjoyed watching the movie. [TARGET]

The verb *enjoy* in (28a) requires a complement that denotes an event; hence, the noun phrase *the movie* is coerced into an interpretation that satisfies this constraint, such as in (28b). However, the relation between (28a) and (28b) is not one of entailment, although (28a) strongly suggests (28b).

Coerced interpretations are induced by the linguistic context in which the relevant linguistic unit occurs. For example, an often-observed coercive factor is the

meaning of the grammatical construction in which a metonymically shifted lexical item appears. Other coercive factors include the larger discourse context and the communicative situation, both of which may create conditions that induce metonymic interpretations.

As another example of type coercion induced by the linguistic context, consider (29) and (30):

(29)   Richard Dawkins began a new book.

(30)   John promised to be a good scholar.

In (29), the verb form *began* metonymically coerces an interpretation of its object *a new book* as an event or, more precisely, an action carried out by the referent of the subject (AGENT) involving a new book. In a context in which Dawkins, the biologist, is referred to, the event targeted is most likely 'write a new book', but in fact, it could also be another event, e.g. 'read a new book', 'bind a new book', 'draw illustrations for a new book', to pick out just some possible alternative interpretations. Note however that not any event is a plausible target denotatum of the noun phrase *a new book*. For example, events like the following are very unlikely as target meanings of (29), viz. that Dawkins 'tore up a new book', 'trashed a new book', 'put a new book on the shelf', 'threw a new book out of the window', etc. The boundary between what kind of actions involving a new book can or cannot function as metonymic targets is fuzzy. The denotatum of the noun phrase *a book* does not stand in a relation of semantic implication to the activities one can perform with books. What is conceptually enforced in (29) is merely that some event involving a book is initiated by the subject referent; what kind of action it is remains indeterminate and has to be inferred from the linguistic or discourse context.

Sentence (30) is ambiguous. One of its senses is that there is some evidence or good reason to believe that John would be a good scholar one day. The second sense, which we are concerned with here, is based on the interpretation of *promised* as a commissive speech act. The illocutionary meaning of (30) can be paraphrased as 'John promised to *act* in such a way that as a *result* he would be a good scholar'. The stative infinitival verb phrase *be a good scholar* does not *per se* entail the interpretation that it is the result of a set of intentional actions (RESULT → ACTION metonymy) – it is the constructional context, in particular, the verb form *promised* in the superordinate clause, that triggers this interpretation. Again the interpretation is a matter of world knowledge. People know from experience that states are often the result of preceding actions, but states are not inherently conceptualized as resultative (see e.g. Panther and Thornburg 2003, 2007).

To summarize, coercion phenomena do not constitute counterexamples to the contingency criterion since they do not involve entailment relations between source and target.

2.7   Target orientation of metonymy

Metonymies may be (more or less) source-oriented or target-oriented. In other words, depending on the type of metonymy and contextual/situational factors, the degree of prominence of the source meaning relative to the target meaning is inversely proportionate: the more *foregrounded* the source, the more *backgrounded* the target, and vice versa. The distinction between source-oriented and target-oriented metonymies has conceptual, pragmatic and grammatical relevance (see Panther and Thornburg 2009).

In his introductory textbook to cognitive grammar, Langacker (2008: 69) characterizes metonymy in the following way: "[…] we speak of metonymy when an expression that ordinarily profiles one entity is used instead to profile another entity associated with it in some domain". This conception of metonymy appears to be equivalent to the view that metonymies are target-oriented, i.e., that the target meaning becomes conceptually (more) prominent than the source meaning as a result of the metonymic operation. This view has been advocated by the present authors in a number of publications (see e.g. Panther and Thornburg 2003a: 5–6; Panther and Thornburg 2007: 242).

However, there exist data that seem to pose a problem for the position that metonymic target meanings are typically foregrounded. In what follows, we discuss two corpus examples that, at first sight, seem to exhibit metonymies that are source-oriented. Consider first (31):

(31)   The War of 1812 against the United States and Napoleon's invasion of Russia […] increased the demands on British gold.   (COCA 2011)

According to Lakoff and Johnson (1980: 38) and other authors, sentences like (31) exemplify the metonymy CONTROLLER → CONTROLLED, i.e., the naming of the French emperor Napoleon (CONTROLLER) evokes Napoleon's army (CONTROLLED), but this target remains rather indeterminate and backgrounded. Intuitively, *Napoleon* (source) is the foregrounded referent in (31), but not his army (target).

Another example, which is also a putative case of source foregrounding, is given in (32). When it became known that George W. Bush would not attend the Republican National Convention in Tampa in 2012, an Internet user commented:

(32)   Bush was a disaster. Who in their right mind would want him showing up at the convention?   (GloWbE[7])

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7.   GloWbE stands for the English-language corpus Global Web-Based English, which contains 1.9 billion words of English varieties from 20 countries (time period covered: 2012–2013).

Apparently, the event predicate nominal *a disaster* triggers a metonymic interpretation of the subject term *Bush* with the target sense 'what Bush did during his presidency' – more generally, PERSON → PERSON'S ACTIONS. The source, here BUSH, is foregrounded, not the target BUSH'S ACTIONS, as can be gleaned from the second sentence, in which the pronoun *him* anaphorically refers to *Bush*, the person, not to Bush's activities during his presidency.

Antonio Barcelona (p.c.) has suggested to us that the metonymies CONTROLLER → CONTROLLED, i.e. NAPOLOEON → NAPOLEON'S ARMY, in (31), and BUSH → BUSH'S PRESIDENTIAL ACTIONS in (32) are *active zone* metonymies in the sense of Langacker (see the volume edited by Benczes, Barcelona and Ruiz de Mendoza 2011 for this point; specifically Barcelona 2011). A well-known example is a sentence such as *My cat bit your dog*, where the event referred to involves the cat's teeth as the crucial active zone, rather than the cat itself. According to Barcelona, in active zone metonymies it is the source that is conceptually foregrounded, rather than the target.

Alternatively, the fact that in (32) it is the source meaning of *Bush*, i.e. 'Bush, the person', that motivates the use of the personal pronoun *him* in the second clause of (32) could be explained through the workings of an *animacy hierarchy* with humans at the top rung of this hierarchy.

Finally, there is still another way of analyzing (31) and (32). One could argue that in (31) the linguistic vehicle and source of the metonymy is not *Napoleon* but the event nominal *Napoleon's invasion*, which is metonymically elaborated as 'the invasion *instigated* by Napoleon', and this would be compatible with the thesis that metonymies are target-oriented, i.e., that they foreground their target meaning. Napoleon is the ultimate causer of the war against Russia. In addition, there is also the implicit assumption that Russia cannot be invaded single-handedly by Napoleon without an army, but this world knowledge that there are troops involved in the invasion is backgrounded in (31). What is foregrounded is that the invasion was caused by Napoleon and that he was responsible for it.

As to (32), there is also an alternative metonymic reading. Under this interpretation, the predicate nominal *a disaster* is the vehicle and source of a metonymic operation that produces the target meaning 'be a failure, fail'. Hence, the metonymy at work is *not* BUSH → BUSH'S PRESIDENTIAL ACTIONS, but the locus of the metonymy is the predicate nominal *a disaster*, i.e., the metonymy is DISASTER → FAILURE.

In conclusion, the putative counterexamples we have been considering turn out to be examples of target-oriented metonymies if the locus of the metonymy is shifted from the proper names *Napoleon* and *Bush* to what is predicated of them, viz. that Napoleon *invaded* Russia and that Bush *was a failure* as president.

2.8 Metonymy as a source-in-target operation

A good starting-point for tuning in to this section is Carston's (2002: 16) contention that metaphor, metonymy and hyperbole "involve saying one thing in order to communicate something else", and that, furthermore, these tropes are "cases where what is said is not even a part of what is meant, but is merely a vehicle for conveying what is meant". The author contrasts metaphor, metonymy and hyperbole with e.g. similes, understatements and indirect answers "where what is said is included in what is meant […]".

As far as metonymy is concerned (we do not discuss the other kinds tropes mentioned in the above quotes), Carston's claim amounts to saying that metonymy involves the *substitution* of one meaning for another meaning. In contrast to the substitution view of metonymy (see e.g. Haser 2005: 17–18), in this chapter metonymy is regarded as a "means of semantic enrichment or elaboration" (Panther 2006: 154), i.e., it is assumed that the metonymic target sense properly includes the source meaning of the metonymy (see Panther 2005b). From an *intensional* perspective, all metonymies are of the type CONCEPTUAL PART FOR CONCEPTUAL WHOLE.

The view that metonymy can be reduced to intensional part-whole relations is not shared by all metonymy scholars. For example, Ruiz de Mendoza and Galera Masegosa (2014: passim) advocate a distinction between source-in-target (domain expansion) and target-in-source (domain reduction) metonymies, assuming that, in the first case, the target is a conceptual expansion of the source whereas, in the latter, it is conceptually contained in the source. Our conception, which, for reasons of space, cannot be discussed in detail, is that *all* metonymies are cases of "domain expansion", in the sense that new conceptual material is added in the construction of the target meaning. In other words, the source meaning is *conceptually integrated* into the target meaning.

To see the difference between the approach advocated in this contribution and Ruiz de Mendoza's analysis, consider a simple example first discussed in Ruiz de Mendoza (2000) (repeated in Ruiz de Mendoza Ibáñez and Galera Masegosa 2014: 120):

(33)   Wall Street is in panic.

Sentence (33) is regarded as an example of *double metonymic reduction* by Ruiz de Mendoza Ibáñez and Galera Masegosa. According to the authors, the sentence involves a metonymic chain PLACE → INSTITUTION → PEOPLE. In the current example, the PLACE domain contains the INSTITUTION domain, which, in turn, is supposed to be a more inclusive domain than the PEOPLE domain (meaning here 'the people working at the New York Stock Exchange (NYSE)'). However, Ruiz de Mendoza and Masegosa do not provide clear criteria for distinguishing between domain expansion and reduction (see e.g. Panther 2003: 280–281; Panther 2006: 157–161).

In our view, example (33), like other examples of "domain reduction" adduced by Ruiz de Mendoza and Masegosa, can be analyzed as cases of *conceptual elaboration* or *expansion*, as can be seen from the metonymic chaining in (34):

(34) a. Wall Street is in panic. [SOURCE]→
      b. The NYSE located on Wall Street is in panic. [TARGET 1] →
      c. The brokers working at the NYSE located on Wall Street are in panic. [TARGET 2]

To conclude and sum up, we assume that, as a result of a metonymic operation, new conceptual material is blended with given conceptual meaning. Metonymic target meanings are thus conceptually more complex than their source meanings, and in this sense, metonymies are tools of semantic expansion.

2.9   Pragmatic effects

The metonymic operation, in combination with the linguistic context and the communicative situation, may trigger pragmatic effects, e.g., implicate an emotional stance, signal social parameters (e.g. politeness/rudeness), convey aesthetic values (poetic embellishment), etc. For a more detailed discussion of the functions and effects of metonymy, see Littlemore (2015: 61–91). Some of the pragmatic effects of metonymy can be related to Levinson's (2000: 38) *M*(anner) *Heuristic* "What's said in an abnormal way isn't normal".[8] As a first example, consider:

(35)   The blue helmets – it's better to say blue berets – have arrived in Sarajevo. We're safer now.   (COCA 1994)

In (35), the expressions *the blue helmets* or *blue berets* evoke positive connotations – perhaps more so than a plain non-metonymic definite description such as *the U.N. troops*. This implicitly positive evaluation of the event described in the first sentence of (35) is reinforced by the second sentence *We're safer now*.

In contrast, the referential metonymy BROWN SHIRTS → FASCISTS in (36) enhance the negativity of the political movement thus designated; also note that *brown shirts* is coordinated with *the communist element*, suggesting that they are of the same negatively evaluated type:

(36)   These protesters are the worst type of people we harbor in America, worse than the brown shirts and the communist element …   (COCA 2000)

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8. Levinson's conception of the M Heuristic is based on the Maxim of Manner proposed by Grice (1989: 127).

2.10   Pragmatic types of metonymy

From a pragmatic, i.e. speech-act theoretic, perspective, we postulate at least three types of metonymy: (i) *referential*, (ii) *predicational*, which, combined, yield *propositional* metonymies, and (iii) *illocutionary* metonymies.[9] This classification of metonymies into various pragmatic subtypes has not met with unanimous approval. In a review article of Peirsman and Geeraerts (2006), Croft (2006: 321) proposes that the scope of metonymy be restricted to "domain highlighting of autonomous predications". The property of autonomous predication, which Crofts adopts from Langacker, holds for nouns, and Croft claims that nouns (and presumably noun phrases) are the locus of metonymy, whereas dependent predications such as verbs, prepositions and adjectives (which have to be conceptually elaborated) are supposed to be the locus operandi of metaphors. Thus, Croft restricts the use of the concept 'metonymy' to referential metonymy. He replaces the term 'metonymy', which he probably believes to be pre-scientific, with the expression "theoretically-defined notion of domain highlighting" (Croft 2006: 321).

It is not clear to the present authors why the notion of domain highlighting (alias 'profile shift', 'foregrounding' or 'prominence') should not be applicable to other than referential expressions. For example, shifts from modal meanings, such as ABILITY, OBLIGATION and PERMISSION, to ACTUALITY (of the occurrence of an event) can be analyzed as phenomena of domain highlighting in Croft's sense, i.e. *conceptual prominence* in Panther and Thornburg's (e.g. 2007) terminology. To illustrate, Panther and Thornburg (1999) propose, among other things, that the inference from OBLIGATION (to act) to ACTION is metonymic. This metonymic inference manifests itself, among other things, in so-called "hedged performatives" (Fraser 1975) such as in (37):

(37)   Once again, I must ask you to lower your voice.   (COCA 2011)

In most contexts, utterance (37) conveys the performative target meaning 'I *ask* you to lower your voice'. Following Croft, such cases should not be called metonymic because *must (ask)* is a dependent predication. This is an undesirable consequence of Croft's conception of metonymy, because utterance (37) clearly exemplifies a shift from a literal deontic interpretation, i.e. an obligation to ask, to the act of asking itself. As a result of this conceptual shift, the target, i.e. the performative

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9.   We suspect that there are additional act types that are speech-act-theoretically and metonymically relevant, such as *specifying* (or grounding) and *modifying* acts (see e.g. Panther (2009: 74); Köpcke, Panther and Zubin (2010: 179).

interpretation, becomes conceptually more prominent than the source, i.e. the modally hedged illocutionary verb.

Note also, that, as in referential metonymies, the source meaning of OBLIGATION is still present in (37) and it triggers a set of other pragmatic effects (see Section 2.9). In explicitly expressing an obligation to perform the speech act in question the speaker gives to understand that she performs the directive speech with some reluctance or regret, or even carries it out against her own will, etc. Metonymy has discourse effects that deserve the attention of cognitive linguists, although this has hardly been done so far (see Panther and Thornburg 1998, Panther 2005b).

In conclusion, we cannot see the theoretical feasibility, let alone necessity, to restrict metonymy to referential metonymy. In the absence of compelling evidence to the contrary, we continue to adhere to the view that, pragmatically, metonymy manifests itself on the levels of reference, predication, proposition and illocution.

3.   Three modes of reasoning

After having sketched our conception of metonymy in Section 2, we now return to the question raised in Section 1 of what kind of inferential mode metonymy is. Towards this end, we briefly consider three modes of reasoning in this chapter, which play an important role in scientific and everyday reasoning: deduction, induction and abduction, checking them for their suitability or non-suitability to model metonymic reasoning.

3.1   Deduction

Classical examples of deductive reasoning are Aristotelian syllogisms of the sort exemplified in (38):

(38) a.   All humans are mortal. [MAJOR PREMISE or GENERAL LAW]
      b.   Socrates is human. [MINOR PREMISE]
      c.   Socrates is mortal. [CONCLUSION]

Given the two premises (38a,b) the conclusion (38c) is true by necessity. Related but not identical to syllogisms like (38), is the propositional inference schema known by its scholastic name *modus ponens* ('affirming mode', see e.g. Honderich 1995):

(39) a.   p ⊃ q [PREMISE 1]
      b.   p [PREMISE 2]
      c.   q [CONCLUSION]

The closest equivalent of $p \supset q$ in English is *if p, then q*.[10] A natural language example of modus ponens reasoning is (40):

(40)   a.   If you have a credit card, then you can get a cash advance. [PREMISE 1]
       b.   You have a credit card. [PREMISE 2]
       c.   You can get a cash advance. [CONCLUSION]

Once the premises of a deductive schema have been accepted, the conclusion follows automatically, i.e., it is not defeasible without contradiction. Is metonymic inferencing a case of deductive reasoning? The answer is *no*, the target of a metonymic reasoning process is defeasible. Therefore metonymy cannot be adequately accounted for in terms of deductive inferencing.

Note that entailment is a kind of deductive reasoning on the conceptual level. Entailments can be represented in the format of *modus ponens*. Consider sentence (41a), which entails (41b):

(41)   a.   Before Hurricane Fran hit, I remembered to bring in the lawn furniture
            […].   (COCA 2004)
       b.   Before Hurricane Fran hit, I brought in the lawn furniture […].

The modus ponens schema of (41) would be:

(42)   a.   If, before Hurricane Fran hit, I remembered to bring in the lawn furniture,
            then I brought in the lawn furniture. [If p, then q]
       b.   Before Hurricane Fran hit, I remembered to bring in the lawn furniture. [p]
       c.   Before Hurricane Fran hit, I brought in the lawn furniture. [q]

3.2   Induction

Induction is a reasoning mode that proceeds from particular observations to a general conclusion. The following example illustrates this mode of thinking:

(43)   a.   Spanish has a tense system [OBSERVATION 1]
       b.   French has a tense system [OBSERVATION 2]
       c.   German has a tense system [OBSERVATION 3]
       d.   English has a tense system. [OBSERVATION 4]
            [……] [OBSERVATION n]
       e.   Every language has a tense system [INDUCTIVE GENERALIZATION]

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10. The symbol $\supset$ is used for the logical relation of 'material implication', which is defined as follows in truth-conditional terms: $p \supset q$ is only false if and only if p is true and q is false. Different from if p, then q, there is no conceptual connection (e.g. causal) between the two propositions p and q in the logical formula $p \supset q$.

As can be easily seen, inductive generalizations do not hold by necessity; and in the particular case of (43), it suffices to find one language, e.g. Chinese, that does not have a tense system to falsify the conclusion (43e). Inductive reasoning is defeasible, and as such it looks like a better candidate than deductive reasoning for modeling metonymic reasoning.

3.3   Abduction

The third mode of reasoning, abduction, was first proposed by the American philosopher Charles S. Peirce (1839–1914). Peirce thought about abductive reasoning throughout his life, and it is therefore not surprising that his conception of abduction underwent various changes (Paavola 2005: 131, Deutscher 2002). In his early writings (ca. 1860–1990), Peirce thought of abduction as an inverse, and therefore *invalid* mode of reasoning. The following faulty syllogism, which like the valid syllogism (38) involves universal quantification, illustrates this inferential mechanism:

(44)   a.   All humans are mortal. [PREMISE 1]
      b.   Socrates is mortal. [PREMISE 2]
      c.   Socrates is human. [CONCLUSION]

The conclusion (44c) *happens* to be a true statement if *Socrates* refers to the Greek philosopher or another human being, but it *does not logically* follow from the premises (44a,b). Suppose that *Socrates* is the name of a cat or a dog; in that case, the conclusion is obviously not warranted. This example demonstrates the relevance of world knowledge in abductive reasoning and, as in the case of induction, demonstrates that abductive inferencing is defeasible, which makes abduction also a potential candidate for underlying metonymic reasoning.

Abduction can be informally characterized as "thinking from evidence to explanation, a type of reasoning characteristic of many different situations with incomplete information" (Aliseda 2006: 28). A typical example cited by Aliseda is the diagnostic work performed by doctors drawing inferences from patients' symptoms to the ailments or diseases that cause them. Such reasoning also occurs in ordinary conversation and organizational talk (see Musson and Tietze 2004).[11]

In the same vein as Aliseda, Thagard (2007: 227) emphasizes that abductive inferencing is rampant in both scientific and common sense reasoning. Experimental results in the sciences can be regarded as facts that require some interpretation as to what best "explains" them. In police work, the detection of crimes necessitates

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11.   The study of 'organizational talk' is part of the study of how people, as individuals or groups, behave within an organization, such as a corporation, a government office, hospital, school, etc.

the abductive interpretation of evidence that leads to reasonable conclusions about "whodunnit" and the perpetrator's motives, etc., and masters of such abductive reasoning are famous characters of crime fiction, such as Colin Dexter's Inspector Morse, Agatha Christie's Hercule Poirot or Raymond Chandler's Philip Marlowe.

In Peirce's early thinking, abduction is a conscious and controlled mode of reasoning. In his later life, Peirce recognized the importance of an "abductive instinct" (Paavola 2005: 150). While he was reluctant to call instinctual abduction 'reasoning', Peirce was well aware of the relevance of instinctual abduction in the life of ordinary people. Peirce's later conception of abduction was that the "abductive suggestion comes to us like a flash. It is an act of *insight* although of extremely fallible insight" (Peirce, in Buchler 1955: 151). More generally, instinctual abductive reasoning involves the following premises and conclusion (151) (lettered numbering has been added):

(45) a. The surprising fact, C, is observed;
      b. But if A were true, C would be a matter of course,
      c. Hence, there is reason to suspect that A is true.

The abductive instinct relies on "small, clue-like signs and the result is a hypothetical idea or interpretation". The premises and the inference are not consciously formulated (either verbally or mentally); the link between them is in Paavola's (2005: 147) words "an associative connection rather than reasoning". It is this version of abduction that is of keen interest to contemporary conceptual metonymy theory. The two key notions are *clues* and (subconscious) *associative reasoning*.

3.4   Interim conclusion

As we have seen, of the three inferential modes we have considered induction and abduction are the reasoning modes that exhibit the property of defeasibility (see Table 1).

Table 1. (Non-)defeasibility in language-independent inference modes

Mode of inference	Defeasibility
Deduction	No
Induction	Yes
Abduction	Yes

Since pragmatic reasoning, and in particular metonymic reasoning, is contingent, i.e. in principle, defeasible, induction and abduction might be considered as possible candidates for accounting for metonymic reasoning. In Section 4, we argue that abduction is better suited than induction as a model of metonymic inferencing,

although it will have to be adapted to the specific challenges that language users face in the construction of linguistic meanings.

4.   Metonymy as an abductive reasoning strategy

It is not easy – although perhaps not impossible – to find instances of metonymy that could be argued to be based on some *inductive* reasoning process. For example, the metonymies MEMBER OF CATEGORY → CATEGORY or, alternatively, TOKEN → TYPE, might be proposed as cases in point. Consider a generic statement such as (46):

(46)   The tiger is one of the largest of the big cats, and the only cat with stripes.[12]

In (46), the subject *the tiger* does not designate a definite individual tiger but denotes tigers as a type.[13] The underlying cognitive mechanism at work in this example is that an individual instance of a type is conceptualized as representative of the type. This (defeasible) reasoning from individual to type can be regarded to involve an inductive leap from a member of a class to the class itself. However, we claim that the kind of reasoning involved in the identification of the generic target meaning of (46) can also be accounted for by abductive inference mechanisms (see below). The abductive approach has the advantage that it accounts for a much wider range of metonymic data than the inductive approach.

Abductive reasoning is, as we have seen, a general-purpose reasoning instrument. If applied to the interpretation of natural language meanings and uses, this instrument has to be adapted to the kinds of inferences performed by language users in figuring out intended meanings. Adopting and adapting the Peircean abductive schema (45a–c) in Section 3.3, we propose the following interpretation strategy for metonymies:

(47)   a.   Some linguistic unit LU (linguistic vehicle) with the meaning S1 (source) is semantically or pragmatically (more or less) *incongruent* with the linguistic context and/or extralinguistic situation in which it occurs.

   b.   If the literal (source) sense S1 of LU is shifted to an associated sense S2 (target), then the semantic-pragmatic incongruity between LU and the linguistic context or extralinguistic situation is resolved; i.e., S2 is more congruent with the given context or situation than S1.

   c.   Therefore, the sense of LU is probably S2 (target).

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12. From: http://www.arkive.org/tiger/panthera-tigris/video-ti08a.html; accessed January 26, 2015.

13. See Radden (2009) for a metonymic (and conceptual blending) analysis of generic noun phrases.

The analogies between a Peircean language-independent abductive reasoning mechanism and an abductively motivated interpretive strategy for metonymy resolution proposed in (47) is represented in Table 2.

Table 2. Correspondences between language-independent abductive reasoning (Peirce) and an abductively motivated interpretation strategy for metonymies

Peirce	Panther & Thornburg
Surprising fact C	Contextually/situationally incongruent linguistic unit LU with meaning S1
If A, C is a "matter of course"	If S1 is shifted to S2, LU becomes congruent with context/situation in which it occurs
A is true	S2 is intended interpretation

Metonymy then amounts to the resolution of a more or less strong semantic-pragmatic conflict between a linguistic unit (the linguistic vehicle and its source meaning in Figure 2) and the context/situation in which it appears. To see how this works, let us reconsider some of the examples discussed in preceding sections, which are repeated (and occasionally simplified) here for the reader's convenience:

(48)   The kettle is boiling. (see (27a))

(49)   Richard Dawkins began a new book. (see (29))

(50)   The blue helmets […] have arrived in Sarajevo. We're safer now. (see (35))

(51)   The tiger is one of the largest of the big cats, and the only cat with stripes. (see (46))

(52)   Once again, I must ask you to lower your voice. (see (37))

The incongruity of a linguistic unit with linguistic context may be a local phenomenon, i.e. manifest itself within a clause or even phrase, but there may also be incongruence of a linguistic unit with the larger discourse context. Expressions (48) and (49) are examples of local meaning conflicts within one sentence. Utterance (48), in its literal interpretation of the referential term *the kettle*, evokes an incongruous scenario that necessitates a conceptual shift triggered by the local predicate *is boiling*, and also by the extralinguistic situation – here the real-world knowledge that it is unlikely that the kettle itself will boil. The incongruity between the meaning of the subject term and the following predicate is thus resolved by means of the metonymy CONTAINER → CONTAINED.

In (49), there is a semantic conflict between the argument structure of the verb *begin*, whose complement allows only arguments that denote events, and the actually occurring noun phrase *a new book*, which denotes a thing. This local incongruity is resolved by shifting the literal interpretation THING of *a new*

book metonymically to an ACTION reading that involves a new book. In (49), the non-specified action is carried out by the referent of the subject, *Richard Dawkins*.

In (50), the incongruity of the meaning of the subject term *the blue helmets* is not local but becomes evident in a larger discourse context. This larger context excludes a literal interpretation of *the blue helmets* and invites the metonymic interpretation 'the UN soldiers wearing blue helmets'. The contextual information *We're safer now* makes this latter interpretation even more congruent with the discourse context than the literal interpretation of *the blue helmets* as 'headgear'.

Sentence (51), whose generic sense we have tentatively considered being a possible result of inductive reasoning, can also be analyzed in terms of the abductive interpretation strategy. In this case, the incongruity with the context can be seen in the fact that the unmarked or default interpretation of the definite noun phrase *the tiger* is something like 'familiar individual of the species *panthera tigris*'. The predication *is one of the largest of the big cats* […] is however an indication that the sentence is about tigers in general, i.e., it triggers a metonymic transfer from MEMBER OF A CLASS to CLASS.

Finally, sentence (52), taken literally, would be slightly incongruent in a situation where the main intention of the speaker is to simply and plainly *ask* the hearer to lower his or her voice. The incongruity vanishes however because of the metonymic inferential schema OBLIGATION TO REQUEST → REQUEST, whose effect is to make (52) into a (hedged) performative utterance. Furthermore, as we have seen, the modally hedged request has a significant advantage over its more direct non-hedged counterpart *I ask you to lower your voice*: it conveys additional pragmatic effects (discussed in Section 2.10).

To conclude, the basic idea of the approach to metonymy developed and illustrated with examples in this section is that metonymies (and presumably also, other figures of language and thought) are triggered when the literal meaning of some linguistic expression does not quite fit into the local or wider context/situation of a text or conversation in which it appears. This incongruence of the linguistic unit with the context creates an effect of "surprise" (see 45a) that is resolved by assigning a new interpretation (target meaning) to the incongruent unit. We have proposed that this Peircean interpretation strategy, along the lines formulated in (47) and summarized in Table 2, accounts for a large class of metonymies. The expression *a large class* is used deliberately here: in terms of neo-Gricean pragmatics, it conveys the implicature 'not the whole class'. And indeed, not all metonymies are triggered by contextual incongruities; there is another large class of metonymies that appears to have the function of conveying *default interpretations*. Such cases have been investigated by neo-Gricean scholars and cognitive linguists alike. This raises the question how metonymy relates to conversational implicature, in particular, generalized conversational implicature.

5.   Metonymy and implicature

In this section we focus on a subtype of metonymy whose properties can be likened to the Gricean notion of implicature. In this context, recall that entailment (semantic implication) is, like deduction, a non-defeasible relation, and, given our view that metonymies are contingent, we have therefore argued that entailment-based metonymies do not exist. Similarly, what has been called *conventional implicature* by Grice (1989: 25–26), is a non-cancelable inferential relation. In contrast, *conversational implicatures* can be withdrawn by the speaker without contradiction, i.e., they are defeasible, i.e. contingent (see Table 3).

Table 3. Semantic-pragmatic inference types

Mode of inference	Defeasibility
Entailment	No
Conventional implicature	No
Conversational implicature	Yes

Conversational implicatures come in two kinds, generalized and particularized. According to Levinson (2000), generalized conversational implicatures are default inferences, i.e. preferred interpretations that hold unless they are explicitly canceled. Particularized conversational implicatures arise in specific contexts. These two types of implicatures share the following properties (Levinson 2000: 15):

1.   Cancelability/defeasibility: the inference can be defeated by additional assumptions.
2.   Non-detachability: the same coded content yields the same implicature(s).
3.   Calculability: the structure of the inference is transparent and reconstructable.
4.   Codability: the inferences are not coded.
5.   Reinforceability: what is implicated can be added to what is said without causing (too much) redundancy.

In what follows, we restrict our attention to the two parameters of cancelability/defeasibility and reinforceability and how they relate to metonymy.

5.1   Cancelability/defeasibility

Metonymies are in principle defeasible – a property that we have referred to as the contingency criterion – and a property that they share with Gricean conversational implicatures. Furthermore, there exist linguistic phenomena that are treated as involving implicature in neo-Gricean pragmatics but as metonymy in cognitive linguistics. A case in point is the (partial) parallelism between what Lakoff (1987) calls 'metonymic models' and Levinson's (2000: 37–38) so-called 'I-heuristic' (or

I-principle). These cases are not adequately accounted for by the abductive schema (47) in Section 4.

Lakoff (1987: 79) observes that categories like MOTHER are associated with stereotypical culturally motivated connotations, one of which is that a prototypical mother is a housewife. This stereotype can be formulated as the metonymy MOTHER → HOUSEWIFE MOTHER. For similar examples, Levinson (2000: 37) proposes a generalized conversational implicature based on his I-principle (which he likens to Grice's Second Maxim of Quantity): "What is expressed simply is stereotypically exemplified". He illustrates his I-principle with the stereotypical interpretation of *secretary* as 'female secretary'.[14] Another example is the generalized conversational implicature of a road as a paved road (notated *road* + > 'paved road' in Levinson's system). Such metonymic targets/generalized conversational implicatures can be overtly canceled:

(53)　She is a mother of two daughters, but she is not a housewife mother.

(54)　My boss hired a new secretary – an older man, actually.

(55)　We took a new road through the woods, but it was not paved.

Examples (53)–(55) exhibit cancelability of the metonymic target or in Neo-Gricean parlance, the conversational implicature.

But what about cases like (56)?

(56)　Hollywood made millions with *The Titanic*.

This example exhibits the productive metonymy LOCATION → PEOPLE/BUSINESSES, etc. ACTIVE AT LOCATION, here HOLLYWOOD → FILM INDUSTRY LOCATED IN/NEAR HOLLYWOOD. The relation between a location and the people/businesses being active at the location is contingent. But is the target meaning a defeasible conversational implicature? A location as such cannot make money; the predicate *made millions with 'The Titanic'* blocks the interpretation as a mere location, i.e. enforces a metonymic interpretation that involves potential agents, i.e. movie-makers.

Metonymies like the one in (56) are enforced by the local context, but, to repeat a point already made in Section 2.6, they are not entailments. The conclusion to be drawn from a coerced example is that the contingent relation between source and target meaning does not necessarily imply that the target meaning is cancelable.

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14. Levinson's I-principle or I-heuristic covers many more cases that range from implicatures (notated as '+ >') 'such as *don't like* + > 'dislike', *I don't believe p* + > 'I believe that not-p', etc. The common denominator of these instances is supposed to be that they trigger inferences to some stereotypical interpretation; however, the use of the term 'stereotype' seems to be somewhat overstretched here, covering a heterogeneous class of examples.

But on closer inspection, one finds that this also holds for implicature. Consider a classical case of implicature cancelability (italics added):

(57) We found that *most* countries used ad hoc priority-setting and planning methods, with little to no underlying systematic risk analysis.   (COCA 2012)

Sentence (57) triggers the following default reading (generalized conversational implicature), which is based on Grice's (1989: 26) First Maxim of Quantity "Make your contribution as informative as is required" or Levinson's (2000: 35–37) Q-heuristic:

(58) We found that *not all* countries used ad hoc priority-setting and planning methods […].

But of course the default inference (58) can be overtly canceled:

(59) We found that *most*, in fact *all*, countries used ad hoc priority-setting and planning methods […].

Utterance (59) then behaves like Examples (53)–(55) in canceling a metonymic reading or default inference.

We have seen that the cancelability of the metonymic inference holds for what we can call *default metonymies*. And it also holds in principle for metonymies that we have analyzed in terms of the abductive schema (47) in Section 4. Where these two types of metonymy differ is (i) in the effects that the context/situation have on their respective source and target senses, and (ii) in the outcomes of canceling their respective target senses, as laid out in Table 4.

Table 4. Sense effects of incongruent and default metonymies

	Literal meaning (source)	Effect of metonymic inference (target)	Effect of canceling target sense
Incongruence-based metonymies	INCONGRUENT	BECOMES CONGRUENT	BECOMES INCONGRUENT
Default metonymies/ implicatures	CONGRUENT	REMAINS CONGRUENT	CREATES UNEXPECTED SENSE

For incongruence-based metonymies, e.g. *Hollywood* in (56), the source meaning of the linguistic vehicle is incongruent in its context. The metonymic operation has the effect of creating semantic-pragmatic congruence with the surrounding discourse, i.e., leads to a target sense of something like 'movie-makers who profit from the film's proceeds', which resolves the incongruence. Cancelation of this target sense leads back to incongruence:

(60)   [?]Hollywood made millions with *The Titanic*, but the movie-makers did not profit.

Consequently, a different congruent target meaning for *Hollywood* must be sought, e.g. 'non-movie-maker businesses in Hollywood'.

In contrast, with the second type of metonymy, i.e. default metonymies/implicatures, exemplified by *most* in (57), the source meaning is congruent with the context, and the default metonymy/implicature 'not all' in (58) remains congruent. In other words, both the source meaning of *most* and the default sense 'not all' are congruent in the local context. Interestingly, the cancelation of the metonymy/implicature 'not all' in (59) by means of adding the expression *in fact, all* does not result in incongruence but rather creates an effect of unexpectedness or surprise in that an expected default meaning has been overturned. Note, however, that cancelation of a default sense does not produce a logical contradiction.

5.2   Reinforceability

Levinson (2000: 15) considers reinforceability, i.e. the overt coding of an implicature, as a diagnostic for distinguishing implicature from coded, i.e. non-defeasible, content, e.g. entailment. According to Levinson, conversationally implicated content can be overtly expressed without an effect of redundance whereas the explicit coding of entailments leads to tautologies.[15] Compare the explicit expression of the entailment in (61) with a reinforced implicature, as in (62):

(61)   [#]John managed to open the door and he opened the door.

(62)   John tried to reach the summit but he didn't succeed.   (Levinson 2000: 37)

The first clause in (61) *entails* 'John opened the door'. Explicitly coding this entailment creates a strong effect of redundancy. In contrast, the first clause in (62) *conversationally implicates* that John was not successful in reaching the summit. This implicated information can be overtly expressed without redundancy.

Like conversational implicatures, metonymies allow overt expression of their target meanings without creating too much of a feeling of repetitiveness. In the following examples (discussed in Section 5.1) the second clause of each overtly codes

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15. This statement requires some mitigation. There are contexts that allow entailments to be expressed overtly, e.g. in highly emotionally charged situations it seems possible to exclaim *The King has been assassinated!* The King is dead! For reasons of space this topic cannot be pursued in this chapter.

a metonymic reading evoked by the first clause, demonstrating that metonymies are reinforceable:

(63)   She is a mother of two daughters, i.e., she is a typical housewife mother.

(64)   My boss hired a new secretary, i.e. a female.

(65)   We took a road through the woods; it was paved.

(66)   Hollywood made millions with *The Titanic*; I mean, the American film industry.

6.   Conclusions

In this chapter we advocated a view of metonymy as a contingent, i.e. defeasible or cancelable, relation. This thesis, which we defended against various objections that might be raised against it, led us to the question of what kind of thinking or reasoning mode metonymy is. In Section 4, we proposed a conception of metonymy as "instinctual" or spontaneous abduction. Spontaneous abduction, in the sense of Charles S. Peirce, is a kind of pre-scientific common sense reasoning, i.e. non-deliberative fast thinking, as Kahneman (2011) puts it, which is logically fallible but extremely useful to humans for making sense of the world.[16]

Despite the attractiveness of a unified model of metonymy as abduction, we concluded that this conception is empirically defective in not covering at least one important subtype of metonymy, viz. reasoning to a default meaning. This inferential type cannot be captured by a Peircean interpretation model based on notions like 'surprise' or, as we have put it, 'incongruence' in the literal meaning conveyed by the linguistic vehicle. There is however a common feature shared by incongruence-based metonymies and default metonymies: both involve indexical reasoning to associated concepts, and the linguistically coded message (linguistic vehicle) provides prompts that have to be fleshed out into discursively and conversationally coherent meanings by the language user – be they implicated default meanings, abductively inferred senses, or other yet to be detected types of pragmatic inference.

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16. The idea that metonymic reasoning is abductive reasoning is not new. Metonymy and other pragmatic inferences have in fact been analyzed by Artificial Intelligence researchers in terms of formal models of abduction (see e.g. Hobbs 2001).

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Molly married money
Reflections on conceptual metonymy

Günter Radden

Universität Hamburg

This chapter is concerned with the conceptual basis of metonymy. Particular attention is devoted to properties that are considered crucial to conceptual metonymy. The *metonymic source* has received little attention. However, it plays an important role as an element of the target and is given due attention. The notion of *association* is applied to metonymic interconnections, inference, and strength of association. A central element of metonymy is the notion of *relation*: However, neither contiguity nor indexicality adequately covers the range of metonymic relations. The paper argues that two more properties are pertinent to conceptual metonymy: a *metonymic shift* from a source concept to a complex metonymic target, and the *conceptual integration* of source and target and its resulting emergent meanings.

Keywords: association, conceptual integration, conceptual shift, metonymic relation, metonymic source, metonymic target

1. Introduction

Metonymy has only recently emerged as a major field of study. It is a latecomer in Cognitive Linguistics mainly because it was overshadowed by the dominant theory of conceptual metaphor. Like metaphor, metonymy is generally regarded as a conceptual phenomenon. But while the conceptual nature of metaphor has only been discovered in modern times, metonymy had already been conceived of as a cognitive phenomenon in traditional rhetoric. Rhetoricians identified conceptual types of metonymy such as CAUSE FOR EFFECT and PLACE FOR INSTITUTION and, just as in present-day definitions of metonymy, described the entities related in metonymy as being closely associated. But the burden of tradition also makes it harder for Cognitive Linguists to approach metonymy in an unbiased, new way. Thus, it is almost impossible to get away from the misleading formula SOURCE FOR TARGET.

This chapter provides a critical and constructive survey of the conceptual basis of metonymy, as understood in present-day Cognitive Linguistics. There is wide agreement on a set of properties characterizing conceptual metonymy. These essential properties include (i) the metonymic source and target, (ii) association, and (iii) the metonymic relation. This study considers two more properties that are considered no less relevant to metonymy: (iv) the conceptual shift and (v) the conceptual integration of metonymic source and target. There are, of course, many more aspects of conceptual metonymy that deserve to be included in a survey. The limitation to these five properties of conceptual metonymy is only due to the author's subjective preferences.

2.   Metonymic source and target

In analogy to the notions *source domain* and *target domain* in metaphor research, the two conceptual entities related in metonymy are usually described as *source* and *target*. As conceptual units, source and target need to be distinguished from linguistic units. The linguistic expression denoting the source is, as also suggested by Panther and Thornburg (this volume), described as the *vehicle*. Let us look at the interaction of vehicle, source and target in the following uncontroversial instance of metonymy and attempt to retrace the hearer's steps in processing this sentence.

(1)   *Molly married money.*[1]
       'Molly married a man with a lot of money'.

The elements and cognitive operations that need to be performed in processing this sentence and arriving at the intended meaning are discussed below. Figure 1(a) presents the conceptual structure underlying the metonymy in *marrying money*, and Figure 1(b) represents the metonymic process in general. The arrows in the figures indicate some of the inferential steps taken by the language user in processing the metonymy.

The verb *marry* evokes an idealized cognitive model of marriage, the MARRIAGE ICM. The meaning of *money* is, however, incongruous with the meaning of the verb *marry* and calls for a conceptual resolution within the MARRIAGE ICM. *Money* obviously functions as the vehicle prompting a metonymic process. Once

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1.   *Molly married money* is the title of a song. http://www.amazon.co.uk/Molly-MarriedMoney/dp/B00FYTGA74. Apart from the metonymy, the poetic alliteration of the three words in the title and the slangy association of *molly* with a gangster's girlfriend give the title a particularly catchy flavor.

(a) Molly married money
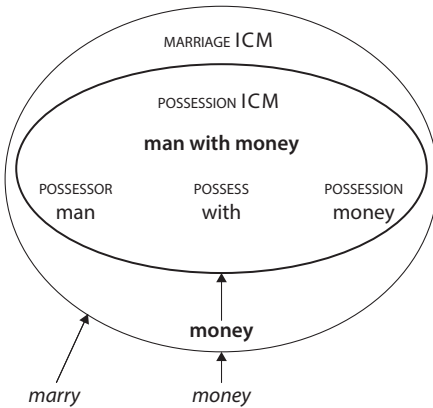
(b) General metonymic process
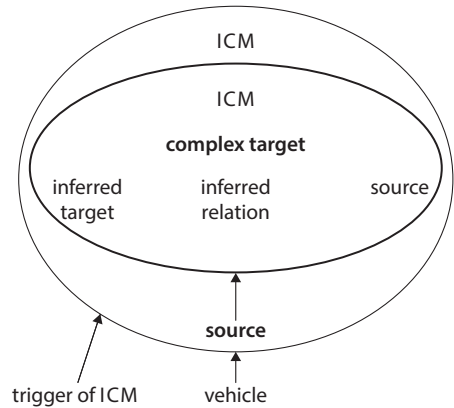
Figure 1.

the metonymic nature of a vehicle is detected, a series of cognitive operations is sparked off in processing the metonymy.

The concept 'money' serves as the metonymic source affording mental access to a target. The metonymic target is, however, not the concept 'man', but, as shown in Figure 1(a), something like 'man with money', i.e. a rich person. This paraphrase indicates that the metonymic target is a complex composed of three conceptual elements: the concept 'man' or 'husband', the relation 'possess', here expressed by *with*, and the source 'money'. We thus need to distinguish the target as an element inferred from the source, in our example 'man', and the target as a complex whole, i.e. 'man with money'. The overall metonymic target is described as *complex target* and the target as an element of the complex target as *inferred target*.

We also need to distinguish two functions of the metonymic source: its function as the point of access for the target and its function as an element of the complex target. As a point of access, the metonymic source is equivalent to the sense of the vehicle. As an element of the complex target, the source serves the important function of narrowing down the referential range of the target. Without any such qualifying element, the metonymy would be understood as meaning 'Molly married a man', which would only make sense in a cultural context in which people normally marry partners of the same sex.[2]

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2. As observed by Warren (1999: 128), the metonymic source forms part of the target: "We do not refer to music in *I like Mozart*, but to music composed by Mozart; we do not refer to water in *The bathtub is running over*, but to the water in the bathtub".

The metonymic vehicle, or metonym, evokes an ICM that provides access to the metonymic target. In our case, 'money' is typically owned by people and hence evokes the POSSESSION ICM and its conceptual elements of 'possessor', 'possess', and 'possession'. The interaction of the POSSESSION ICM and the MARRIAGE ICM gives rise to further inferences. Thus, we infer that the marriage-partner is the possessor of the money.

A second inference concerns the metonymic source. In our example, the very mention of money in the context of marriage suggests that the amount of money must be considerable. We thus infer the source 'money' to mean 'a lot of money'. The prominence attached to money is also reflected syntactically in the speaker's coding of money as the "secondary focal participant of a clause" (Langacker 2009: 112). Furthermore, the highlighting of money as an attribute of the bridegroom conflicts with our idealized, often hypocritical, romantic model of marriage, according to which people are supposed to marry out of love. A natural assumption will, therefore, be that the bride values money more highly than love and that her partner's fortune was the only reason for marrying this man. The speaker's attitude towards her marriage may thus be interpreted as disparaging or dismissive. These inferred aspects of meaning become apparent in anaphoric reference. Consider the following sentences expressing counter-expectations by means of a *but*-clause.

(2)   a.   Molly married money but kept *it* a secret.
      b.   Molly married money but loves *her husband*.
      c.   ?Molly married money but never spent *it*.

The pronoun *it* in sentence (2a) may refer to the husband's huge amount of money or to Molly's marrying a wealthy husband, i.e., in each case it involves the complex target 'man with a lot of money'. In canceling this inference, the speaker refutes the inference that his wealth was the reason for Molly to get married to this man. In sentence (2b), *her husband* is co-referential with the inferred target 'man' – the MARRIAGE ICM might even license the use of the pronoun *him* as a conceptual anaphor (for conceptual anaphor, see Gibbs 1994: 328–329). However, the complex target is still present in the counter-expectation: as in the previous example, the *but*-clause refutes the inference that the relevant reason for marrying her husband was his money. Sentence (2c) sounds odd pragmatically. The anaphoric referent of the pronoun *it* is *money* and hence is incompatible with the complex target meaning 'man with a lot of money'.

The contextualizations of the sentences under (2) demonstrate that the metonymic target is, in fact, complex and consists of the inferred target, an inferred relation, and the source. Contrary to traditional accounts, the metonymic source turns out to play a crucial role in the interpretation of a metonymic utterance.

3. Association

Both traditional and cognitive definitions of metonymy usually regard the metonymic source and target as being "closely associated". How is the notion *association* to be understood? In associationist psychology, associations are understood as connections of conceptual entities or mental states. In brain research and cognitive sciences modeling human nervous systems, associations are based on a network of connected neurons in the brain. The notion of association in this sense is thus understood as a static network of neural connections or circuitries that has the potential of being activated. Typically, however, the notion of association is understood in the dynamic sense of 'associative thinking'. In neural terms, associative thinking is based on spreading neural activation along pathways: The activation of one idea incites the activation of other ideas, which in turn may activate further ideas.[3]

In his bestselling book *Thinking: Fast and slow*, Kahneman (2011) argues that our brain uses associative thinking in subconsciously making snap and intuitive assessments about the world.[4] He gives the following examples of links that are spontaneously created by associative thinking: "causes are linked to their effects (virus → cold); things to their properties (lime → green); things to the categories to which they belong (banana → fruit)" (p. 52). These are the kinds of relation that look familiar to scholars of metonymy. Thus, the association between the thing 'lime' and its property 'green' is metonymically exploited in the sentence *Dressed in shades of green from lime to olive, she had a tangle of glittery chains around her neck.*[5]

The arrows in Kahneman's notation indicate the priming of the second concept by the first concept and thus correspond to the process of mentally accessing the metonymic target from the source. The directionality of priming is not fixed.

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3. A more technical definition of association as a neural phenomenon is provided by Bierwiaczonek (2013: 232): "Association in neural terms boils down to synaptic connections: through their axons all neurons reach out to other neurons, which through their axons reach out to other neurons and so on". Mental processes are ultimately a matter of "electrochemical conversations between neurons".

4. Kahneman (2011) distinguishes two systems employed by our brain in processing information: the fast system 1 and the slow system 2. System 1 works automatically and cannot be turned off at will, while system 2 monitors and controls thoughts and actions "suggested" by system 1. Spontaneous use of language is processed in system 1.

5. The sentence is quoted in *Dictionary.com* s.v. shades. http://dictionary.reference.com/browse/shades. The color terms lime and orange metonymically derive from the fruits of this color and have become conventionalized. But the metonymy FRUIT FOR COLOR OF THE FRUIT'S SKIN does not apply to any fruit. Thus, there are no color adjectives *tomato, cherry* or *avocado*. In English, color adjectives named after a fruit tend to name the fruit as well, as in *tomato-green* and *cherry-red*.

Thus, in an associated pair of concepts A and B, A may evoke B and B may evoke A. Kahneman (2011: 54) illustrates reciprocal activation by way of the following example: "being amused tends to make you smile, and smiling tends to make you feel amused". Bidirectionality is also a property of metonymic relations and distinguishes metonymy from unidirectional metaphorical mappings. Thus, the conceptual metonymies CONTAINER FOR CONTENT (*drink two mugs*) and CONTENT FOR CONTAINER (*clink beers*)[6] are reversible. However, the content of a particular metonymy itself is not reversible.

Due to these striking commonalities shared by association and metonymy it is not surprising that many scholars regard the entities related in metonymy as being "closely associated".[7] We may, therefore, suspect that metonymy also shares further aspects with association and its underlying neural basis. The following aspects of metonymy and its associated, or neural, counterparts immediately come to mind and are discussed below: (i) co-activation, (ii) inference, and (iii) strength of association.

3.1   Co-activation

The conceptual elements that participate in the online processing of metonymy are interconnected or, in neural terms, co-activated. Two kinds of interconnection can be distinguished: the connection between a conceptual complex and its elements, and the connection between elements within a conceptual complex.

The complex whole shared by the metonymic elements has variously been described as domain, frame or idealized cognitive model (ICM). In neural terms, these complex wholes are collections of neural nodes that form a "schema circuit" or "gestalt node". Following Lakoff (2009), schema circuits characterize frames and have the following property: "The activation of even some of the salient parts activates the whole. And the activation of the whole activates all the parts". In the metonymic sentence (1), *Molly married money*, the concept expressed by the verb *marry* activates the MARRIAGE ICM and the concept expressed by the noun *money*

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6.   A sentence in which clinking beers is used is *Surely we would be clinking beers by Sunday afternoon admiring our accomplishments*. (http://wanderingwithpurpose.com/2013/08/). The vehicle *beers* is a plural count noun and thus agrees with the plural target of the containers 'mugs of beer'. The use of the plural in beers may have been induced by the fact that an act of clinking requires at least two vessels, typically glasses, as well as two people.

7.   After reviewing an impressive amount of neurolinguistic work in his chapter on "Metonymy in the embodied mind", Bierwiaczonek (2013: 237) concludes that "[M]etonymy uses the same basic principle of association and co-activation".

the POSSESSION ICM. The MARRIAGE ICM in its turn activates the part 'man' and the POSSESSION ICM the parts 'possess' and 'possessor'.

The elements within a gestalt node are connected by a "linking circuit". The flow of activation in the linking circuit is asymmetric and, according to Lakoff (2009), characterizes metonymy. Lakoff has the classical unidirectional "stand-for" relation of metonymy in mind. As will be shown in Section 6, however, metonymy also involves the conceptual integration of source and target and the emergence of additional meanings. The neural basis for this view of metonymy would be the co-activation of both nodes creating a new coherent conceptual unit.

3.2   Inference

Most scholars regard metonymy and metonymic thinking as a matter of inferencing (e.g. Panther and Thornburg, this volume). In fact, all forms of indirect speech including metaphor and metonymy require inferential reasoning for their interpretation. Since the ICMs, the metonymic target, the conceptual relation holding between source and target, and emergent meanings are not explicitly stated, they need to be inferred by the hearer. In neural terms, "inferences occur when the activation of one meaningful node, or more, results in the activation of another meaningful node" (Lakoff 2009). Inferences are thus new activations, which, however, make use of established neural pathways.

The meaning associated with a given metonymy is not only inferred by the hearer, but also by the speaker. A cooperative speaker takes the inferences the hearer is likely to draw into account when construing a metonymic utterance. The speaker may also exploit the inferences the hearer is likely to draw. This typically happens in marketing products. Cosmetic products that are advertised as "clinically proven" or "dermatologically tested" invite the inference that they have been tested under medical supervision and hence are safe and effective.[8] The past participles *proven* and *tested* are inferred to mean 'proven safe' and 'tested to be effective'. Interestingly, consumers hardly ever recognize that they have been fooled by their own inferences. Instead, they blame companies for their "vague science", "false claims of superiority over other rivals", and "meaningless jargon". The notion of inference should, therefore, be somehow objectifiable and measurable. Norrick (1981: 30) offers a nice criterion for the validity of an inference: "Conclusions conforming to the rules of valid inference are acceptable in scientific inquiry or courts of law".

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8.   Many complaints about misleading information on products have appeared on the Internet and in the *Daily Telegraph* of July 29, 2015.

3.3   Strength of association

In their analysis of metonymy as a prototypical category, Peirsman and Geeraerts (2006) propose as the first dimension strength of contact, which corresponds to strength of association. In neural terms, the activation across synapses is strengthened where "there is a lot of activity" (Lakoff 2009). The strength of associative links has been shown to correlate with the speed of metonymic processing, as reflected in people's eye-movements. In a study carried out by Frisson and Pickering (1999, referred to by Bierwiaczonek 2013: 236–237), subjects processed sentences with the familiar PLACE FOR INSTITUTION metonymy much faster than sentences with less familiar metonymies. Familiarity of association may also correlate with conventionality and frequency in the use of metonymy. For example, the strength of contact between a producer and the product produced is certainly high, and the metonymy PRODUCER FOR PRODUCT is quite productive, as in the well-known example (3a). However, its inverse variant, PRODUCT FOR PRODUCER, is highly restricted, as shown in (3b), but it is not completely excluded, as illustrated in the German sentence (3c).

(3)   a.   Shakespeare is on the top shelf. (= book)
      b.   Hamlet is known all over the world. (≠ Shakespeare)
      c.   *Die Blechtrommel schweigt für immer.* (= Günter Grass)
           'The Tin Drum is silent forever'.

Shakespeare in (3a) would be interpreted metonymically, but *Hamlet* in (3b) would be interpreted literally, probably as Shakespeare's play of this name, not as its author. The headline in (3c), however, is understood metonymically. The article appeared in a German newspaper commemorating Günter Grass's death on April 13, 2015, and *The Tin Drum* refers to his most famous novel. The metonymic and metaphoric diction in the headline has a literary touch, as befits a Nobel-Prize winning author. This effect is partly due to the fact that the PRODUCT FOR PRODUCER metonymy is so rare that it arouses our special attention. Its rarity is due to the preference principle HUMAN OVER NON-HUMAN for the selection of metonymic vehicles (Radden and Kövecses 1999: 45). Strength of contact between metonymic entities thus varies considerably depending on the directionality of the metonymy.

4.   Metonymic relation

It is probably easier to identify particular metonymic relations than to find a common property shared by all types of metonymy. We may even doubt that a unifying property characterizing metonymy-producing relations can be found. The approach taken by Denroche (2015) avoids this problem. In his all-embracing

research program "Metonymics", he views relatedness as the distinguishing mark of metonymy and detects metonymy in all phenomena that involve a relation from a source to a target, as in translation, language acquisition, art, law or conflict resolution. In translation, for instance, the translator goes from the original text to the first translated draft and from the revised draft to the final version. This broad understanding of metonymy opens up fascinating new challenges but is unlikely to be endorsed by the majority of linguists on the grounds that it would be inflationary and hence vacuous. At least for linguistic purposes, the notion of metonymy apparently needs to be constrained.

The alternative view of assigning a unified meaning relation to all types of metonymy is the generally favored approach but is not without its problems. Candidates for a shared property are the relations of contiguity and indexicality, which will be considered below.

4.1 Contiguity

The notion 'contiguity' goes back to traditional rhetoric. Metaphor was seen as involving a relation of similarity and metonymy as involving a relation of contiguity. Both notions are "fraught with difficulties" (Haser 2005: 22). Without further specifications, the notion of contiguity is too broad to serve as a viable criterion for metonymy. In Radden and Kövecses (1999: 29), we gave the example of *I hit him in the nose*, which, of course, does not mean that 'I him in the mouth', although the facial body parts are spatially contiguous. There is no reason for the hearer to depart from the literal interpretation of this sentence. As insightfully pointed out by Barcelona (2011: 12), the related concepts must be asymmetric to guarantee a metonymic interpretation.[9] The concepts related in the sentence *He has a good nose*, i.e. the body part 'nose' and the sensation 'smell', are asymmetric and hence may trigger a metonymic interpretation, such as 'He has a good sense of smell' (for metonymic trigger(s) see Hernández-Gomariz, this volume).

The notion of contiguity is a useful concept after all in allowing us to distinguish relations based on *internal contiguity* and *external contiguity*. Internally contiguous metonymies involve inclusive relations, i.e., relations in which one concept represents an internal part, element or property of another concept. Internal relations hold, for example, between a WHOLE and a PART, a WHOLE EVENT and a SUBEVENT,

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9. Barcelona's (2011: 12) distinction between structural similarity or equivalence on the one hand and asymmetry or non-equivalence on the other hand is a useful criterion for distinguishing metaphor and metonymy: "Metonymy constitutes an *asymmetrical mapping*, whereas metaphor constitutes a *symmetrical mapping*". The notions of asymmetry and non-equivalence can also be seen as a prerequisite of metonymy-producing relations.

a SCALE and a SCALAR POINT, a THING and a PROPERTY, a THING and the MATERIAL it is made of, etc. Internal relations are inherently asymmetric and hence qualify as metonymy-producing relations. For example, the internal relation between a scale and a point on the scale licenses the use of the inverse pair of metonymies:

(4)   a.   SCALE FOR SCALAR POINT: *Henry is speeding*
           for: 'Henry is going too fast'.
      b.   SCALAR POINT FOR SCALE: *How fast was he going*?
           for: 'what was his speed?'.

External relations, by contrast, hold between non-inclusive concepts. The source and target domains of metaphor are symmetric and externally related – the source is not included in the target nor is the target included in the source. But how come certain externally related concepts can also be exploited by metonymy? This applies, for instance, to the relations between CONTAINER and CONTENT, CAUSE and EFFECT, and PRODUCER and PRODUCT. These related concepts are complementary notions and as such are closely associated. Thus, the function of a glass is to "contain" some "content" and, conversely, a liquid needs to be "contained" in a container. Likewise, a cause and its effect are mutually dependent within the shared CAUSATION ICM in the same way that producers and their products are interdependent within the PRODUCTION ICM. The related complementary concepts are thus symmetric with respect to their shared ICM, but they are asymmetric with respect to their conceptual content. This can be illustrated with complementary image-schematic pairs: the CONTAINER FOR CONTENT metonymy, as in (5a), is arguably so productive because a container and its content represent a highly dissimilar pair. Situations of CONTACT may also be exploited by metonymy but only when the things in contact are clearly dissimilar, as in the sentence under (5b). All other image-schematic pairs, such as FRONT-BACK, UP-DOWN, and CENTER-PERIPHERY, are apparently not dissimilar enough to license metonymy, as shown for FRONT-BACK in (5c).

(5)   a.   CONTAINER-CONTENT: *He already has three glasses in him.*
           for: 'three glasses of beer'.
      b.   CONTACT: *Can you set the table*?
           for: 'put plates, glasses and cutlery on the table'.
      c.   FRONT-BACK: *The key is in front of the door*.
           for: #'the key is behind the door'.

The view of metonymy as a relation of contiguity is still widely held. As argued above, it still has a certain value if supplemented with the notion of dissimilarity. However, a major shortcoming of the notion of contiguity is the static view it imposes on metonymy. Most cognitive linguists have, therefore, adopted the more dynamic notions of association or indexicality.

4.2   Indexicality

Since metonymy is not confined to language but occurs in other semiotic systems as well, a semiotic framework should also be commendable for the study of metonymy. Within the semiotic framework, metonymic relations are characterized as indexical as opposed to iconic relations characterizing metaphor (e.g. Panther and Thornburg 2009: 16). Indexical signs point to an object, and their recognition requires inferential reasoning. Thus, to a doctor, medical symptoms point to particular diseases. Not surprisingly, many diseases have been named after their symptoms, such as a *cold*, *asthma* from Greek *asthma* 'panting', or *scabies* from Latin *scabere* 'scratch'. Indexical relations and metonymic inferences are, therefore, closely related, and hence it makes perfect sense viewing metonymic relations as indexical.

Norrick's (1981) study of indexical relations includes pairs such as "Cause and Effect", "Acts and Major Participants" and "Part and Whole". In language, indexical relations may hold between semantically as well as morphologically related pairs. Thus, the morphological pair *please* and *pleasure* exhibits a CAUSE-EFFECT relation and the pair *baker* and *bake* an AGENT-ACT relation. The polysemous verb *cook* exhibits a PART-WHOLE relation in two of its senses: The whole represents the complex act of preparing food and the parts are particular acts or events that are "crucial to its character or success", such as cleaning, slicing, or activating a source of heat. One can, therefore, say "I am cooking" even when I am preparing a roast and potatoes in the oven and tossing a salad (Norrick 1981: 55).

In using indexical relations as a point of departure, we look at language from an *onomasiological*, or conceptual, perspective. This approach reveals that the same indexical relation can be construed differently within the same language or across languages. For example, in English the indexical relation between agents and their actions tends to be reflected in a common lexical base and morphological derivations. Words for agents are derived from words for action and typically formed by *er*-derivation, as in *reviewer* from *to review*, *driver* from *to drive*, or *author* from the hypothetical verbal base *to auth*.[10] Words for action, on the other hand, are often derived from words for agents and typically formed by zero-derivation, as in *to author*, *to butcher*, and *to nurse*. The complementary indexical relations underlying these derivations are on a par so that, depending on the researcher's notion of metonymy, both or neither of them might be considered metonymic. If both derivational processes are seen as metonymic, derived forms such as *reviewer* from *to review* instantiate the metonymy ACTION FOR AGENT, and converted forms such as *to author* from *author* instantiate the metonymy AGENT FOR ACTION.

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10. Latin *auctorem* derives from the past participle *auctus* of *augere* 'to increase'. The spelling of *author* with a *th* is due to the mistaken assumption of its Greek origin in the 16th century.

The semasiological approach takes a different view of morphological processes with respect to metonymy. In his study of noun-to-verb conversion in English, Dirven (1999) analyzes converted verbs as highlighting a particular participant of an implied event schema. Thus, in *He was fishing*, the patient *fish* is highlighted and metonymically stands for the action schema as a whole.[11] Derivation, by contrast, would be regarded as non-metonymic, even if it also involves a change of word-class. The stem in conjunction with the suffix already express the derived sense of a word, so there is no metonymic target to be inferred. A consequence of distinguishing between conversion as a metonymic process and derivational morphology as literal wording is that metonymy is seen as a language-specific phenomenon and that different languages make different use of metonymy. Languages that make wide use of conversion like English would be "more metonymic" than languages with elaborate morphology like Finnish or Russian. Scholars of metonymy are divided over the issue of morphological derivation.[12]

The indexical view of metonymy is not without its problems either. Not all types of metonymy appear to be based on indexical relations and not all indexical relations give rise to metonymy. Thus, some of Norrick's (1981: 31–40) iconic relations have been shown to be metonymic. For example, Radden (2009) has analyzed the supposedly iconic relation between Specific and Generic as metonymic, and Barcelona (2004) has done so for the relation between Object and Feature in his study of paragon names. Denroche (2015: 64–65) points out that metonymy is also involved with all three types of signs. One of his examples is the icon of a wheelchair on the London Tube Map. The icon is only part of the message and its information of indicating wheelchair access has to be metonymically inferred.

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11. In her section on "Metonymy and morphology", Sweep (2011) discusses the pros and cons of viewing conversion as a metonymic shift or as a side-effect of grammar and provides the nice example of the Dutch noun *aubergine* used as a noun and adjective describing the color 'aubergine purple'. The vegetable noun is grammatically feminine, *de aubergine*, and the color name should, like all color nouns, have neuter gender, *het aubergine*, but it keeps its feminine gender. This example shows that, at least in Dutch and possibly other languages as well, the conceptual shift precedes the grammatical shift and thus supports the predominant view of treating zero-derivation as a metonymic process.

12. The different positions taken on derivation as a metonymic process became apparent in Brdar and Brdar-Szabó's (2014) review of Janda's (2011) study of word-formation in Russian, Czech, and Norwegian. Laura Janda contrasts suffixation in these three languages according to their metonymic patterns, which Brdar and Brdar-Szabó challenge on the grounds that the target is manifest in the suffix rather than implicitly left to be inferred. Such disagreements are, in fact, inherent in the notion of *metonymy* as a phenomenon that comprises linguistic and conceptual levels. The majority of linguists tend to take a language-based view of metonymy and hence implicitly subscribe to the semasiological approach.

Most indexical relations probably do not give rise to metonymy. Let us reconsider Kahneman's example of association that was already mentioned in Section 3: "being amused tends to make you smile". Here, the emotional state of being amused is indexically related to the physiological reaction of smiling and may also evoke the idea of smiling. However, the utterance *She was amused* is probably not understood metonymically as meaning 'she was smiling'. There could be two reasons why *She was amused* is not understood metonymically. First, the associative link between 'being amused' and 'smiling' may not be strong and unique enough and, secondly, the indexical relation between an emotion and its physiological reaction appears to be exploited in one direction only, i.e. by the metonymy PHYSIOLOGICAL REACTION FOR EMOTION, as in *His face went ashen* for 'he was shocked'. Here, our focus of attention shifts from the reaction to the emotional state. We are undoubtedly more concerned with people's inner states than with the external signs of them, and the unidirectional metonymy reflects our prime interest. The presence of a conceptual shift thus serves as a critical factor distinguishing metonymy from purely indexical relations.

5.   Metonymic shift

Cognitive work on metonymy has mainly focused on aspects such as metonymic relations, types of metonymy, metonymic inference and source-to-target mapping.[13] The result of the metonymic process has received fairly little attention. The traditional view of metonymy was quite explicit about the result: the substitution of one expression by another expression. As has been noted by many scholars, the metonymic source is not obliterated but still present to at least some extent.

The mental process of accessing the complex target as its resultant state will be described as *metonymic shift*. The term *shift* is commonly used in linguistics to describe systematic changes in phonology and semantics and also lends itself as an appropriate term for metonymic as well as metaphorical processes. The notion of conceptual shift also allows us to distinguish the "narrow", language-based view of metonymy from a "broader" view of metonymy, as proposed by scholars working in the multimodal paradigm.

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13. The use of the term *mapping* for metonymic shifts is controversial. As a mathematical term, *mapping* refers to a correspondence between two sets. Barcelona (2011: 12) argues that it "can also be understood, in a narrower sense, as the projection of one structure onto another". Strack (2015) argues against the use of the term mapping for the single-domain correlations of metonymy. He suggests using the more adequate term *binding*. In the neurosciences, binding refers to "the process that links neural activation patterns across modalities to form concepts" and could be applied to metonymic connectivity as well. This proposal certainly deserves to be taken seriously.

Metonymic inferencing is an online process, and so are metonymic shifts. A metonymic shift involves a change of focus from a source concept to a complex target, as illustrated in the *money-marrying* example. Quite often, however, a metonymic shift is contingent on a host of language-external factors such as the situational context, cultural norms, the language user's world knowledge, attitudes, interests, etc. Let us consider a few examples illustrating the problems of recognizing online instances of metonymy and performing the metonymic shift.

The following excerpt is taken from an interview, in which former UEFA president Lennart Johansson described information he received from a close associate.

(6)   "He came to me, someone who was close to me, that I co-operated with for several years previously, who had seen how *brown envelopes* were given from one to the other".[14]

The brown envelopes mentioned in the passage may be interpreted differently: some people might understand the envelopes literally, e.g. as being handed out to the delegates to cast their ballots, and other people might understand the envelopes metonymically and shift their attention from the containers to their content. Here again, some may think of the default content of envelopes, i.e. letters, and others, who have heard of the corruption scandals surrounding the world football association, might suspect that the envelopes contained bribe money for the delegates. To these amateur sleuths, the CONTAINER FOR CONTENT metonymy may be particularly attractive in that it enables them to solve the "mystery of the brown envelopes". In this case, the hearer's knowledge and interest may have affected the particular metonymic shift.

Metonymic inferences may also be affected by the way they are presented. The following excerpt from *Time* magazine (March 16, 2015) compares the leading role still played by the United States to the minor role played by other big countries:

(7)   The most important reason why the U.S. will continue to dominate is the lack of a viable rival. *The European Union* is too fractured, *Japan* is too old, *Russia* is too corrupt, *India* is too poor, *Brazil* is too unproductive.

The sentences characterize one political union and four countries, and each of these states is related to a metonymic target of its own: *The European Union* probably refers to its 28 member states pursuing their own interests, *Japan* refers to its aging population, *Russia* could refer to its politicians or to its institutions, *India* might refer to its population or to its government budget, and *Brazil* can refer to its economy or to its industry. The metonymies involved in these sentences might be described as POLITICAL UNION FOR STATES, COUNTRY FOR INHABITANTS, COUNTRY

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14.   http://uk.reuters.com/article/2011/06/01/uk-soccer-fifa-johansson-idUKTRE7507IK20110601.

FOR POLITICIANS, COUNTRY FOR INSTITUTION, COUNTRY FOR BUDGET, COUNTRY FOR ECONOMY, and COUNTRY FOR INDUSTRY. However, it is very unlikely that readers of this chapter will even notice the different targets and shift their attention accordingly. The structural parallelism of the clauses strongly suggests similar content so that the reader also tends to see the characterizations predicated about the five states as similar.

The following example shows that a metonymic description may not lead to a metonymic shift. In situations such as warfare, it is not the holders of power that bear the burden of war but the common people. Therefore, these situations are usually analyzed as instantiating the metonymy CONTROLLER FOR CONTROLLED. This is, however, not the case in a letter to the editor in response to an article in *Time* magazine in which Reagan and Gorbachev were given the credit for ending the Cold War.

(8) *Reagan and Gorbachev won the Cold War*? What of the citizens of Eastern Europe who worked so hard, often with great sacrifice, to gain freedom?

The author of these lines picked up the wording of the article and apparently understood it literally rather than metonymically – otherwise her reference to the citizens of Eastern Europe, i.e. the people under control, would not make sense. We might even question the psychological reality of the CONTROLLER FOR CONTROLLED metonymy.

It is usually assumed that the metonymic target is more prominent than the source. A standard test of a metonymic shift is, therefore, the pronominalization of the target in the subsequent discourse, as in *Shakespeare is on the top shelf. It is recommended reading*, where *it* refers to a book of a play or plays by Shakespeare. It is, however, not uncommon to accept the metonymic shift and, at the same time, pronominalize the source. The following mundane example of metonymy illustrates this situation:

(9) "The kettle is boiling", Katherine announced the other night during another television commercial break.
"Don't worry", I said in soothing tones. "It's an *automatic* kettle so my bet is it will turn itself off".[15]

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15. The excerpt is taken from the story "When marriage reaches boiling point" by John Martin, an Australian writer of funny fiction. http://www.dunno.com.au/when-marriage-reaches-boili. html. Anaphoric *it* might also be used within a complex sentence, as in the following instructions on how to cook tea. In sentence (a), *it* is co-referent with the metonymic target, in sentence (b), *it* is co-referent with the metonymic source.

a. *When the water in the kettle is boiling, pour it* (= water) *into the teapot.*
b. *When the water in the kettle is boiling, remove it* (= the kettle) *from the heat source.*

Katherine's use of *boiling* indicates that the metonymic target she had in mind is the water contained in the kettle. Yet, the anaphoric pronoun *it* in the partner's reply does not refer to the target concept 'water' but to the source concept 'kettle'. The source is thus more prominent than the target and also remains in focus as the topic of discourse. The partner was certainly aware of Katherine's metonymic use of *the kettle* but behaves as if it was meant literally. He has, in fact, to do so because the alternative, the use of the metonymic target *water*, does not provide an appropriate antecedent: [#]*The water is boiling. Don't worry, it's an automatic kettle.*

The explanation for these phenomena is to be found in the complex target, which, as outlined in Section 2 and Figure 1, comprises both the inferred target and the source. Irrespective of the metonymic shift, either of them may be selected to become the topic in the ensuing discourse, with a preference for the target. At the same time, the co-activation of the target and source concepts leads to their conceptual integration and gives rise to emergent meanings.

6.   Conceptual integration

Metaphor is widely regarded as involving the conceptual integration of two input spaces, but only few scholars have applied the blending approach to metonymy (Alač and Coulson 2004; Coulson and Oakley 2003; Ruiz de Mendoza 2003: 124–126). The fusion of metaphorical source and target domains is certainly more conspicuous than the fusion of metonymic sources and targets. There is, however, no strict categorical difference between these two processes: metaphor and metonymy shade into one another along a continuum of figurative modes of thought. In both figurative processes, source and target concepts are co-activated and, as a result, form an integrated whole and lead to emergent meaning. The emergence of additional meanings is, in fact, the essence of conceptual integration. Kahneman (2011: 50–51) has demonstrated the power of the conjunction of isolated words by presenting subjects the words *bananas* and *vomit*. The subjects automatically formed a sketchy scenario in which bananas caused sickness and even made them experience a temporary aversion to bananas.

The conjunction of a metonymic source and its inferred target also induces emergent meaning, of course less dramatically than in the vomiting scenario. The impact of a metonymic construal can most clearly be seen in contrast to its corresponding literal construal. Let us consider an often-cited instance of metonymy and its literal counterpart.

(10)   a.   The clarinet went to the powder room.
      b.   The clarinetist went to the powder room.

In the metonymic construal (10a), the focus on the source 'clarinet' makes us see the clarinetist in her part of playing the clarinet in a piece of music. We infer that

there is only one musician playing the clarinet on the orchestra and that the orchestra cannot start playing without her. This inference would be accepted as valid in a court of law. The non-metonymic construal (10b), by contrast, focuses on the clarinetist – the instrument is not even mentioned. The sentence might also invite the inference that the orchestra could not play without her, but it would be one out of many inferences and hence be weaker and not be considered valid. The speaker might, for example, have alluded to the clarinetist's habit of putting lipstick on or rearranging her hair in the powder room before the performance. The fusion of source and target in metonymy thus prompts more specific emerging inferences while the inferences invited by a literal construal are rather indeterminate.

We can now also re-analyze the "money-marrying" metonymy discussed in Section 2 in terms of conceptual integration. Let us again compare the metonymic and literal construals.

(11) a. Molly married money.
     b. Molly married a rich man.

As pointed out in Section 2, the focus on money in the metonymic construal (11a) makes us infer that the amount of money was considerable and that her husband's money was the main reason for Molly to get married to this man. The literal construal (11b) may also invite this inference, but to a much lesser degree. Molly may have married her rich husband out of love and did not care about his money.

Figure 2 presents the blending analysis of the metonymy in *Molly married money*. The target and source concepts are projected from their input spaces and compressed in the blended space. Most importantly, the blended space also contains
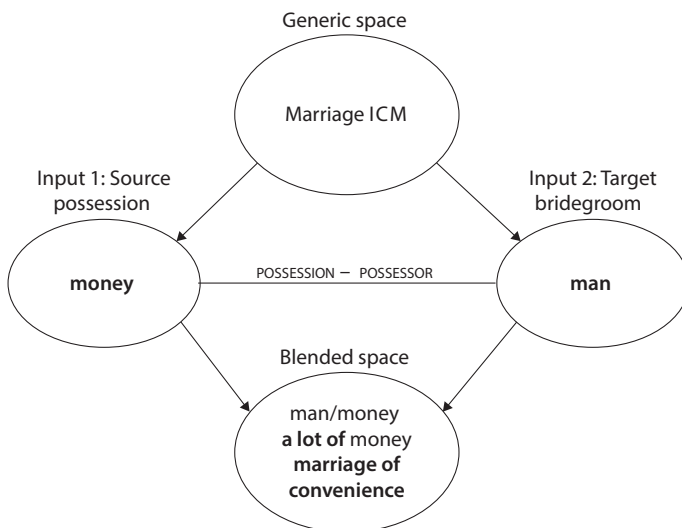
Figure 2. *Molly married money*

inferred emergent meanings, printed in bold, namely the specification 'a lot of' with 'money' and the evaluation of her marriage as a 'marriage of convenience'.

The emergence of meaning as a result of conceptual integration is the most outstanding feature of metonymy. Lakoff and Johnson (1980: 39) provide a telling example of emergent meanings resulting from the fusion of Picasso and his work in *He's got a Picasso in his den*: "When we think of *a Picasso*, we are not just thinking of a work of art alone, in and of itself. We think of it in terms of its relation to the artist, that is, his conception of art, his technique, his role in art history, etc." Excellent real-life instances of emergent meaning are also provided by Littlemore (2015) in her introductory chapter to her metonymy book, such as *set of wheels* for the young racer (p. 6):

(12)   "In this example, 'set of wheels' refers to the whole car. Corpus evidence suggests that when the expression *set of wheels* is used to refer to the whole car, it is nearly always in the context of a young man purchasing a car, or of positively evaluating a car. This positive evaluation may come from the fact that the focus is on *the wheels* and these are the key part of the car that moves; the expression may thus evoke an image in which there is nothing on the wheels to slow them down".

The function of the wheels of a car motivates the emergent meaning of mobility and its positive associations, especially by young men. Similar effects have also been observed by Denroche (2015: 84–95) and Song (1997: 101) in his comparison of two metonymic construals of 'driving' in Japanese:

(13)   a.   *konogoro kuruma-ni notte-inai*
            'I have not ridden on wheels recently'.
       b.   *konogoro handoru-wo nigitte-inai*
            'I have not held a steering wheel recently'.

The metonymic use of 'wheels' in (13a) highlights the aspect of mobility and the metonymic use of 'steering wheel' in (13b) the controlling aspect of driving.

The clearest cases of metonymy-induced emergent meaning are probably found in grammar because grammatical categories are marked by stricter boundaries. A few examples of tense metonymies may illustrate the motivation of emergent meanings. Tenses are understood as denoting the corresponding notions of time. Usages diverging from these default patterns have often been noted and discussed by grammarians. Here, the meanings emerging from non-default usages of tense are explained as resulting from the conceptual integration of different notions of time.[16]

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16. For non-present uses of the Present tense, see Langacker (2009: 193–198). Langacker (2009: 194–195) explains these usages in terms of special viewing arrangements, which "involve the distinction between a *represented event*, which may be actual, and a *representing event*, which – as a representation – is necessarily virtual".

(14) a.   Early Bird registration ends this Sunday, March 31.
      b.   Lakoff and Johnson argue that metaphors shape our conceptual system.
      c.   (Speaker pointing at buildings): This was the school, and that was the town hall.

Sentence (14a) in the Present tense illustrates the interplay of present and future times giving rise to the meaning known as *scheduled future*: a future situation has been scheduled much earlier and is valid for the whole period from the past through the present to the future. The future situation is thus available to the speaker at any time including the present moment.

Sentence (14b) in the Present tense illustrates the interplay of present and past times motivating the meaning of the *scientific present*. Scholarly work is assumed to have timeless validity. This also applies to supposedly past discussions among scholars and their positions taken in them, as in this example.

Sentence (14c) in the Past tense illustrates the fusion of past and present times when seeing things that evoke memories of past events. The thing described serves as the metonymic vehicle providing access to the past event in which it participated.

It finally needs to be mentioned that metonymy represents a special situation of conceptual integration. In metonymy, one of the conceptual units that get fused is inferred, but both units may, of course, also be present in language. For example, the Present Perfect in English combines the notions of present and past time in its form. As noted by Brinton (1988: 102), the dual nature of the perfect in present English with its meaning of current relevance is remarked upon by all grammars. Thus, in the telic event described by *I have installed Word 10*, the past event of installing the new version of Word is in some way connected with, or pertinent to, the present and hence currently relevant. We may, for example, now start drawing fancy tree diagrams.

7.   Conclusions

Section 2 outlined the inferential steps needed in processing metonymy and demonstrated that the conceptual units *source* and *target* have to be distinguished from the *vehicle* as a linguistic unit. The inferred target entity forms part of a *complex target*, which also includes the metonymic relation and the metonymic source. The metonymic source functions as a point of access for the target and is itself a prominent element of the complex target.

The notion of association plays a central role in the online processing of metonymy. Section 3 discussed the neural basis of association in metonymy and its impact on metonymic interconnections, inference and strength of association.

Conceptual relationships are at the core of metonymy. Section 4 examined two types of relation that are often regarded as characterizing metonymy: contiguity and indexicality. Neither of them qualifies as a unique determinant of metonymy-producing relationships. Criteria that prove to be useful in identifying metonymy are the notions of *asymmetry* of source and target and *internal* and *external contiguity*. A *semasiological* approach to metonymy is based on contiguous relations, an *onomasiological* approach is based on indexical relations. The metonymic status of morphological derivations remains an unresolved problem.

A conceptual shift is claimed to be crucial to metonymy in its narrow, language-based sense. However, metonymic shifts are dependent on a host of language-external factors. Section 5 considered several instances of metonymy that may, or may not, give rise to a conceptual shift in online language use.

An essential part of any metonymy is the conceptual integration of source and target and the resulting emergence of additional meanings. Comparisons between metonymic and literal construals of the same conceptualization indeed reveal differences in inferred meanings. Section 6 also included a few instances of grammatical metonymy, which apparently display emergent meanings more clearly.

It is hoped that the reflections on conceptual metonymy presented here will stimulate wider research on metonymy and help to solve the many problems that have remained unresolved.

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PART III

Ubiquity of metonymy in languages

How metonymy motivates constructions

The case of monoclausal *if-only P* constructions in English

Bogusław Bierwiaczonek
University of Częstochowa

This chapter shows how constructional metonymy, whereby a part Y of a grammatical construction X is used to access the whole construction X, leads to the emergence of new grammatical constructions. Such metonymically motivated constructions are called dependent constructions, as opposed to the autonomous constructions they originally targeted. The construction I consider in detail is the monoclausal *if-only P* construction. I attempt to demonstrate that, contrary to Dancygier and Sweetser's (2005), there is no single *if-only P* construction but, rather, a network of at least four *if-only P* constructions, which differ in their time reference, epistemic stance and illocutionary force. My proposal shows that the emergence of such dependent constructions is usually motivated by the familiar PART-FOR-WHOLE metonymy.

Keywords: conditional sentence, construction, constructional metonymy, epistemic stance, *if-only* construction, illocutionary force

1. Preliminaries: Conceptual and constructional metonymy in grammar

In a number of recent publications (Bierwiaczonek 2007, 2011, 2013a, 2013b, 2014) I have suggested that metonymy is one of the most important processes influencing the grammatical structure of language. In Bierwiaczonek (2014), I discuss two main ways in which metonymy may result in the emergence of grammatical constructions. The first of these processes is based on conceptual metonymy. In particular, I try to show that there are a number of constructions in English which violate the regular grammatical patterns of English argument structure constructions and, thus, are "irregular sentences" or "nonsentences", as Quirk et al. (1985, Chapter 11) call them, or "noncannonical utterance frames

of English", as Culicover and Jackendoff (2005: 473) characterize them. I argue that the emergence of some of these constructions can be explained in terms of a basically metonymic mechanism whereby a single element (argument, adjunct, predicate or clause) of a construction can activate the whole propositional content of which it constitutes a part. The constructions crucially motivated by this kind of conceptual metonymy are the exclamative *What a* N! construction, the interrogative *How/What about* X Construction, *One more* N *and* Y (or OM-) construction and *If it weren't for* NP Clause construction. For example, in *One more* N *and* Y construction as in *One more beer and I'm off*, the entity designated by N usually functions as the PATIENT of the whole unspecified proposition, construed as a condition or reason for the proposition designated by Y, possibly [*if you drink one more beer*] (see Taylor 2002, Culicover and Jackendoff 2005 for discussion). Notice that the pattern NP-and-Clause does not occur anywhere else in the grammar of English. In fact it violates one of the main constraints on coordination, namely the constraint that the two coordinated constituents belong to the same category, as in *Bill is smart and tall* vs. **Bill is smart and an athlete* or *We won our last game and we were very happy vs. *Our last game and we were very happy*. Thus the meaning of the construction can in no way be deduced or derived from the knowledge of the regular English grammar. It makes sense, though, as a case of constructionalized[1] conceptual metonymy, in which the noun phrase *One more* N metonymically activates the whole protasis of the conditional. Such constructions may be called "metonymically motivated independent constructions" or, for short, mmi-constructions.[2]

Alongside those conceptually metonymically motivated constructions, there is another set of constructions, which have emerged as independent units through the process of constructionalization of well-formed and perfectly regular parts of larger grammatical constructions. Although these constructions may function as independent pairings of form, meaning and function, it would be difficult to

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1.   In my 2014 paper I used the term "constructivization". Following Traugott and Trousdale (2013), I have changed it now to the synonymous term "constructionalization", mainly in order to prevent unnecessary proliferation of terms, but also because the latter term, even if longer, is more transparent.

2.   I understand the concept of motivation as it has been defined and discussed by Radden and Panther (2004) and Panther and Radden (2011: 9): "A linguistic sign is motivated to the extent that some of its properties are shaped by a linguistic or non-linguistic source and language independent factors". Mmi-constructions are motivated by conceptual metonymy, speakers' communicative needs as well the ecology of the system, while mmd-constructions (see below) are motivated by the already existing linguistic forms, constructional metonymy and speakers' communicative needs, e.g. performing particular speech acts.

account for some of their most important formal and semantic characteristics without taking into account the full phrases or sentences they emerged from. In Bierwiaczonek (2013b: 10) I propose that the particular kind of metonymy involved in the emergence of such constructions be called "constructional metonymy", defined as "a metonymy whereby part of a grammatical construction P-GC stands for/activates the whole grammatical construction GC". Since the rise of such constructions and their crucial syntactic and semantic properties depend on their link with larger, complete, and thus "autonomous constructions", they may be called "metonymically motivated dependent constructions" or mmd-constructions, motivated by constructional metonymy. The mmd-constructions analyzed briefly in Bierwiaczonek (2013a, 2013b, 2014) are the English *the*-Adj construction, the headless postmodifying participial constructions in Polish, stand alone German and Polish Conditional Clause Request constructions (CCR constructions), *What-if* Clause construction, and the monoclausal *if-only* constructions. For example, I suggested the *the*-Adj construction, as in *the blind, the rich*, *the jobless, the French, the Chinese* is motivated by a constructional metonymy whereby the part [*the* $\text{ADJ}_{\text{ph/s condition; nationality}}$] stands for the whole phrasal NP construction [*the* $\text{ADJ}_{\text{ph/s condition; nationality}}$ [PEOPLE]]. The analysis explains why the construction exhibits at the same time the syntactic properties of noun phrases, plural agreement and morphological properties of adjectives (e.g. the comparative and the superlative).

Since the analysis of the monoclausal *if-only P* constructions in the cited studies was rather fragmentary and often sketchy, in what follows I attempt to present it more consistently in terms of their constructional properties. The purpose of this case study is to demonstrate that besides autonomous, broadly speaking, argument structure constructions (as-constructions)[3] and syntactically irregular metonymically motivated independent constructions (mmi-constructions), we should also distinguish a category of metonymically motivated dependent constructions (mmd-constructions), whose form and meaning are to a large extent inherited from the full autonomous argument structure constructions, but which exhibit different illocutionary forces.[4] I hope the

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3. In this broad conception of argument structure, the protasis and the apodosis are arguments of the conditional relation.

4. Of course, constructions differ in other respects as well; for instance, they may differ in terms of their internal structure and complexity (morphological, phrasal, clausal, etc.), their discourse functions, e.g. information packaging constructions (cf. Goldberg 2006; Hilpert 2014; Biewiaczonek 2016) or the genre in which they are used (cf. Ruppenhofer and Michaelis 2010). Note that some of the properties of the monoclausal *if-only* P construction to be discussed below

constructional account I propose below will supplement more conceptually oriented analyses presented in Panther and Thornburg (2003, 2011), Brdar-Szabó (2007), and Bierwiaczonek (2013a).

2. Dancygier and Sweetser's account of the *if-only* construction

In their important study of conditionals in modern English, Dancygier and Sweetser (2005, henceforth D&S) distinguish two kinds of *if-only* constructions: the biclausal *if-only P, Q* construction and monoclausal *if-only P* construction, where *P* stands for the conditional clause designating the protasis (the antecedent) and *Q* stands for the main clause designating the apodosis (the consequent). We discuss them in turn, starting from the full biclausal construction.

2.1 *if-only P, Q* construction

D&S argue that the biclausal *if-only P, Q* construction, exemplified by sentence (1) (D&S's Example 34), is characterized by (a) negative epistemic stance (b) positive emotional stance, and (c) minimal sufficiency condition.

(1) If only Max knew Lalla's house better, he would understand.

This means, roughly, that (a) Speaker believes that P is not true (i.e., Max does not know Lalla's house well enough), (b) Speaker feels that P is desirable (i.e., Speaker feels that Max's knowing Lalla's house better is desirable), (c) Speaker believes that P designates the minimal condition for Q to occur (i.e., it is enough that Max knows Lalla's house better, for him to understand). Figure 1 (D&S's Diagram 16) is D&S's representation of the crucial aspects of the semantics of the *if-only P, Q* construction:

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are common to a larger set of constructions representing what Evans (2007) dubbed "insubordination" and defined as "the conventionalized main clause use of what, on prima facie grounds, appear to be formally subordinate clauses" (p. 367). In Evans' account, these functions fall under the rubrics of indirection, interpersonal control and evaluation.
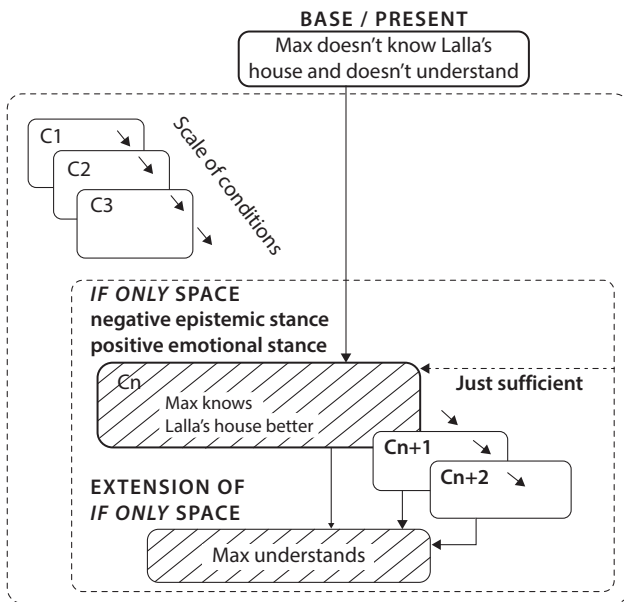
Figure 1. Representation of the conceptual structure of the *if-only P, Q* construction (scanned from Dancygier and Sweetser 2005: 217, with permission of Cambridge University Press)

2.2   Monoclausal *if-only P* construction

Turning to the monoclausal *if-only P* construction, D&S argue that although the monoclausal *if-only* construction preserves some aspects of the full biclausal conditional, it loses its minimal sufficiency component and its conditionality becomes "implied". Consequently, considering the relation between sentences (2) and (3) (D&S's 37 and 38):

(2)   If only he would stop drinking.

(3)   If only he would stop drinking, his life would improve (or, everything would be better; or he could write his novel, etc.).

D&S (2005: 218) suggest the following analysis:

> The less specific the intended implicit Q, the less the conveyed meaning will focus on a specific conditional relationship, and the more the construction's function in the context will center on the expression of the "wish" aspects of the construction's meaning, such as positive emotional stance and negative epistemic stance toward P.

And referring to sentence (4):

(4)   If only Alexander would just stay hidden forever, he thought.

They further add:

> … we represent (39) in Diagram 17 as having no real conditionality (and, by the same token, as not representing scalar or "minimal change" meanings). This mono-clausal construction carries with it the conventional meaning of speaker's positive emotional stance and negative epistemic stance, while having lost a conventional compositional if-function of setting up a mental space as a background for consideration of some Q. If such a Q could be postulated at all, it would only be implied.
>
> (D&S 2005: 218)

The Diagram 17 D&S refer to is reproduced in Figure 2:
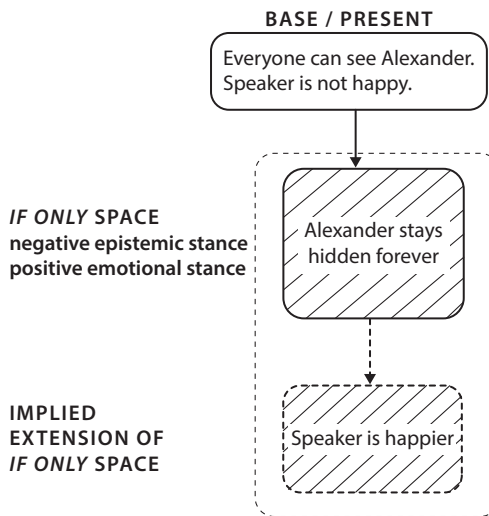
Figure 2. Representation of the conceptual structure of sentence (4) (scanned from Dancygier and Sweetser 2005: 219, with permission of Cambridge University Press)

Finally, D&S (2005: 219) conclude:

> Crucially, in losing some aspects of its historically conventional meaning and gaining others, the monoclausal *if-only* construction has become a performative. The construction's basic conventional semantics and pragmatics consist of a commitment to the conversational record of the speaker's strong desire, and the speaker's belief that the desire is not currently fulfilled. Its semantics is thus very close to that of the verb *wish* when that verb is used performatively, expressing the speaker's own current desire:

(5) Oh, I wish he would stop drinking!
     I just wish he would stop drinking!
     How I wish he would stop drinking!

3. Objections to Dancygier and Sweetser's analysis

D&S's analysis of *if-only P, Q* and *if-only P* constructions raises two questions:

1. Is it descriptively adequate and if not what are its inadequacies?
2. If the *If-only P* construction and the performative *I wish* construction are so similar, what is the difference between them and how can it be explained?

In my opinion, D&S's analysis is not fully adequate. Here are my objections.

3.1 Objection 1: There is no single biclausal *if-only P, Q* construction

What D&S seem to have ignored is that *if-only* conditional sentences exhibit the same range of time + epistemic stance combinations as we find in ordinary conditionals. Therefore, although it can be suggested that there is a schematic representation of the whole *if-only P, Q* construction (see Figure 3), in fact, there are at least four different more specific constructions differing in their grammatical (morphosyntactic) characteristics resulting from different time references and their epistemic stances,[5] which roughly correspond to the ordinary conditionals. As Berk (1999: 284) puts it, "Conditional sentences vary in the extent of their 'hypothetical-ness'" and D&S are perfectly aware of it (cf. also Sweetser 1990). Thus, e.g. Quirk et al. (1972, 1985), point out that the condition may be open, hypothetical or counterfactual: "The open condition leaves unresolved the question of the fulfillment or non-fulfillment of the condition, and hence also the truth of the proposition expressed by the main clause. A hypothetical condition, on the other hand, conveys the expectation that the condition will not be fulfilled" (Quirk et al. 1972: 747). In a more recent study Akatsuka (2002) distinguishes three sorts of epistemic stance: positive, neutral and negative (i.e. counterfactual, in Quirk et al.'s terminology). As we shall see, the epistemic stance of the proposition expressed by P in the *if-only P* construction is never positive, but it may be open, hypothetical or counterfactual. Hence, the general epistemic stance in Figure 1 is not counterfactual, as proposed

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5. In D&S's terminology, conditional clauses of the particular constructions set up different mental spaces.

by D&S, but rather [−FACT], covering the possible future, the hypothetical present, and the hypothetical counterfactual past. Although in most cases the time reference in the main and the subordinate clauses coincide, as we shall see, this is not the rule. The only common component of all the types of the *if-only P, Q* construction is the speaker's positive emotional stance (PES). The double line in Figure 3 below, which represents the general structure of the biclausal *if-only P, Q* construction, indicates the main clause, i.e. the head of the whole conditional construction. It must be remembered that the order of the clauses is reversible.

Syn	*If only*	NP VP	NP VP
Sem	Minimal sufficient condition for Q:	P [ES: -FACT, PES]	Q [ES: -FACT]

Figure 3. General structure of the biclausal *if-only P, Q* construction

As can be seen, the general specification of the *if-only P, Q* construction is too abstract to allow users of English to actually produce well-formed sentences and to use them adequately as expressions of different construals and communicative intentions. In fact, each time the construction is used, it represents one of the more specific types.

  Brief descriptions, the BNC examples and the suggested schematic representations of the four specific *if-only P, Q* constructions are given below.[6]

3.1.1   *If-only P, Q1*

This type uses the present tense in P to refer to the present or future time and the present tense verb forms (sometimes perfectivized) or present modal forms to refer to the present or future time in Q. The epistemic stance is open. Since this type of the *if-only P, Q* construction is often ignored, I give a wider spectrum of the BNC examples. Notice that sentence (9) may be construed as designating either the present protasis and future apodosis, or an omnipresent conditional relation.

(6) CAJ 1473 Insurance policies, wise investments, sensible diets and burglar alarms: if only we can lay down enough of them, we can maybe hold the fort against the chaos that rages outside.

(7) G10 2096 I know that it is there, and if only, if only I can choose the right words, and if only I can tap the exact right source of power, then I shall see it ignite and flare into life.

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6.   I realize there are a few more types of the *if-only P, Q* construction, but the ones we discuss are by far the most common.

(8)   ECN 39 Effort is the source of good things, if only one can get one's efforts recognized by the dominant person in the situation.

(9)   CMF 1374 Such work, however, rests on the assumption that there is such a figure, waiting to be accurately counted if only the right techniques can be developed.

(10) G3A 1522 This belief, though not taught in the Old Testament, was widely held in the Jewish constituency among whom Paul worked: it is widely believed today that if only you try hard and do your best, God will accept you at the last.

Syn	*If only*	NP V$_{\text{PRESENT}}$P	NP *can/shall/will*$_{\text{PRESENT}}$VP
Sem	Suff condition for Q:	P [TR: present/future; ES: possible; PES]	Q [TR: present/future; ES: possible; PES]

Figure 4. General structure of the biclausal *if-only P, Q1* construction

3.1.2   *If-only P, Q2*

This type uses the volitional *would* + bare infinitive form of an activity or achievement verb in P and past modal forms to refer to the future time in Q, the epistemic stance is hypothetical, i.e., unlikely but possible.

(11) CBH 461 The myth was expressed this way: if only higher management would come out of their offices and join the workers on the shop floor it would be possible to create better working conditions.

(12) A7J 1493 He could travel well enough on his own, if only they'd let him.

Syn	*If only*	NP *would* VP	NP *could/should/would* VP
Sem	Suff condition for Q:	P [TR: future; ES: hypothetical; PES]	Q [TR: future; ES: hypothetical; PES]

Figure 5. General structure of the biclausal *if-only P, Q2* construction

3.1.3   *If-only P, Q3*

This type uses stative verbs in the past tense or the past subjunctive *were* to refer to the present time in P and past modal forms to refer to the present or future time in Q, the epistemic stance is counterfactual, i.e. negative.

(13) C8D 413 Just to talk to Dominic would be enough tonight, if only she knew where he was.

(14) CH5 1175 But these men could do much more to help, not only their partners, but themselves, if only they understood what the menopause is and what can be done to alleviate the problems.

(15) EX5 946 Indeed, they would do so, if only they had the time or resources or if the entire teaching staff could agree to abandon lectures simultaneously.

(16) G1A 1588 If only he were free, he would leave Croisset and come to live with her in Paris.

Syn	*If only*	NP V$_{PAST/SUBJUNCTIVE}$P	NP *would/could/might* VP
Sem	Suff condition for Q:	P [TR: present; ES: negative, PES]	Q [TR: present/future; ES: negative, PES]

Figure 6. General structure of the biclausal *if-only P, Q3* construction

3.1.4   *If-only P, Q4*
This type uses the past perfect tense to refer to the past time in P; however, in Q it may refer either to the past or the present time (but extending to the past as well), so we distinguish two subtypes of this construction. In either case the epistemic stance of both P and Q is negative.

3.1.4.1   *If-only P, Q4A*
In this subtype both P and Q refer to the past; in Q past modal forms + bare perfective infinitive of the main verb are used.

(17) AC3 1324 If only they hadn't become so friendly, he was sure he would have enjoyed having a relationship with her; but he had a rule about not mixing sex with friendship.

(18) G1X 2147 If only it had left us alone, we could have been happy, we could have gone on being happy.

(19) AC3 1287 If only she had been less direct in her approach, he might have managed something.

Syn	*If only*	NP *had* V$_{PERF PART}$P	NP *would/could/might have* V$_{PERF PART}$P
Sem	Suff condition for Q:	P [TR: past; ES: negative, PES]	Q [TR: past; ES: negative, PES]

Figure 7. General structure of the biclausal *if-only P, Q4A* construction

3.1.4.2   *If-only P, Q4B*

In this subtype P refers to the past, while Q refers to the present time; in Q *would* + bare infinitive form of the main verb is used.

(20)   CA5 1315 … if only they hadn't married so-and-so, then everything would be fine.

(21)   KCH 6106 If only we hadn't cut down those trees the view would be better.

(22)   GWG 2179 If only he hadn't sold to that dreadful man, you wouldn't be having such a miserable time.

Syn	*If only*		NP *had* V$_{PERF PART}$P	NP *would* VP
Sem	Suff condition for Q:		P [TR: past; ES: negative, PES]	Q [TR: present; ES: negative, PES]

Figure 8. General structure of the biclausal *if-only P, Q4B* construction

3.2   Objection 2: There is no single monoclausal *if-only P* construction

Since there is no single *if-only P, Q* construction and since the *if-only P* construction is supposed to be "based" on the *if-only P, Q* construction, there should be no single monoclausal *if-only P* construction, but rather a family of *if-only P* constructions based on different types of the *if-only P, Q* construction, each having a different time reference and epistemic stance. I shall demonstrate that this is indeed the case and that the different time references and epistemic stances of the "full" *if-only P, Q* constructions affect also the emergent illocutionary properties of the four *if-only P* constructions. Although Q of the biclausal *if-only* construction is no longer specified, its PES is preserved and thus it is now characterized in maximally schematic terms as BETTER SITUATION in the monoclausal *if-only* construction.

Since we have distinguished four *if-only P, Q* constructions, there should be and, indeed, there are the following four related *if-only P* constructions:

3.2.1   *If-only P1* (metonymically motivated by *If-only P, Q1*)

(23)   GWF 2398 If only it holds for a while'.

(24)   G1W 2214 'If only those tests work out'.

Syn	*If only*	NP V$_{PRESENT}$P
Sem	Suff condition for BETTER SITUATION:	P [TR: future; ES: possible; PES]

Figure 9. General structure of the monoclausal *if-only P1* construction

This is by far the rarest type of the *if-only P* construction. Indeed, with its two representatives in the corpus, it is doubtful that it should be postulated as a construction at all.[7] However, the COCA search yields more examples, which are given below.

> After several rounds of drinks had appeared, they began to whisper and snicker over the possibility of Tex meeting the boss. "If only it doesn't come off until Tex gets our forty-year-old schoolmarm from Missouri with him in the buckboard!" exclaimed Panhandle in huge glee.
> (Brand Max. 2007. The lawless West. New York: Leisure Books)

> "Ben, I have never heard anything like this in my entire life. If only it can be true…"
> (Blaine and Brenton Yorgason. 1990. Here Stands A Man. Salt Lake City: Deseret Book Company)

> Her calm and steady hand moves with the rhythm of her words, giving comfort to this child. If only she can hear it, feel it.   ("Nellie". Bolton and Drucquer. 2000. Dec. Journal of Medical Ethics, #. Vol. 26, Iss. 2; pg. 108, 2 pgs)

The reason for the low frequency of *if-only P1* is not clear, but it seems that it might lie in the much stronger illocutionary forces of the *if-only P* constructions compared to their biclausal counterparts, as observed by D&S. Thus the present tense form with its future reference seems to be just too illocutionarily weak to convey the strong positive emotional stance and the illocutionary force of the *if-only P*, especially in the situation when this semantic and pragmatic niche can also be, and indeed – is filled by the *if-only P2* with *would* or *could* (cf. D&S pp. 214–215 for related discussion). But, clearly, more research is necessary on this construction.

3.2.2   *If-only P2* (metonymically motivated by *If-only P, Q2*)

(25)   HGM 1734 If only Ace would let her go to the pits to check for herself!

(26)   HGN 3903 If only she'd leave me in peace to enjoy it.

(27)   BMU 961 'But if only we could have a cottage somewhere!' she went on wistfully.

Syn	*If only*	NP *would* VP
Sem	Suff condition for BETTER SITUATION:	P [TR: present or future; ES: hypothetical; PES]

Figure 10. General structure of the monoclausal *if-only P2* construction

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7.   To my knowledge, it is not mentioned in any grammar or textbook of practical English I have consulted. Huddleston and Pullum (2002) are the only ones who mention *If-only P, Q1*, but they do not mention *If-only P1*.

As I have already mentioned above, this construction, with the strong volitionality and/or strong speaker's positive interest emphasized by *would* (cf. Fillmore 1990), has a conventional force of a future-directed wish.

3.2.3   *If-only P3* (metonymically motivated by *If-only P, Q3*)

(28)   CA3 2445 If only I had a ghost.

(29)   FNU 910 If only we knew the sort of people she was mixing with.

(30)   G12 2250 If only he were attractive to women!

Syn	*If only*	NP V$_{\text{PAST/SUBJUNCTIVE}}$P
Sem	Suff condition for BETTER SITUATION:	P [TR: present; ES: negative; PES]

Figure 11. General structure of the monoclausal *if-only P3* construction

This construction, with its counterfactuality, is usually used as an expression of wish the speaker knows cannot be fulfilled.

3.2.4   *If-only P4* (metonymically motivated by *If-only P, Q4*)

(31)   EDJ 210 If only they hadn't taxed their tendons so fiercely…

(32)   ADA 1314 If only he had talked to her!

(33)   ADS 710 Oh ma'am if only I had shown myself strong in the face of temptation!

Syn	*If only*	NP *had* V$_{\text{PERF PART}}$P
Sem	Suff condition for BETTER SITUATION:	P [TR: past; ES: negative; PES]

Figure 12. General structure of the monoclausal *if-only P4* construction

Notice that there is only one *if-only P4* construction corresponding to two subtypes of *if-only P, Q4* since the differences between the two subtypes pertain to the main clause Q, which is not part of the *if-only P* construction. It explains however, why *if-only P4* is systematically ambiguous between the present or past construal of the consequences of P.

3.3   Objection 3: The condition **is** minimally sufficient

As can be seen in the formulas above, contrary to D&S's suggestion, the "sufficient condition" element of *if only* has not been deleted, so it follows that *if only* in the *if-only P* constructions preserves its minimal sufficiency meaning. The reason why I believe the minimal sufficiency meaning should be preserved is that *if only* is a construction in its own right, which appears in a number of other adverbial clause constructions, always contributing the "minimal sufficiency" sense, so there is no reason to assume that this element of completely grammaticalized or bleached in the *if-only P* construction. The examples below show how *if only* contributes the minimal sufficiency sense to the adverbial clauses of purpose and reason.

1. Infinitival *if only* clauses of purpose:
   - (34)   ADL 1159 The bureaucracy was wise to balk, if only to protect itself; the NSC, after all, was not meant to be caught up actively with either hostages or contras.
   - (35)   AJJ 198 I might just give him another run – if only to keep the stable going.
2. Tensed *if only* clauses of purpose:
   - (36)   AKE 1077 Indeed, his work rate is so high that his players are inspired to perform if only so that the old so-and-so does not get the better of them.
3. *If only* clauses of reason:
   - (37)   A6U 883 The Boston text is more obviously an exhibition catalogue, if only because it includes a 'checklist' of the exhibition …
   - (38)   B7G 16 It is too late for British Telecom to return to its old ways if only because the public now knows that it does not have to put up with a telephone system built for the 1950s.

As I argue below, this preserved minimal sufficiency meaning of the *if-only P* construction adds expressive power to its illocutionary force, thus making it different from the less expressive *I wish* construction.

3.4   Objection 4: *I wish* performatives are not synonymous with *if-only P*

As we have seen above, D&S pointed out the similarity between the performative uses of *I wish* and *if-only P* constructions, without, however, explaining how they differ. Similarly, Leech and Svartvik (2002: 167, 169) also view them as functionally synonymous and count both the constructions as expressions of disappointment or regret as well as exclamatives. However, Swan (1995: 253) observes: "We can use *If only* … to say that we would like things to be different. It means the same

as *I wish …*, but is more emphatic". This difference calls for explanation and the explanation seems to be this: the difference between *I wish* and *if-only* has to do with the speaker's assessment of the relative importance of P. In *I wish* sentences, the speaker simply expresses her wish that P happens, while in the *if-only P* construction, P is construed as minimally sufficient and therefore critical, making a real difference for the subsequent course of events. Furthermore, the *I wish* construction is an autonomous construction expressing a wish, whereas *if-only P* is a more emphatic dependent construction because it activates (however weakly) its "mother" conditional construction. The extra emphasis comes from this "implied" (or, rather, potentially activated) consequent + the semantics of *if only*. In fact, the non-autonomous status of the *if-only P* construction is often indicated by the ellipsis mark, rather than a full-stop at the end of the sentence in the BNC, as in the examples below:

(39)   F99 821 Oh, if only she could stop crying…

(40)   GV2 2896 If only I had told you straight away the appointment was a hoax…

(41)   C97 387 If only the Editor felt the same…

3.5   Objection 5: Not just a wish but a range of speech acts

As Vince (1994: 42) informally and intuitively observed, the monoclausal *if-only P* construction does not have a single pragmatic function, rather "[the *if-only P* construction – B.B.] adds emphasis to hypothetical situations. With past events it adds a sense of regret". Thus the speech acts may range from expressions of wish to expressions of regret. As we have seen above, Leech and Svartvik (2002: 167) consider both constructions as expressions of disappointment or regret, rather than as mere wishes, as argued by D&S. Moreover, as we have seen even the wishes may be different: hopeful with the open epistemic stance and rather hopeless with the hypothetical or counterfactual epistemic stance.

4.   Discussion and conclusions

1.   Grammar uses the same metonymic cognitive mechanism based on the PART-WHOLE relation which is so common on the level of lexical semantics. This mechanism has been recognized also and studied in the area of morphology, whereby parts of lexemes could be used to access the whole lexemes, as in *sub* standing for *submarine* or *doc* standing for *doctor* (cf. Radden and Kövecses 1999; Barcelona 2005; Bierwiaczonek 2007, 2013a; Brdar and

Brdar-Szabó 2013). Now we have seen that it operates on much larger units as well, i.e. in the area traditionally associated with syntax. In terms of Goldberg (1995, Chapter 3), the proposed *if-only P* constructions are related to their corresponding *if-only P, Q* constructions by a subpart link (I$_s$) and inherit the syntactic and semantic properties of the *if-only P, Q* constructions in the normal mode of inheritance.

2. It makes sense to talk about autonomous constructions, metonymically motivated independent constructions and metonymically motivated dependent constructions. In fact, the constructions discussed in Bierwiaczonek (2014) and the *if-only P* constructions discussed above are just examples of a much more general metonymic process allowing a growing number of constructions which license omissions of arguments (also called "null instantiations") to emerge through the metonymic link with their full, regular argument structure constructions (cf. Goldberg 1995; Evans 2007; Ruppenhofer and Michaelis 2010; Fillmore 2013; Hilpert 2014).

3. Mmd-constructions are an excellent way to implement one of the crucial principles of human communication which Grice formulated as "Be brief" and which I modernized a little and made more specific in the form of the Principle of Verbal Economy (PVE):

    > Be brief. Don't say what your addressee(s) already know from their experience and context and make maximal use of their ability to form conceptual associations and construct relevant meaning on the basis of the words they hear, their perception of context, and their knowledge of the world.   (Bierwiaczonek 2013a: 18)

    What can be added to this description is that in communication we rely also on the knowledge of autonomous constructions: sometimes we do not have to use the whole construction since its relevant part may be enough to activate the whole construction and metonymically convey its whole meaning, the process Evans (2007) calls "conventionalized ellipsis". In time, such truncated activations of autonomous constructions may become entrenched and acquire the status of construction in their own right, developing their own, idiosyncratic characteristics, like e.g. new and/or stronger illocutionary forces, along the lines discussed by Traugott and Trousdale (2013).

4. There is no doubt that metaphor has extremely important and far reaching consequences for grammar, but by and large it usually uses already existing grammatical structures (Goldberg 1995; Sullivan 2013) or allows constructional modifications of verb meanings (i.e. coercion, cf. Baicchi 2011). However, in conjunction with the evidence presented and discussed in Panther, Thornburg, and Barcelona (2009) and Bierwiaczonek (2011, 2013a,

2014), this study shows that metonymy – operating on the levels of concepts and linguistic forms – may be a more fundamental process to the effect that it enables new constructions to appear in grammar. In fact, the whole emergence of grammar may be viewed as a process of constraining the original proto-, or rather, pre-linguistic communication discussed by Bickerton (1990) and Jackendoff (2002), which was probably based on metonymic activations of complex propositional contents by means of one- or two-word linguistic units designating salient participants of those propositions (see Bierwiaczonek 2013a, Chapter 6 for discussion).

5. If accepted, the presented analysis may provide straightforward input to some of the fields of the metonymy entry model suggested by Barcelona (this volume). For instance, in Field 1 the category label is constructional metonymy, hence PART OF GRAMMATICAL CONSTRUCTION FOR WHOLE GRAMMATICAL CONSTRUCTION, in Field 2 at least the following hierarchical levels can be distinguished: PART FOR WHOLE (generic level), PART OF CONVENTIONAL FORM-MEANING UNIT FOR WHOLE CONVENTIONAL FORM-MEANING UNIT (high level), PART OF GRAMMATICAL CONSTRUCTION FOR WHOLE GRAMMATICAL CONSTRUCTION (basic level), with the more specific categories in the basic level, such as PART OF SENTENTIAL CONSTRUCTION FOR WHOLE SENTENTIAL CONSTRUCTION, PART OF CONDITIONAL SENTENCE CONSTRUCTION FOR WHOLE CONDITIONAL SENTENCE CONSTRUCTION, MONOCLAUSAL *IF-ONLY* SENTENCE CONSTRUCTION FOR BICLAUSAL *IF-ONLY* SENTENCE CONSTRUCTION, etc., in Field 5 the construction in question represents high degree of conceptual and linguistic conventionality, in Field 6 the language of course is English, although more or less equivalent constructions, also based on biclausal conditionals, can be found in other languages as well (e.g. Polish *gdyby-tylko*, German *wenn-nur*, etc.), in Field 7.1 the grammatical rank is a combination of clause and sentence, in Field 7.2 the meaning should probably be considered non-prototypical conventional, in Field 7.3 both prototypical and non-prototypical forms of the construction are possible, although this remains to be seen in actual corpus examples, in Field 7.4 the process is constructionalization, in Field 7.5 the main function is motivational, but the inferential function should also be marked, in Field 8 it seems that the original triggers were knowledge of grammatical structure (i.e. of the regular biclausal *if-only* conditionals) as well as the communicative context and rhetorical goals of the speaker, in Field 9 the metonymy is chained to the inferential chain based on the conceptual integration of hypothetical space, reality space and regret scenario (as shown in Bierwiaczonek 2013a, Chapter 4).

6. There are three important areas in the study of constructional metonymies as illustrated by the monoclausal *if-only P* construction that I have been unable to address: the constructions' relative strengths based on statistical corpus analysis, their diachronic development, esp. in comparison with their related autonomous construction (i.e. biclausal *if-only P, Q*), and their acquisition. Hopefully, these and other related problems will be dealt with in future research.

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The role of metonymy in the constructionist approach to the conceptualization of emotions

Benedikt Perak

University of Rijeka

Based on the corpus analysis of the conceptualization of *strah* 'fear' in Croatian, this chapter demonstrates that the conceptual structure of emotions emerges from syntactic and semantic organization activated by sensory-motor, ontological, spatial, thematic and agentive linguistic constructions. The proposed emergent constructionist model argues for a hierarchal organization of the metonymic and metaphorical conceptualizations. In terms of cognitive hierarchy, the model shows that sensory-motor metonymic profiling is the most basic, distinctive and, therefore, the most informative mechanism of conceptualizing emotions because it conveys knowledge about the affective state, enabling simulations of the quality of a specific emotion category, while additional metaphorical mechanisms build on metonymic conceptualizations using other general cognitive abilities expressing knowledge about objects, properties, relations and events.

Keywords: cognitive hierarchy, emergent constructionist model, fear, sensory-motor metonymies

1. Introduction

This chapter presents research on the conceptualization of emotions and, in particular, the emotion category of FEAR lexicalized as *strah* in Croatian, with the intention to demonstrate the cognitive role of metonymic constructions, such as *I'm shaking in fear* or *cold fear overwhelmed him*, where physiological and behavioral reactions profile the meaning of the lexical concept FEAR. The research indicates that metonymic profiling provides important knowledge that serves as a conceptual base and enables the elicitation of qualitative and inferential content. With regards to the linguistic construction of emotion concepts, this chapter shows that metonymic constructions activate more distinctive and basic semantic features than metaphoric mappings.

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The first section describes the theoretical problems and perspectives on the conceptual analysis of emotions via metaphors and metonymies in Cognitive Linguistics while the second section presents an embodied constructionist model with hierarchical ontology of cognitive mechanisms of construal of the lexeme *strah* 'fear'.

1.1 Epistemological and ontological problems of the conceptualization of emotions

The theoretical perspective in this study emerges from the intriguing epistemological and ontological status of emotions. The epistemological problem can be distilled to the simple fact that we experience emotions with our neurobiological structures and therefore we can experience only our own emotions. We can never experience the emotions of others, although we can infer that others experience emotions. This simple observation, however, imposes a difficult question regarding the nature of intersubjectivity of emotions and empathy, i.e. how can we understand subjective feelings of others if we can never feel their emotions? (Tomasello 1999; Verhagen 2005; Zlatev et al. 2008). This epistemological limit of human cognition raises ontological questions regarding the classification and communication of emotions.

Nevertheless, in spite of this intersubjective knowledge barrier, people in all cultures lexically express and communicate a wide range of distinctive emotion phenomena. Does this mean that emotion lexical concepts refer to natural kinds of ontological entities (Barrett et al. 2009; Izard 2007; Lindquist et al. 2013), or that these categories represent cultural constructs, together with their lexical expression (Lutz 1988; Wierzbicka 1992)? In other words, is the mechanism of delimiting an extensive range of affective experiences into discrete categories and concepts based on natural kinds of entities or on arbitrary cultural agreement?

The cognitive (linguistics) approach to these problems is grounded in the Embodied Cognition Framework (Bergen 2007; Hampe 2005; Lakoff 1987, 2013; Lakoff and Johnson 1999; Ziemke et al. 2007). Over the last several decades various philosophers, psychologists, cognitive scientists, and artificial intelligence researchers advocating embodied cognition theory have argued that our experience of the world and environment is mediated by our bodily systems that produce perception, affective states and cognition (Barsalou 2008; Franks and Turner 2013; Gibbs 2005; Varela et al. 1991). One of the prominent examples of the embodied cognition is the perception of color. There is no color in the world as such, but humans (and many animal species) perceive and interpret visual stimulus as colors (Berlin and Kay 1969; Jacobs 1993). The experience of color and its subsequent categorization is a neurophysiological and cognitive interpretation of a certain spectrum of electromagnetic radiation. The same is true for all other sensory modalities.

What about emotions? Are there emotions out there in the world? Not unless there is a body with required neurobiological structures to produce it. The elements of anatomy and models of neurophysiological processes that produce emotion have been extensively described in the last century, starting with Darwin (1872), James (1884), Cannon (Cannon 1927; Cameron 2002), followed by Papez (1937), MacLean (1952, 1990), Schachter and Singer (1962) and others. Many of the leading researchers in the growing discipline called affective neuroscience support a constructionist view of emotions (Ekman and Davidson 1994; Barrett 2011; Davidson et al. 2003; Dalgeish 2004; Damásio 1994, 1999; Lewis et al. 2008; Panksepp 1998). According to the psychological constructionist approach proposed by Feldman Barrett and collaborators, emotions are a construct of the basic (mammalian) core affect system that generates experience of a positive or negative affective state by monitoring bodily states in relation to the environment and the human conceptual system that produces schematic knowledge about these affective states (Barrett 2011: 363; Barrett and Lindquist 2008). Phylogenetically older neurobiological substrates of limbic brain enable qualitative experience of the hedonic valence and the arousal of the core affect. Human neurobiology evolved further by integrating the core affect system with other constituents of human cognition such as memory, categorization and symbolization, creating emotion concepts with emergent properties (Lindquist and Barrett 2012; Scherer 2009). The emergent properties of human emotions are thus constructed by superimposing the knowledge of cognitive systems onto the affect system in a complex system of broadly distributed networks in the human brain.

The constructionist approach emphasizes the constituent role of linguistic expressions in the process of cognition of an emotion event (Barrett 2011). This approach is compatible with the research on the conceptualization of emotion initiated by linguists from the field of cognitive linguistics (Lakoff 1987; Lakoff and Kövecses 1987; Kövecses 2000). From the cognitive linguistic perspective, emotion lexical concepts are symbolic constructions that represent typical affective properties and simultaneously serve as access points to a network of cognitively entrenched image schemas, conceptual domains, frames and cognitive models (Fillmore 1982, 2002; Fillmore and Atkins 1992; Lakoff 1987; Langacker 1987). That is, by uttering the word for fear, happiness, jealousy, shame, etc. a certain cognitive model is activated (Evans 2009) that is related to the individual's knowledge of typical attributes of affective states (Scherer 2009). In accordance with the prototype theory, formulated by Eleanor Rosch and others (Rosch 1975, 1977; Rosch and Mervis 1975; Rosch et al. 1976), such lexical units represent basic level categories with the highest degree of cue validity, maximizing the number of attributes shared by members of the emotion category, and minimizing the number of attributes shared with other categories. The function of categorization and lexicalization of emotions is, thus, not to mirror objective reality of the emergent emotion phenomena but to economize the cognitive processing of affective states.

The conceptual content of these emotion categories is grounded in the neurobiological mechanisms that generate universal affective motivation for survival, procreation, aggression, care, etc. (Panksepp 1998, 2005, 2007). However, the categorization of emotions includes processes of reinforcement, inhibition and modification of these neurobiological programs by the appropriation of cultural conventions used to express affective states in the context of social interaction. In contrast to somewhat essentialist natural kinds model of emotion, the Barrett's constructionist (Barrett 2011) as well as the Scherer's componential (Scherer 2013) models predict considerable diachronic, ontogenic and cross/intra-cultural variability in the conceptualization of EMOTIONS[1] including their appraisal, taxonomy, modes of expression, perceived causes and relation to other concepts such as BODY, MIND, REASON, SOUL (Damásio 1994).

The conceptualization of emotions can thus be viewed as a construct of the universal neurobiological processes that produce core affect states as well as the categorization processes that produce dynamic knowledge about affective states modeled by the appropriation of cultural conventions symbolically coded by language. This is why biology, cognition and language are constituent elements of the categorization of emotions.

1.2   Embodied perspective on the communication of emotions

As for the question how linguistic labels such as *strah* 'fear' communicate appropriate intersubjective affective experience, the prototype theory offers an embodied perspective on bridging the epistemic gap. A category is a mental representation of prototypical correlational features that best represent instances of a given category (Lakoff 1987; Rosch 1975). Prototypical features of frequently encountered objects, properties and processes, are learned through experiencing and recognizing their structure in the context of correlational features. In the case of emotion categories, the correlational features are related to various cues of objects, causes, precipitating agents, physiological changes and behavioral reactions/action tendencies (Planalp 1998; Scherer 2009; Fontaine et al. 2013) that form a cognitive frame or script. In FEAR of snake we shake, run or turn pale, in SADNESS, because of the death of a loved one, we cry, become silent, etc. What is important for the sake of communication is that embodied cues can be observed from a third person perspective. Although we cannot feel someone's FEAR, we can objectively observe someone's reaction of shaking (in the encounter with a dangerous animal) and correlate with the appropriate subjective feeling. We actually understand their feeling of FEAR by mentally simulating what it is like to be shaking.

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1.   The concepts and conceptual domains are written in small caps.

The hypothesis of the activation of appropriate intersubjective affective experience by mental simulation of sensory-motor attributes is corroborated by the mirror neuron theory (Damásio 1999; Iacoboni 2008, 2009; Rizzolatti and Sinigaglia 2008). Mirror neurons are cells that fire not only when certain kinds of actions are executed by the self, but also when they are seen or heard being performed by someone else. The mirroring mechanism of these neurons that fire during both action execution and action observation seems to confirm the embodied cognition framework envisaged by William James (1890: 526): "Every representation of a movement awakens in some degree the actual movement which is its object". Because they neutralize the self–other distinction they have profound implications for intersubjective understanding and emergence of cultural patterns of behavior (Bergen 2005; Hurley and Chater 2005; Iacoboni 2009; Oberman and Ramachandran 2009). The details of the inner workings at the neurophysiological level are still far from being completely understood but the glimpses into human neurological and psychological mechanisms clearly reveal that we understand other's emotions by means of simulation of our own embodied experience and cognitive processes.

1.3 Linguistic constructions of emotions

The embodied constructionist hypothesis allows us to argue that the intersubjective linguistic communication of emotions requires the elicitation of specific vocal, facial, gestural, bodily, behavioral cues (Planalp 1998; Scherer 2009) that facilitate the mental simulation of the appropriate affective state. This knowledge about the affective state is formed by the meronymic (part-whole) correlationonal features of the affective states. This means that words for emotions, such as fear or happiness, etc. conceptually activate an emergent mental representation of prototypical correlational features in the mind of the speaker. From this perspective, the linguistic research on the conceptualization of emotions aims to describe a dynamic network of conceptual components and linguistic structures that construct emotion concepts. The main research questions are: (a) what are the cognitive mechanisms of linguistic construal of emotion events; (b) what are the prototypical domains that structure lexical emotion concepts; and (c) can they be correlated to some feature of an affective state?

1.3.1 *Metaphorical construal of emotions*

Researchers in the field of cognitive linguistics have extensively studied metaphor as one of the main mechanisms of linguistic construal of emotions. The standard Conceptual Metaphor Theory (CMT) defines metaphor as a cognitive mechanism whereby experientially a more concrete domain (or concept) is partially mapped onto an experientially more abstract domain (Gibbs 1994; Kövecses 2002, 2005;

Lakoff and Johnson 1980, 1999; Lakoff 1987; Gibbs 2008; Indurkhya 1992). Both domains belong to different superordinate domains.

In the seminal work of cognitive semantics, Lakoff and Johnson showed that emotions are often construed with reference to the physiological and behavioral cues: "drooping posture typically goes along with sadness and depression, erect posture with a positive emotional state" (Lakoff and Johnson 1980: 15). They argued that systematic correspondences between affective states and sensory-motor experiences form the basis for metaphorical expressions such as *I'm feeling high*. This linguistic construction brings two ontologically distant domains (subjective affective state and spatial orientation) into correspondence with each other, mapping the conceptual content of the more concrete embodied spatial concept UP onto the more abstract concept HAPPY. The domain UP is part of the VERTICALITY image schema deriving meaning from embodied experiences of standing up, rising, or falling down (Johnson 2005: 20). In a further elaboration of the metaphor theory, Lakoff and collaborators (Lakoff 2008; Feldman 2006; Feldman and Narayanan 2004) argue that conceptual mappings have a neurobiological basis in the activation of neural connections between different brain regions functionally associated with specific modes of cognition, in the example of HAPPY IS UP, affective and spatial modalities.

Kövecses, another influential researcher in the domain of the linguistic construal of emotion, identified the prototypical source domain mappings for lexical concepts such as *fear*, *anger*, *happiness*, *jealousy* (Kövecses 1986, 1988, 1990, 1991, 1995, 2000). According to him (2000: 23) the source domains for FEAR are: FLUID IN A CONTAINER, HIDDEN ENEMY, TORMENTOR, SUPERNATURAL BEING, ILLNESS, INSANITY, OPPONENT IN A STRUGGLE, BURDEN, NATURAL FORCE, SOCIAL SUPERIOR.

In the last decade corpus-based methodologies have augmented metaphor research projects (Deignan 2005; Charteris-Black 2004; Stefanowitsch and Gries 2006). The corpus-based methodology essentially consists of: (i) choosing a lexical item referring to the target domain; b) extracting occurrences in the corpus; (ii) identifying source domains, their metaphorical mappings and expressions. Stefanowitsch (2004; 2006: 66) found his corpus-based method to be equal or superior with regard to the introspective lexical method of identification of metaphors. He (2006: 81) identified additional source domains such as: PAIN, A SHARP OBJECT, AN ORGANISM, A WILD/CAPTIVE ANIMAL, A BARRIER, DARK. Furthermore, the corpus based approach opens a possibility to more structured cross-cultural research on the metaphorical construal of emotions (Oster 2012; Kövecses et al. 2015).

Although the corpus-based approach has disadvantages that it only identifies expressions with a lexicalized target domain, it enables quantifying results, which can serve as a measure for productivity and to check the cognitive entrenchment of metaphorical mappings. For example, Oster (Oster 2010: 744) found that the

most prevalent metaphors out of a total of 5516 metaphorical occurrences for the concept FEAR in collocations with prepositions are: FEAR IS SOMETHING INSIDE THE BODY (37.6%), followed by FEAR IS A PLACE/CONTAINER (26.5%), FEAR IS AN ANTAGONIST (14.5%), FEAR IS AN OBJECT (11.8%), FEAR IS AN AUTONOMOUS FORCE (7.3%) and FEAR IS AN ILLNESS/INSANITY (2.3%). From total 3103 collocations without prepositions Oster (2010: 746) ranked metaphors in the following order: FEAR IS A POSSESSION (16.9%), IT IS SOMETHING THE SELF FIGHTS BACK AGAINST (11.1%), IT IS LOCATED IN OR AFFECTS SPECIFIC BODY PARTS (329 – 10.6%), IT COMES FROM THE OUTSIDE (9.9%), IT IS A HUMAN BEING OR ANIMAL (7.0%), IT IS UNSPECIFICALLY LOCATED INSIDE THE BODY (7.0%), IT IS AN ATTACKER (5.2%).

Many authors from the CMT tradition claim metaphor to be the main mechanism to structure our knowledge about emotion concepts (Lakoff and Johnson 1980; Lakoff 1987; Kövecses 2000; Oster 2010). In this paper, we propose a clear emergent hierarchy regarding underlying cognitive mechanisms of metonymic and metaphoric conceptualization claiming that the metaphoric conceptualization necessarily relies on the established meronymic networks of contingent entities (for elaboration of the role of contingency in metonymy see Hernández-Gomariz, Panther and Thornburg, this volume). The metonymic profiling reflects the meronymic correlational knowledge of an affective state while the metaphor mapping uses the meronymic relations of a source domain and superimposes its salient features onto some ontologically and experientially different domain.

Furthermore, we raise the question about the ontology of conceptual domains. Is there an ontological hierarchy between activated domains, or do they just randomly contribute to the overall conceptualization of FEAR? For instance, Kövecses (2000: 61–80) argues that EMOTION IS FORCE can be thought of as a generic level "master metaphor" of emotions, considering the rest as specific level instantiations of this metaphor. Oster (2010: 740), however, in her classification of metaphorical mappings of FEAR appropriately restricts instantiations of metaphor EMOTION IS FORCE to the mappings OPPONENT, AUTONOMOUS FORCE, AUTONOMOUS BEING INSIDE THE PERSON, and assigns the metaphors THE EMOTION IS AN OBJECT and THE EMOTION IS A PLACE/CONTAINER to a different class. In Section 2 we propose a syntactic-semantic model that offers an emergent hierarchical perspective to the ontology of lexical concepts as well as the classification of metonymic and metaphorical mappings. In this paper, the emphasis is on the perspectivization of nominal conceptualization of emotion in different constructions.[2] The analysis

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2. The results of the metaphor analysis are published as a part of the project Croatian Metaphor Repository (http://ihjj.hr/metafore/), founded by Croatian science foundation under the number 3624. Members of the project are: Kristina Štrkalj Despot (principal investigator), Mirjana Tonković, Ana Ostroški Anić, Bruno Nahod, Mario Essert, Mario Brdar, and Benedikt Perak.

demonstrates that metaphorical processing is not activated by mere different onto-logical status of the source domain, as much as it is the meronymic incongruency between the expected and ascribed semantic role of syntactic arguments that trigger the metaphorical cross domain mappings. Emergent (a) ontological, (b) spatial and (c) processual constructions (for emergence of grammatical constructions see Bierwiaczonek, this volume) enable ascription of (i) objective existence and property features, (ii) spatial and causation relations, (iii) thematic and agentive roles to the emotion categories.

1.3.2 *Metonymic construal of emotions*

Research on the metonymic construal of emotions has been rather eclipsed by extensive metaphor studies in the cognitive linguistics, although metonymy is indeed even more basic than metaphor in language and cognition (Barcelona 2000, 2003; Dirven and Pörings 2003; Taylor 1989: 124; Radden 2003: 407; Panther et al. 2009; Littlemore 2015). Radden and Kövecses (1999: 21) define metonymy as "a cognitive process in which one conceptual entity, the vehicle, provides mental access to another conceptual entity, the target, within the same idealized cognitive model (ICM)", or in Langacker's terms (1987), source domain profiles target domain within the domain matrix. In other words, metonymy is a conceptual operation with referential function whereby one content stands for another while both are activated (Brdar 2007: 17; Panther et al. 2009; Brdar-Szabó and Brdar 2011). Some of the chapters in this volume provide detailed discussion on the multifaceted nature of metonymy (see Barcelona, Blanco-Carrión, Hernández-Gomariz, Barnden, Panther and Thornburg, Radden, this volume). The main difference between metaphor and metonymy is that metaphor involves a mapping across different onto-logical domains or cognitive models, while metonymy involves profiling within a single cognitive domain or model. The important feature of the metonymic profiling is that the constituents of this single domain/model are linked with contingent, meronymic relation.

Kövecses (1990, 2000: 5, 2010: 108) and Kövecses et al. (2003) emphasize that metonymy has an important role in the construal of emotion categories. Affective experience is conveyed in symbolic constructions in terms of the conceptual profiling of its PHYSICAL / SENSORY-MOTOR / BEHAVIORAL REACTIONS. In the case of FEAR these are (Kövecses 1990: 70–73): PHYSICAL AGITATION, INCREASE IN HEART RATE, LAPSES IN HEART BEAT, BLOOD LEAVES FACE, SKIN SHRINKS, HAIR STRAIGHTENS OUT, INABILITY TO MOVE, DROP IN BODY TEMPERATURE, INABILITY TO BREATHE, INABILITY TO SPEAK, INABILITY TO THINK, (INVOLUNTARY) RELEASE OF BOWELS OR BLADDER, SWEATING, NERVOUSNESS IN THE STOMACH, DRYNESS IN THE MOUTH, SCREAMING, WAYS OF LOOKING, STARTLE, FLIGHT.

There are two main theoretical problems regarding contemporary research on the metonymic conceptualization of emotions. The first is related to the predominant corpus-based methodology that allows us to identify only the conceptualizations that have lexicalized target domain. This essentially means that a vast range of metonymic expressions get left out of the analysis. However, expressions profiling an emotion via PHYSICAL OR BEHAVIORAL REACTIONS without lexicalization of the target domain can in communication be interpreted as elliptic or polysemous.

(1) a. *I'm still shaking.*
     b. *I'm still shaking in fear.*
     c. *I'm still shaking. I cannot contain my fear.*

In the Example (1a) it is not clear whether the person experiences an affective state of fear, or whether the shaking is just due to cold weather conditions. This is why metonymic constructions of emotions, in many cases, lexicalize the target concept, like in Example (1b). The source domain doesn't have to be syntactically distributed in the same phrase or even sentence as in Example (1c), but may still function as a metonymic profiling: source concept meronymically profiles the salient content of target concept while both are activated. Methodologically, the qualitative and quantitative results of identification are dependent on the relevant context, i.e. the parameter of characters used in the collocation analysis.

The second issue concerns the theoretical interpretation of the metonymy PHYSICAL OR BEHAVIORAL REACTION FOR EMOTION as the metaphor FEAR IS AN OBJECT IN THE BODY or FEAR IS AN OBJECT THAT AFFECTS SPECIFIC BODY PARTS (Apresjan 1997; Oster 2010). For example, Oster (Oster 2010: 756) identifies expressions conceptualizing fear as something that is located in / or something that affects: the heart, stomach, blood, chest, throat, viscera, mouth, spine, vein, belly, muscles, neck, nerves, lungs, skin, etc. classifying them as instances of the metaphor FEAR IS SOMETHING INSIDE THE BODY. This could be a valid interpretation for the folk model of emotions that conceptualizes EMOTIONS as an ENTITY or OBJECT causing emotion reactions. However, the emergent constructionist and psychological componential (Scherer 2009, 2013) model offer a different, non-essentialist perspective of emotions. In accordance with the constructionist model, physical and behavioral reactions are identified as correlational features of an affective state. They are meronymic part of the emotion phenomenon. In the process of cognitive economizing, the prototypical affective state is schematized as an emotion category with properties of an OBJECT / ENTITY. This means that knowledge about the emotion is constructed from (i) the experiential knowledge about prototypical meronymic (part of) features of an affect state and (ii) schematic in class classification (kind of) knowledge about objects. Given the above mentioned definition of metonymy and

metaphor, the first part is reflected as a metonymic PROFILING PHYSICAL OR BEHAVIORAL REACTION FOR EMOTION, while the second part activates the metaphorical mapping EMOTION IS OBJECT / ENTITY. As a whole, those conceptualizations form a metaphtonymy (Goossens 1990) FEAR IS OBJECT IN THE BODY / AFFECTS SPECIFIC BODY PARTS, expressed in linguistic constructions such as:

(2)   [*Hladan strah*] *ovlada njime.*
      '[Cold fear] overwhelmed him'.
      COLDNES FOR FEAR + FEAR IS ENTITY→FEAR IS COLD ENTITY→COLD FEAR$_{ENTITY}$

As the next section shows, the main epistemic function of metonymic constructions in the process of communication is to facilitate the mental simulation necessary for recreation of an appropriate affective state via metonymy PHYSICAL OR BEHAVIORAL REACTION FOR EMOTION, while highly schematized ontological mappings such as EMOTION IS AN OBJECT conceptualize affective states in terms of categories that can be used as the cognitive building blocks for further elaboration of meaning, like in (2) FEAR IS A FORCE / AN ENEMY, expressed by verb *ovladati* 'to rule, to overwhelm'.

2.   Emergent constructionist model of the conceptualization of FEAR in Croatian

This section describes an emergent constructionist model that offers a cognitive hierarchy of metonymic and metaphorical mappings. The term constructionist describes the formation process of the complex conceptual structures from the more basic conceptual structures, while the term emergent implies that a property of the constructed concept is generated from its constituent elements, but is not reducible to them. The model is based on the semantic and syntactic analysis of the conceptualization of *strah* 'fear' in Croatian (Perak 2014). The corpus data was obtained from the Croatian Language Repository[3] (85 Mw) and the sub-corpora of the Croatian National Corpus[4] (46 Mw). Together they comprise a corpus of 131,8 million words in which 14875 collocations of the lemma *strah* 'fear' were identified.

The syntactic and semantic classification of metonymic and metaphoric domains reveals construal patterns of SENSORY-MOTOR metonymic profiling superimposed by metaphorical mappings of OBJECTS/ENTITIES, OBJECTS/ENTITIES IN SPATIAL RELATIONS, OBJECTS/ENTITIES IN THEMATIC ROLES, and OBJECTS/ENTITIES

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3.   http://riznica.ihjj.hr.

4.   http://www.hnk.ffzg.hr.

IN AGENTIVE ROLES that are organized in an emergent system of respective ontological, spatial, thematic and agentive patterns of linguistic constructions. The idea is to: (a) demonstrate the hierarchical structure of syntactic-semantic conceptualization of emotions; (b) to assign each emergent level to its corresponding cognitive mechanism; and (c) to reveal the role of metonymic constructions within this emergent system of conceptualization.

2.1   Sensory-motor metonymic constructions

According to the emergent constructionist model of emotions, the basic level of emotion conceptualization is related to the metonymic constructions that profile sensory-motor phenomena. The body, physiological and perceptual processes provide the basic meronymic structure for human cognition of affective phenomena.

The sensory-motor linguistic constructions profile the quality of the affective state in terms of correlated physiological mechanisms occurring in different parts of the body: PHYSIOLOGICAL REACTION/BODY PART FOR FEAR (see Figure 1).

Figure 1. Metonymic construction profiling the quality (Q) of the affective state FEAR. PHYSIOLOGICAL REACTION/BODY PART FOR FEAR

2.1.1   *Sensory domains*

The quantitative distribution of sensory domains profiling the lexeme FEAR is shown in Figure 2. Sensory domains are schematically classified according to the sensory systems referred by the lexicalized correlational features (Figure 3).

Figure 2 illustrates the distribution of domains and frequency of 2974 identified sensory constructions that comprise 20% of all 14875 collocations of lema *strah*. The domains are classified according to the type of sensory systems: vision (visual), auditory (hearing), gustatory (taste), olfaction (smell) somato-sensory, visceral and proprioceptive (motor control/balance/movement). These sensory systems convey basic blocks of information used to construct the embodied interpretation about the world around us.
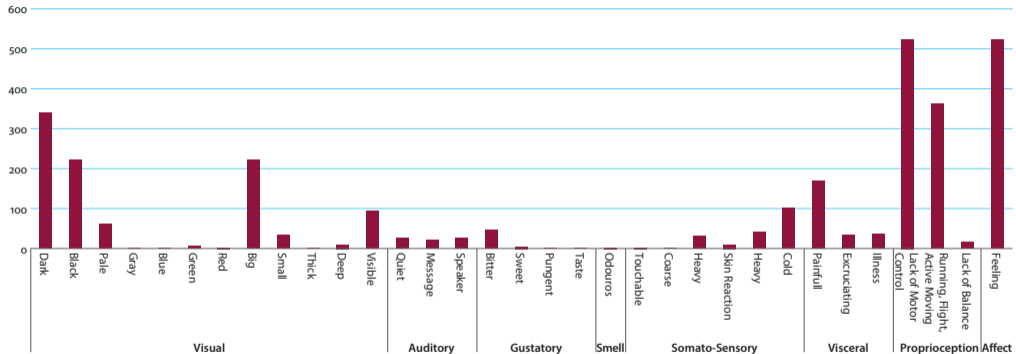
Figure 2.   Distribution of sensory-motor domains profiling
FEAR

The relative distribution of the identified sensory domains in 2974 occurences of sensory constructions is represented in Figure 3.
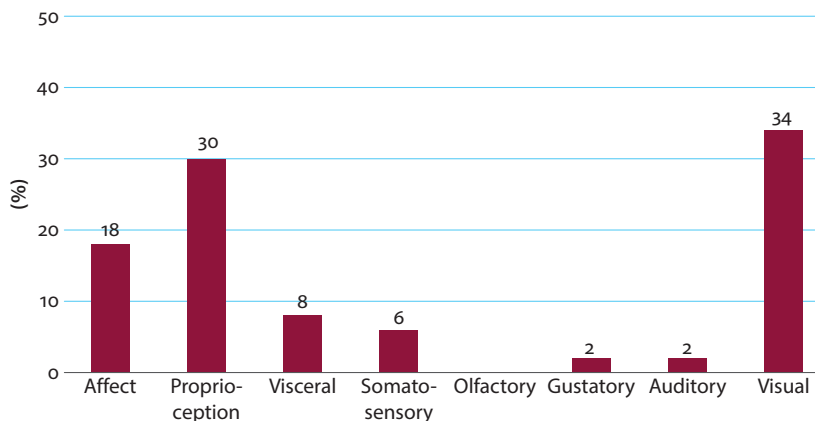
Figure 3. Relative distribution (%) of 2974 identified sensory constructions profiling FEAR, classified according to the respective sensory systems

The frequency of the sensory profiling in the constructions indicates the productivity, conventionality (for discussion on the conventionality see Blanco-Carrión, this volume) and the cognitive entrenchment of certain sensory domains in the process of conceptualizing the quality of the emotion *strah* 'fear'. It reflects not only the epistemological functionality of the constructions but also pragmatic framing, enabled by neural activation of inferences. In this sense, the conventionalized conceptualizations, as indicated by the frequency, serve as an amplifier of the cultural embodied cognitive model of emotion categories (for the role of cognitive-cultural context see Hernández-Gomariz, this volume).

Highly frequent are the constructions profiling the visual correlational features of an affective state. The most salient visual domain is DARK ($n = 340$),[5] correlated with the archetypical conditions for danger or some existential threat due to the possible presence of predators in the environment (3).

(3) *Mračan strah uvlačio se u djecu.*
     'Dark fear was creeping in children'.
     DARK(NESS) FOR FEAR + FEAR IS OBJECT / ENTITY / AGENT THAT CREEPS IN

The domain BIG ($n = 221$) (4) is classified under the visual representation because it can be interpreted as a visual indication of a tremendous or dangerous object,

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5. n stands for number of occurrences.

although in most instances the domain SIZE functions as a measure of arousal intensity, metaphtonymically profiling SIZE FOR QUANTITY and QUANTITY FOR QUALITY (for further elaboration of value judgement and scalar dimensional notions see Barnden, Pannain, this volume).

(4) *Imao sam veliki strah od konja.*
     I   had big   fear of horse-GEN.PL
     'I was very afraid of the horses'.
     (BIG FOR FEAR) + SIZE FOR QUANTITY + FEAR IS OBJECT ↑ BIG$_{SIZE/QUALITY}$ FEAR

The domain PALE ($n = 62$) is also a visual indication of the affective state of fear (5), physiologically induced by the dilatation of blood vessels on the periphery of the skin.

(5) *Problijedi u licu od straha.*
     'He became pale in the face from fear'.
     PALE SKIN FOR FEAR

One type of the most frequent metonymic constructions of fear are neurobiologically motivated by the rapid activation of the hypothalamo-pituitary-adrenal axis (Nieuwenhuys et al. 2007: 305) and autonomous nervous system affecting proprioceptive system. They are lexicalized with verbs such as *drhtati* 'shaking' in 287 occurrences ($n = 287$) or *tresti* 'trembling' ($n = 109$) (6) and schematically classified as LACK OF MOTOR CONTROL ($n = 524$) (see Figure 2).

(6) *Tijelo mi se treslo od straha.*
     'I was trembling out of fear'.
     TREMBLING (LACK OF MOTOR CONTROL) FOR FEAR

Verbs of running such as *bježati* 'run, flee' ($n = 196$) profile agonistic behavior and fight of flight reaction ($n = 362$).

(7) *Supruga je u strahu pobjegla.*
     'Wife fled in fear'.
     FLIGHT OR FIGHT REACTION FOR FEAR

The observable nature of the proprioceptive sensory-motor features, such as shaking or running, enables intersubjective recognition of the fear in others. The motor component of the proprioceptive reactions is also conducive for activation of mirror neurons and mental simulation of the corresponding affect state in the observer (Fischer and Zwaan 2008; Kemmerer and González-Castillo 2010). The high frequency of proprioceptive domains is thus motivated by the observable nature and saliency of these embodied correlational features that facilitate simulation of the quality of the emotion.

Coldness is the most salient thermoception domain ($n = 100$), correlated with the physiological reaction of lowering body temperature during affective state of fear neurobiologically regulated prominently by the preoptico-hypothalamic continuum (Nieuwenhuys and et al. 2007: 307): drop in body temperature for fear (Kövecses 2000).

(8) *Osjetila je hladan dodir straha.*
     'She felt the cold touch of fear'.
     coldness for fear + fear is object → cold touch

Other frequent somatosensory domains are derived from nociception or pain ($n = 169$), touch and visceral gastrointestinal perception of pressure ($n = 41$) which can lead to the conceptualizations such as fear is pain (9), and fear is burden (10).

(9) *U knjizi otkriva delikatne odnose, intimne detalje i bolne strahove.*
     'In the book she reveals delicate relations, intime details and painful fears'.
     pain for fear + fear is object / entity → fear is painful object → painful fear

(10) *Malo me strah pritiska.*
     'I feel the pressure of fear'.
     pressure for fear + fear is object / entity → fear is burden

Visceral interoceptive correlational features are expressed in domains such as excruciating ($n = 33$), and other lexemes referring to various signs of psycho-physiological imbalance ($n = 36$) that motivate the conceptual metaphor fear is illness (11), or the agentive metaphor fear is a tormentor (12).

(11) *Mučnina u želucu, gorčina u grlu. Strah!*
     'Sickness in the stomach, bitterness in the throat. Fear!'
     psycho-physiological imbalance for fear → fear is illnes

(12) *Muči ju strah od grdne tmine.*
     'She is tormented by the fear of darkness'.
     painfull feeling for fear → fear is a tormentor

Finally, fear is very often ($n = 523$) categorized as affect in linguistic constructions with lexemes such as *osjećaj* 'feeling' or *doživljaj* 'experience' where it functions as a complement or a modifier (13).

(13) *Postojao je tek nepodnošljiv osjećaj straha.*
     'There was just an unbearable feeling of fear'.
     fear is an affective state

2.1.2   *Body domains*

The corpus-based analysis identified 40 body parts that profile affective state of fear in 1327 appearances (9% of the lemma *strah*), often in relation with sensory-motor constructions. The frequency of these domains is given in Figure 4.

The most frequent domains are EYES (*n* = 336, 25%), HEART (*n* = 266; 20%), FACE (*n* = 177; 13.3%), HANDS (*n* = 126; 9.5%) and BONES (*n* = 118; 8.9%).

FACE and EYES are the most salient body part for recognizing emotion in others (Ekman 2003). Fear is typically related to the reaction of widening the eyelids and heightening the eyebrows. The EYES are used as an expressor of fear with other conceptualizations, such as (14) the CONTAINER for fear (15).

(14)   *U strahu su velike oči.*
       'Eyes wide with fear'.
       WIDE EYES FOR FEAR / SURPRISE

(15)   *Oči mu se napune strahom.*
       'His eyes were filled with fear'.
       EYES FOR FEAR + EYES ARE CONTAINER + FEAR IS OBJECT / LIQUID

The CHANGE OF HEART RATE is a physical reaction that appears as a salient construction for many affective states profiling the dimension of excitement and arousal (16).

(16)   *Srce mi je burno kucalo od straha.*
       'My heart was pounding from fear'.
       CHANGE IN HEART RATE FOR FEAR – excitement

Although BONES are not biologically correlated to the affective state, the construction [X$_{\text{AGENT}}$ *put / pour* FEAR$_{\text{OBJECT / LIQUID}}$ *in* BONES$_{\text{BONES FOR PERSON}}$ -of-Y$_{\text{EXPERIENCER}}$] is very frequent in journalistic discourse because it conveys causing somebody to experience fear.

(17)   *Predsjednik je utjerao strah u kosti radnicima.*
       'President puts fear in the bones of workers'.
       BONES FOR PERSON + BONES ARE CONTAINER + FEAR IS OBJECT / LIQUID

2.1.3   *Conclusion of sensory-motor metonymic constructions*

The corpus analysis has shown 4301 instances of sensory-motor constructions, which makes 29% of a total 14875 collocations of the lema *strah* in the corpus. In other words, approximately every fourth expression of fear with 'strah' lexicalized as a target domain is partly conceptualized via metonymic profiling of embodied correlational features of an affective state.
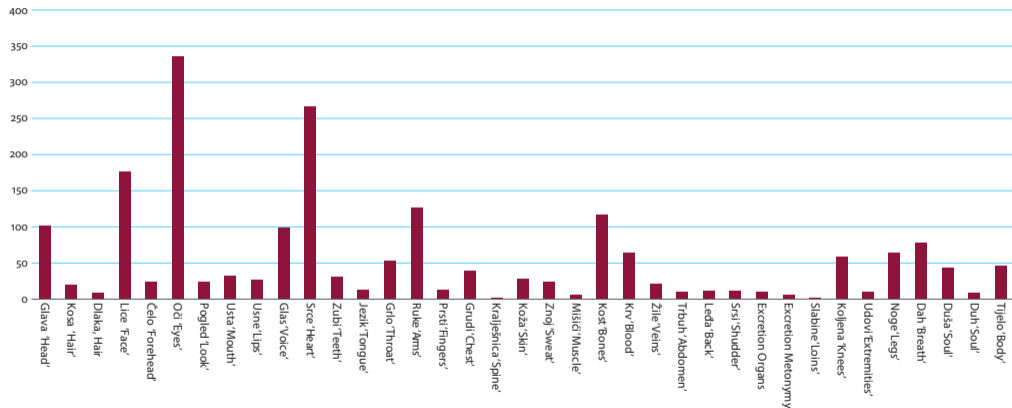
Figure 4. Body parts profiling the domain FEAR
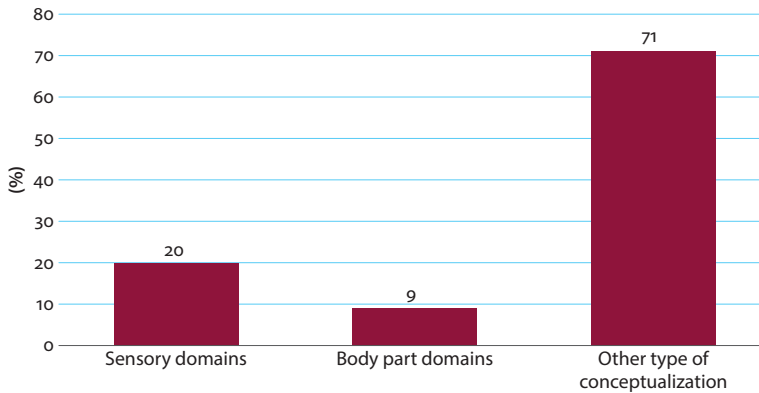
Figure 5. Distribution of sensory-motor constructions in the collocations of lema *strah*

The linguistic profiling of sensory-motor domains reflects and promotes simulation of the underlying neurobiological processes that produce affective experience: (BODY) + PHYSICAL REACTION FOR FEAR. Ontologically objective source domains are in contrast to the associated subjective emotion target domain (for the role of contrast in metonymy see Barnden, this volume). The sensory-motor constructions provide contingent, meronymic knowledge about the specific affective state *strah* 'fear' that activates mental simulation, recreates the quality of an affective state, and profiles pragmatic inference framing a certain cognitive-cultural model in the communication.

2.2   Ontological constructions

Hierarchically superimposed on the sensory-motor constructions are the ontological constructions. They reflect a cognitive mechanism for the conceptualization of an affective state as OBJECT / ENTITY. For example, the conceptual structure of the lexeme *strah* is constructed via metaphorical mappings of the schematic existential features in linguistic constructions with intransitive passive verbs like *biti* 'be' [*strah biti*] or transitive passive verbs such as *postati* 'become' [*strah postati x*].
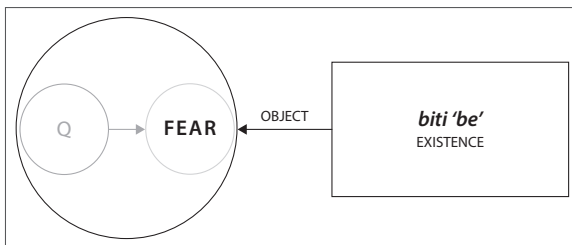
Figure 6.   Metaphoric mapping in the ontological construction [*strah*^TR V_{*biti* 'be'}]. The knowledge about the schematic properties of OBJECT THAT EXIST is mapped on FEAR

Ascribed existential features to the ontological constructions constitute the conceptual base for further elaboration of the matrix domain *strah*.

1. $[strah^{\text{TR}} \text{V}_{biti}]$

Highly schematic ontological constructions with the verb 'be' [*strah biti*] are regularly elaborated with a nonprocessual (Langacker 2008: 99) complement [*strah biti* NP] mapping onto the matrix domain *strah* structural PROPERTIES of an OBJECT / ENTITY. The lexeme *strah* in ontological constructions with complement structure is coded as trajector (TR) or landmark (LM), typically assuming the passive semantic role zero (ZERO). In Croatian, it is possible to schematize several types of constructions with existential verbs such as 'be', 'become', etc. (V$_{biti}$), and nonprocessual complements.

1. $[strah^{\text{TR}} \text{V}_{biti}\text{OBJECT / ENTITY}_{\text{(NOM)}}{}^{\text{LM}}]$
2. $[strah^{\text{TR}} \text{V}_{biti} \text{PROPERTY}_{\text{(adj. – modifier of OBJECT / ENTITY)}}{}^{\text{LM}}] \rightarrow [\text{PROPERTY } strah]$
3. $[strah^{\text{TR}} \text{V}_{biti} \text{PROPERTY}_{\text{(adv. – modifier of PROCESS)}}]$
4. $[strah^{\text{TR}} \text{V}_{biti} \text{OBJECT / ENTITY}_{\text{(ACC)}}{}^{\text{LM}}] \rightarrow [\text{OBJECT / ENTITY }_{\text{(ACC.)}} \text{V}_{biti} strah].$
5. $[\text{OBJECT / ENTITY }_{\text{(NOM)}}{}^{\text{TR}} \text{V}_{biti} strah^{\text{LM}}]$

Depending on the type of syntactic distribution and complements, these constructions activate cognitive mechanisms of equation (18), categorization (19), metaphoric mapping (20) and conceptual blending (21).

The simplest type of ontological conceptualization uses cognitive mechanism of deictic equation (18). It is typically constructed by complementing ontological construction with demonstrative pronouns that have deictic function. The construction of the meaning, thus, depends on an external frame of reference or further elaboration in the discourse.

(18)   *To je strah.*
        'This is fear' – equation by using deictic reference
        (type 2)

The mechanism of categorization, as shown in (19), is related to the schematization of the particular affective state to the hierarchically higher category EMOTION, profiling the ontological features of the affective phenomena.

(19)   *Strah je najinstinktivnija emocija.*
        'Fear is (the most instinctive) emotion'.
        FEAR IS MORE ABSTRACT CATEGORY (EMOTION) – categorization (type 2)

The mechanism of metaphoric mapping constructs the meaning via conceptual mapping of the ontologically objective ENTITY to the more ontologically subjective ENTITY, i.e. emotion in constructions $[strah^{\text{TR}} \text{V}_{biti} \text{OBJECT / ENTITY }_{\text{(NOM)}}{}^{\text{LM}}]$. The

activation of the metaphoric mapping occurs when simple types of cognitive mechanisms coded by the verb *be*, such as equation and categorization, get inhibited by non-fitting conceptual results. In Example (20) fear is not really *a companion of war*. This conceptual incongruency between the ontologically subjective concept FEAR, coded as trajector, and the ontologically objective concept A COMPANION OF WAR, coded as landmark, inhibits the equation process, which triggers the activation of the metaphorical construction of the meaning.

(20)   *Strah je pratitelj rata.*
'Fear is a companion of war'.
FEAR IS OBJECT / ENTITY X (inhibited equation / categorization →
metaphoric mapping) (type 2)

In Croatian there is a special type of construction [$strah^{TR}$ V_{biti} OBJECT / ENTITY$_{(ACC)}$ ^{LM}] with the verb *be* that promotes agentive conceptualization of the target concept FEAR, coded as a trajector in the nominative, by metaphorically adding agentive semantic role and thematic semantic role to the experiencer, coded as a landmark in accusative (21). This syntactic construction of agency is reserved for emotion words *strah* 'fear', *sram* 'shame' and *briga* 'care'.

(21)   *Sanju   je   strah.*
'Sanja$_{ACC}$ ^{LM} is$_{V3SG(BE)}$ fear$_{NNOM}$ ^{TR}'
'Sanja is frightened'. FEAR IS OBJECT / (AGENTIVE) ENTITY THAT
IS INFLUENCING EXPERIENCER$_{ACC}$ (type 5)

Finally, the conceptual blending is the mechanism of meaning construction coded with ontological verbs such as 'be' in the syntactical organization of mappings from ontologically subjective entity onto ontologically equal or more concrete entity [OBJECT / ENTITY $_{(NOM)}$ ^{TR} V_{biti} strah^{LM}]. This syntactic-semantic organization inhibits metaphoric processes, because there is no mapping from the more concrete concept, and activates conceptualization of coexistence or blend between features of two concepts (A + B). In the case of different ontological states of concepts A$^{ont\ objective}$ and B$^{ont\ subjective}$, the construction conceptualizes projection of properties B by the more ontologically objective concept A (22).

(22)   *Marko je strah i trepet.*
'Marko is fear and shiver'.
MARKO IS FEAR → inhibited equation / categorization / metaphorical
mapping → activates conceptual blending: ENTITY and FEAR COEXIST →
difference in ontological status: ONTOLOGICALY OBJECTIVE ENTITY PROJECTS
FEAR (type 6)

In the context of analysis of the cognitive ontology it is important to notice that cognitive mechanisms of equation, categorization, conceptual mapping and conceptual blending, activated by syntactic and semantic organization of the ontological constructions, build on the knowledge about affective states. The added value of the emergent level of ontological constructions is related to the knowledge about objects and their properties.

2.3   Spatial constructions

The next important mechanism of conceptualization is derived from spatial cognition. It reflects knowledge of the spatial relations between certain objects. The spatial constructions are cognitively superimposed on the ontological constructions because they conceptualize EMOTIONS as OBJECT / ENTITY in SPATIAL RELATIONS with other OBJECTS / ENTITIES.

Figure 7. Schema of spatial constructions [FEARV$_{biti}$ PREPOSITION OBJECT]

In Croatian, as well as in many other languages (Silić and Pranjković 2005: 245–250), the conceptualizations of various spatial relations are construed by means of prepositions (PREP) such as: *u* 'in', *od* 'from', *iz* 'from', *sa* 'with', *za* 'for', *na* 'on', *o* 'around', *uz* 'beside', *kroz* 'through', *pred* 'in front', *do* 'beside', *protiv* 'against', *unatoč* 'in spite of', *prema* 'towards', *pod* 'under', *nakon* 'after', *po* 'over', *među* 'between', etc.

(23)   *Svoju poziciju grade na strahu.*
          'They are building their position on fear'.
          FEAR IS OBJECT IN SUBLOCAL SPATIAL RELATION

Many Cognitive linguists have shown that spatial meanings can produce temporal and causal meanings via mechanism of metaphorical extensions (Evans 2010; Šarić 2008; Tyler and Evans 2003).

(24)   *Ruka mi se ukočila od straha.*
          'My hand is paralyzed from fear'.
          FEAR IS OBJECT / POINT AS SOURCE / CAUSE → FEAR IS CAUSE OF X

The conceptual structure of the lexeme *strah* in spatial, temporal and causal relations with other entities depends on the linguistic construal of the scene with a prominent foreground entity coded as trajector (TR) and background entity coded as landmark (LM). This enables two types of construal of spatial relations with prepositions:

1.   [*strah*^{TR} V$_{biti}$ PREP OBJECT / ENTITY^{LM}]
2.   [OBJECT / ENTITY^{TR} V$_{biti}$ PREP *strah*^{LM}]

In the first type of constructions lexeme *strah* 'fear' is coded as a figure entity of primary focus. Its site, path, or orientation is conceived as more active, movable, salient and dependable than the secondary entity coded as landmark that has a stationary setting relative to a scene (Talmy 2000: 184). These constructions (25) elaborate the conceptual content of the lexeme *strah* by activating mappings of typical figure OBJECTS / ENTITIES in spatial relations such as: MOVING OBJECT, OBJECT IN CONTAINER, OBJECT WITH AGONIST / ANTAGONIST FORCE, COMPONENT OF A STRUCTURE / ASSOCIATION.

(25)   *[Marko je vidio] [strah^{TR} na njezinom licu^{LM}].*
       '[Marko saw] [the fear on her face]'.
       FEAR IS OBJECT IN SUPRALOCAL SPATIAL RELATION

The second type of constructions conceptualizes *strah* 'fear' as the ground entity that is generally more passive, stationary, referential to the figure and independent (23–24), elaborating conceptual structure of the lexeme *strah* by activating mappings of typical OBJECTS / ENTITIES in these spatial relations such as: SUBLOCAL OBJECT / BASE / SURFACE, SUPRALOCAL OBJECT, OBJECT WITH AGONIST / ANTAGONIST FORCE, CONTAINER, SOURCE, GOAL, COMPONENT OF A STRUCTURE / ASSOCIATION.

The complete analysis of these constructions is well beyond the scope of this chapter. What is important here is that spatial constructions use a spatial cognitive ability by construing *strah* 'fear' as an OBJECT in different spatial (and metaphorically extended) relations such as: locality, supralocality, sublocality, extralocality, intralocality and translocality, activating conceptualizations that are by no means exclusive to FEAR, or any other EMOTION as such. It is therefore argued that spatial constructions are not basic distinctive features for recreating the affective quality of an emotion category, although they are motivated by the knowledge of the affective state, particularly coded by causal conceptualizations.

2.4 Thematic constructions

Processual constructions are hierarchically superimposed on the sensory-motor, ontological, and spatial constructions. They are the conventional means of construing the change of relation and transformation of energy between participants in a canonic event (Langacker 1987; 2008). The processual construal is typically coded by processual verbs. From a cognitive perspective, processual verbs elaborate the inherent spatial / temporal / causal relation between the participants in an event scene. This is why they represent cognitively more complex structure than spatial constructions. Besides the inherent spatial relation they convey the knowledge about the nature of the processual relation between objects. The asymmetric semantic and syntactic organization of participants in the structure of an event determines the construal of lexeme *strah* 'fear' as either trajector or landmark, i.e. in thematic or agentive types of constructions, respectively. In thematic constructions lexeme *strah* is construed as ground OBJECT / ENTITY. Depending on the valence of the verb (i.e. the number of participants and relations in the scene) and the semantic role in the canonic action chain, *strah* can be coded as secondary (or tertiary) focus point, assuming typical thematic semantic roles: such as patient (PAT), mover (MOV) or zero (ZERO) (Langacker 1987; 2008).
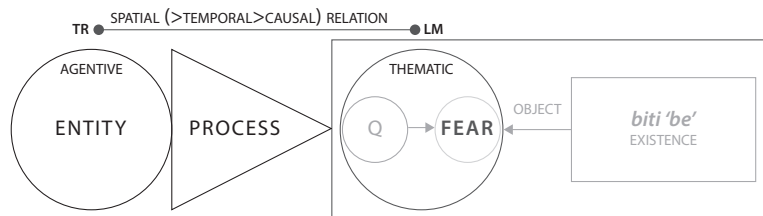
Figure 8. Thematic construal of the lexeme *strah* 'fear' [ENTITY$_{TR}$ $^{> AG / INST}$ PROCESS (PREP) FEAR$_{LM}$ $^{> ZERO / MOV / PAT}$]

(26) *Marko^{AG} ulijeva   strah^{MOV} u kosti^{ZERO} protivnika^{EXP}*.
Marko   pour 3SG fear ACC in bone PL opponent PL GEN
'Marko pours fear in the bones of the opponent'.
FEAR IS OBJECT / SUBSTANCE IN LIQUID STATE

Thematic processual constructions activate conceptualizations that are derived from the knowledge of the structure of an event and properties of the passive participants of an event. They conceptualize in detail the relations between passive and active participants of an event, mapping in the conceptual structure of the

landmark (*strah*) the properties of objects that take the role of the patient / mover / zero in the specified process. The process can sometimes be motivated by metonymic sensory-motor correlation like in (3, 4, 6, 7), but can also reflect metaphoric extension of spatial conceptualizations, like in (26, 27), or can be superimposed in a single expression.

> (27) *Vlada će tom odredbom raspršiti sve dosadašnje strahove.*
>   'The government will with this regulation dispel all fears'.
>   FEAR IS OBJECT THAT CAN BE DISPELLED / CHASED AWAY

The thematic construal of the lexeme *strah* activates conceptualization such as: OBJECT that is: possessed, accepted, given, mixed, left alone. When conceptualized as a landmark in a specific static spatial relation to the trajector, fear can be construed as a SUBLOCAL OBJECT that ENTITY coded as trajector can build on, a SUPRALOCAL OBJECT that ENTITY can live under, a CONTAINER or a CONTAINER-LIKE MEDIUM, such as water or atmosphere. By adding a dimension of dynamic spatial relation fear can be conceptualized as a MOVING OBJECT that can be extended, spread out, planted, dissipated, dispelled, chased away. It is frequently construed as a SOURCE that is cause of x, GOAL that is purpose of x, SOMETHING ON WHICH X EMPLOYS FORCE. In accord with the emergent constructionist perspective, it is argued that thematic processual constructions represent yet another general cognitive mechanism of conceptualization that is not exclusive for the conceptualization of emotions.

2.5   Agentive constructions

Finally, the lexeme *strah* 'fear' can be coded as trajector with the active semantic role of agent or instrument (28).

> (28) *Strah trese strane i domaće vladare ove zemlje.*
>   'The fear is shaking foreign and local rulers of this land'.
>   FEAR IS A FORCE/A SUPERIOR/AN ENEMY

The agentive processual construction is seen as an alternate construal of the thematically conceived occurrence of the same emotion event. The emergent agentive properties of the semantic content are cognitively shaped by the mechanism of perspectivization (Verhagen 2007). While the thematic constructions represent the emotion event by coding lexeme *strah* as the landmark with passive thematic role (Figure 8), the agentive constructions shift the point of perspective by syntactically construing the lexeme *strah* as the trajector with agentive role (Figure 9).
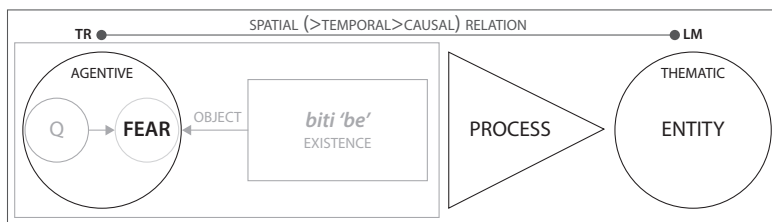
Figure 9. Agentive construal of the lexeme *strah* 'fear'. [FEAR$^{TR > AG / INST}$ PROCESS (PREPOSITION) ENTITY$^{LM > ZERO / MOV / PAT}$]

These are cognitively the most complex, and, therefore, hierarchically the most emergent type of constructions. They subsume knowledge of the previous levels of conceptualization and add the knowledge of the structure of an event and properties of its active participants to the conceptual structure of the concept *strah* 'fear'.

For instance, if the thematic perspective construed FEAR as a SUPRALOCAL OBJECT that ENTITY can live under, the agentive construal, by emphasizing the perspective of the SUPRALOCAL OBJECT and ascribing the agency, activates conceptualizations such as: FEAR IS SUPRALOCATIVE ENTITY THAT EXERTS FORCE, and (socio)culturally extended conceptualization (>) FEAR IS SOCIAL SUPERIOR. Likewise, whereas thematic perspective construes FEAR as a SOURCE OF PROCESS, agentive constructions activate conceptualization of FEAR as CAUSER OF PROCESS > A FORCE > A NATURAL FORCE (acting randomly, with no apparent will) > A LIVING ORGANISM > ANIMAL (agency with will, but no reason) > PERSON (agency with will, and reason). Thematic construal of the experiencer's effort to alleviate the negative emotion is the source of the agentive perspective where FEAR is construed as the AGONIST FORCE > OPPONENT > ENEMY > HIDDEN ENEMY > INFLICTOR OF PAIN > TORMENTOR.

This analysis agrees with some other constructional approaches (Sullivan 2013) arguing that metaphoric language depends not only on the choice of words, but also on particular linguistic constructions. The issue is that agentive constructions exhibit new emergent properties inferred by our embodied knowledge how it is to be an agent. The agentive constructions conceptualize *strah* 'fear' as a FORCE with inherent energy to influence surrounding, or even as a sentient ENTITY / PERSON that is purposefully and intelligently acting in the world. The function of these conceptualization is to construe more active role of the emotion *strah* 'fear' in relation to the experiencer of an emotion. The main pragmatic implication is the inability of the experiencer to control or to cope with the effects of the affective state and his lack of responsibility for ensuing behavioral action or inaction.

3.   Conclusion

The semantic value of emotion lexical concepts is constructed from metonymic and metaphoric connections forming a neural, conceptual and linguistic framework of knowledge about the affective state and knowledge how to conceptualize the quality of the affective state in linguistic constructions. Using an emergent constructionist model of conceptualization of *strah* 'fear' in Croatian we have demonstrated that the semantic properties of this emotion concept are not randomly structured by arbitrary metaphoric mappings but emerge from syntactic and semantic organization of embodied SENSORY-MOTOR correlational features of affective states as well as cognitive models of OBJECTS and PROPERTIES, SPATIAL RELATIONS, EVENT STRUCTURE, PASSIVE AND ACTIVE PARTICIPANTS OF AN EVENT that are activated by respective patterns of sensory-motor, ontological, spatial, thematic and agentive linguistic constructions.

The construction patterns, shown in Figure 10, represent emergent hierarchical structure of the conceptualization that is based on the analysis of concept FEAR, but can be applied to other EMOTIONS and ontologically subjective concepts as well. The term constructive means that the meaning on every level is constructed from certain conceptual components, while the term emergent implies that the composite structure of the meaning in the constructions can not be reduced to its components. The sum is more than the collection of its parts (for the discussion on the creation of complex conceptualization involving metonymic source and target domain see Radden, this volume). The hierarchical structure of the constructions is based on the notion of the complexity of embodied cognitive processing. In accord with the proposed hierarchy, sensory-motor metonymic constructions are the most basic processes that are related to the perception of the biological affect reactions. As a part of the emergent system with bottom-up and top-down relations, sensory-motor constructions are necessary for establishing the semantic properties of the higher ontological patterns. Each new level is grounded on the properties of lower levels, but also presents a new set of semantic and syntactic components that form new emergent properties of that construction. By analyzing the function of metonymies and metaphors in terms of cognitive hierarchy, the emergent constructionist model of conceptualization shows that metonymic profiling is the most basic, distinctive and, therefore, the most informative mechanism of the conceptualization of a specific emotion category because it conveys distinctive knowledge about the affective state, while additional mechanisms build on metonymic conceptualizations using other general cognitive abilities modulating the salient profile of the emotion concept. It is therefore argued that without the metonymic profiling via embodied correlational features that enable intersubjective simulation of the affective state it would be cognitively impossible to conceptualize the appropriate quality of the emotion, let alone a particular emotional lexical concept such as *strah* 'fear'.
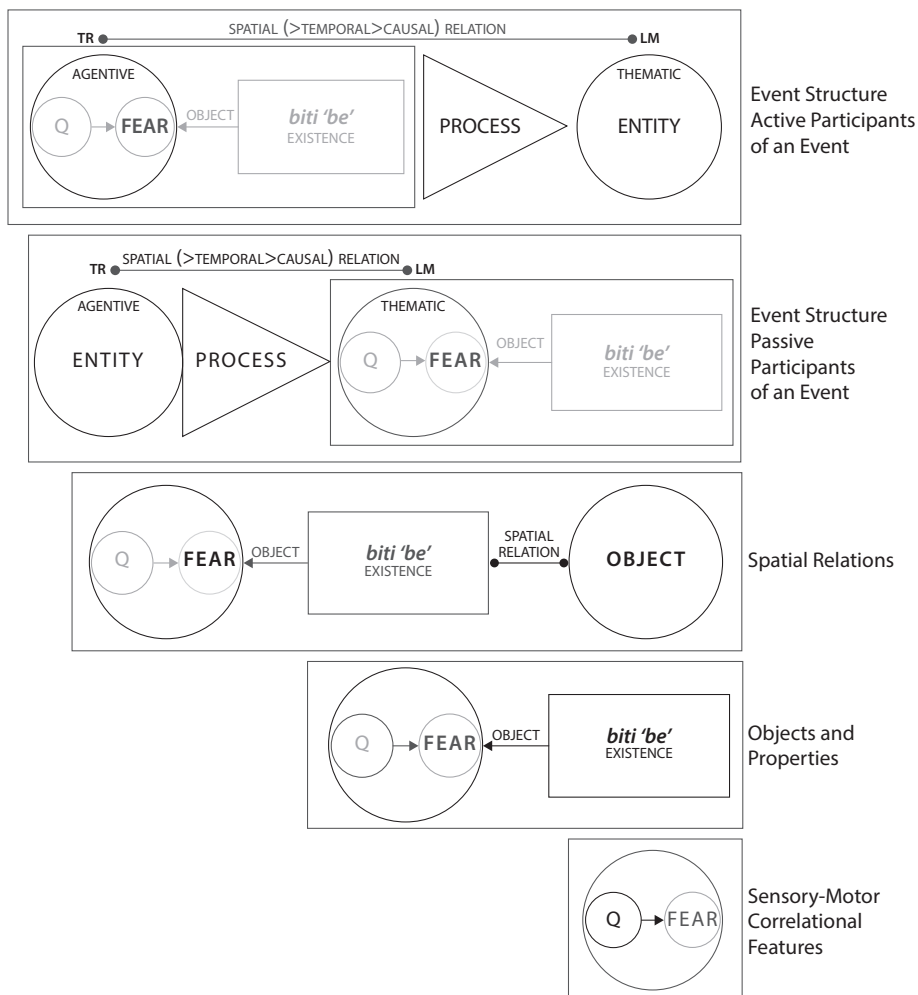
Figure 10. Emergent constructive schema of the conceptualization FEAR

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CHAPTER 9

The mouth of the speaker

Italian metonymies of Linguistic Action

Rossella Pannain

University of Naples "L'Orientale"

Among body parts, speech organs are a default source of metonymic mapping towards the domain of LINGUISTIC ACTION. In Italian this conceptual metonymy is responsible for several representations of types of SPEAKER and LINGUISTIC BEHAVIOR, and may be encoded in nominal modification and in word formation by compounding or evaluative suffixation. Within these construction schemas, the semantics of the lexical bases and of the additional lexical/morphological elements interact in conjuring the metonymic (-metaphoric) denotations of the four Italian linguistic items analyzed in the chapter. Their semantics involves value judgment, which partly depends on the target domain, and the contribution of scalar dimensional notions such as SIZE and QUANTITY. The data are primarily drawn from two corpora of contemporary written Italian.

Keywords: body parts, compounding, corpora, evaluative metaphor, morphology, scalar dimensions

1. Introduction

This chapter presents a study in written contemporary standard Italian of a cross-linguistically widespread phenomenon by which metonymic expressions based on SPEECH organs (Radden 2004; Pauwels and Simon-Vandenbergen 1995; Goossens 1990; Goossens et al. 1995; Jing-Schmidt 2008; Yu 2011) refer to different components of the scene of LINGUISTIC ACTION (LA).[1]

In Italian, the nouns *lingua* 'tongue' and *bocca* 'mouth' are the conceptual and linguistic sources of complex polysemous nominal expressions by which a certain type of SPEAKER (SPK) and a corresponding type of LINGUISTIC BEHAVIOR/DISPOSITION (LBD) are metonymically (and metaphorically) construed. In fact, *both* types

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[1] The restriction to the written variety is a consequence of the very limited availability of corpus resources for spoken Italian.

of representation, SPK and LBD, are present with varying frequency rates as intended meanings in corpus occurrences for all the lexical items in the study.

1.1   Linguistic scope, sources and methodology

The chapter focuses on four semantically and formally related nominal expressions: (i) *malalingua/mala lingua*, (ii) *lingua lunga/lingualunga*, (iii) *linguaccia*, and (iv) *boccaccia*. The first three are based on *lingua* 'tongue', while the fourth is based on *bocca* 'mouth'. In the sources consulted for the study, (i) and (ii) appear in the form of two variants, a compound and a multi-word unit, the most frequent variants being *malalingua* and *lingua lunga*, respectively.

Firstly, the morphosyntactic status, internal structure and approximate semantics of the items were consulted in the two most comprehensive dictionaries of *Italian*, De Mauro (1999–2000) and Battaglia (1966–2004). In addition, for item (iv), Pfister's etymological dictionary (1979–2011) was also consulted.[2] The dictionaries also provided the diachronic data involved in the analyses proposed in Sections 2 and 4.

Secondly, the occurrence rate of the four items, as well as their morphosyntactic and semantic behavior as presented in real texts, were checked in two corpora of contemporary written standard Italian:

a. *La Repubblica Corpus* (henceforth *RC*, 380 million word), based on the texts of the articles published in all sections of the national daily *La Repubblica* (the time span covered by the corpus is 1985–2000);
b. *Coris/Codis* (henceforth *CC*, 130 million words), based on journalistic, fictional, legal, administrative, and academic texts, in addition to personal letters, leaflets, instructions, etc. (the time span is 1980–2000).

An additional corpus search was performed by means of *The Sketch Engine* (*itTenTen 10* corpus) for the variant *lingualunga*.

2.   Morphology and semantics of individual lexical items

For each of the linguistic expressions studied in the chapter, the internal structure, the semantic behavior, and those aspects of the morphosyntax that are relevant to the analysis are briefly described and discussed from Section 2.1 to Section 2.3.2.

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2.   So far, the published issues of this dictionary only include, for Italian, letters A-B, and the better part of letter C.

The semantic characterizations provided are based on my own interpretation, as a native speaker, of the intended meanings in the corpus textual occurrences, rather than on dictionary definitions. Nonetheless, dictionaries have been consulted and this may have partially biased my perception of the meanings.

In Section 2.2, comparative observations involving two or more expressions are included.

2.1   *malalingua*/*mala lingua*

De Mauro (1999–2003: 991, 1124) defines the ADJ-N multi-word unit *mala lingua* as a variant and diachronic source for the compound *malalingua*, that he lists as a separate entry.[3] Indeed, the compound *malalingua* has 79 tokens in the corpora, whereas the multiword expression has only 19. Both variants drastically favor their occurrence in the plural form: *malalingua*, 25 SG tokens vs. 54 PL ones (*malelingue*) and *mala lingua*, 3 SG tokens vs. 16 PL ones (*male lingue*) (see also Table 1, Section 2.2).

The first lexical component in both expressions is the adjective *malo/-a* 'bad, malevolent', a *quasi*–prefix, that in contemporary Italian is only found in compounds and other lexicalized multi-word units (Ricca 2004: 489), in which it modifies nouns referring to both animate and inanimate entities, e.g. *malafemmina* (lit. 'bad-woman') 'slut, prostitute', *maleducazione* (lit. 'bad-upbringing') 'bad manners, rudeness'. Other two wordforms based on body part terms are: *malocchio* (lit. 'bad-eye') 'evil eye', and the obsolete *mala bocca* (lit. 'bad mouth'), which De Mauro considers a synonym of *malalingua*.

The second component of *malalingua* is a feminine noun that literally denotes the 'tongue' (of humans/animals). According to dictionary definitions, *lingua* is, *per se*, capable of metonymically referring to a SPEAKER, mostly a generically intended one,[4] as well as to other conceptual entities in the domain of LINGUISTIC ACTION (see Sections 3 and 4.1).

The corpus search yielded the same result as dictionaries regarding the semantics of *malalingua*/*mala lingua*, in that none of the two variants has reference outside the domain of LA, as, instead, occurs with the other three lexical items in this study. The semantic analysis of textual occurrences resulted in the individuation of two related clusters of meanings for *malalingua*/*mala lingua*, SPK-I and LBD-I:

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3.   De Mauro (1999–2003: 991) includes *mala lingua* under the entry *lingua* 'tongue'.

4.   In addition, Sabatini & Coletti also report expression *che lingua!* (lit. 'what a tongue!'), said of one who talks too much, divulges something secret or confidential, one who gossips.

1. SPK-I (75 tokens *malalingua*, 29 tokens *mala lingua*) 'a person who is prone to malevolent verbal behavior, indiscretion, backbiting, gossip, and slander';
2. LBD-I (4 tokens *malalingua*) '(the tendency to) malevolently indiscrete, backbiting, gossiping, and slanderous linguistic behavior'.

The clustering of meanings under labels SPK and LBD reflects the range of senses observed in corpora. Considering that only a very small number (4) of occurrences conveys a meaning in cluster (LBD-I) and none of the meanings in this group is conveyed by tokens of *mala lingua* (the supposed historically prior item), this cluster of semantic values is likely to constitute an extension from cluster SPK-I. Of course, this hypothesis might only be confirmed by a diachronic study of textual occurrences in the history of the language, which lies beyond the scope of this chapter. Still, synchronically, there is a clear-cut primacy of reference to a type of SPEAKER, rather than to a type of VERBAL BEHAVIOR as such. The high occurrence rate of PL tokens is related to this primacy: prevalent reference to a multitude of speakers.

2.2 *lingua lunga/lingualunga*

Corpus tokens (*lingua lunga* 79; *lingualunga* 1[PL]) would qualify compound *lingualunga* as an extremely rare variant of the corresponding multi-word unit. De Mauro (1999–2000: 990) does not mention this variant, and only includes *lingua lunga* under entry *lingua*, as does Battaglia (1966–2004: 107–113), who, on the other side, lists *lingualunga* as a separate entry. In fact, a number of tokens of *lingualunga* can be found in texts available on the web. Moreover, a search in the *itTenTen10* corpus through *The Sketch Engine* resulted in 15 tokens (out of 22), all in the SG, conveying denotations in the domain of LA included in the semantic ranges subsumed below as SPK-II and LBD-II.

Compared to *malalingua/mala lingua*, the analysis of individual tokens in *RC* and *CC* reveals for *lingua lunga/lingualunga* a higher degree of polysemy within meaning clusters:

1. SPK-II (13 tokens) a. 'a person who is prone to say more than should be told, to be indiscrete and gossipy; b. 'an (excessively) talkative, careless/unrestrained/impertinent speaker'; c. [less frequent] 'one who talks nonsense';
2. LBD-II (50 tokens) a. '(the tendency) to say more than should be told, to be indiscrete and gossipy'; b. (the tendency) to be (excessively) talkative careless/unrestrained/impertinent in speaking; [less frequent] '(the tendency) to talk nonsense'.

The single *RC* and *CC* occurrence of the compound (PL *linguelunghe*) conveys a meaning in cluster SPK-II. This kind of reference is also provided by 8 SG tokens of

the multi-word unit *lingua lunga*, and, interestingly by *all* of its 4 PL tokens, *lingue lunghe*. In fact, in these two corpora, plural reference of *lingua lunga* is always in the domain of LA, and always denoting multiple SPEAKERS of a specific kind (SPK-II). On the other hand, 50 out of 59 SG tokens of *lingua lunga* denote a kind of LINGUISTIC DISPOSITION/BEHAVIOR (cluster LBD-II). Therefore, contrary to type *malalingua*/*mala lingua*, item II favors occurrence as ADJ-N multi-word unit in the singular form, and with reference to a kind of LBD.

Table 1 is a synopsis of quantitative data for *malalingua* and *lingua lunga*, with the respective variants:

Table 1. *malalingua* and *lingua lunga*: quantitative data

Type	Tokens	Singular tokens	Plural tokens
I			
a. m*alalingua*	79: SPK 75, LBD 4	25: SPK 22, LBD 3z	54: SPK 53, LBD 1
b. *mala lingua*	19 SPK	3 SPK	16 SPK
a + b	98: SPK 94, LBD 4	28: SPK 25, LBD 3	70: SPK 69, LBD 1
II			
a. *lingua lunga*	63: SPK 12, LBD 50, *?1*	59: SPK 8, LBD 50, *?1*	4 SPK
b. *lingualunga*	1 SPK		1 SPK
a + b	64: SPK 13, LBD 50, *?1*	59: SPK 8, LBD 50, *?1*	5 SPK

The one token that in the table is repeatedly signaled by means of a question mark (Example (1), *RC* corpus) represents a case of semantic indeterminacy:

(1) *il rigido corrispondente della Bbc parlava accanto alla <u>lingua lunga</u> (e ironica) della Parietti.*
     Lit. 'the stiff BBC reporter was talking beside <u>the long</u> (and ironic) <u>tongue</u> of the Parietti'.

In (1) *lingua lunga* appears to simultaneously refer to a SPK (TV personality Alba Parietti) and to her LBD, united under a single imagistic representation.

A minority of SG tokens of the multi-word unit *lingua lunga* refer to entities outside LA: (i). a literally 'long tongue', (ii) an entity accessed *via* metaphoric extensions of *lingua*, e.g., an object that is similar in SHAPE to a tongue.

The lesser degree of semantic consistency among LA tokens of *lingua lunga* correlates to a lesser degree of lexicalization that is signaled by the low occurrence rate of the compound form, *lingualunga*, and by the fact that the ADJ-N combination also functions in other conceptual domains apart from that of LA. These facts are likely to be related, among other things, to the high frequency in Italian of adjective *lungo/-a* 'long [in space > in time]', compared to the residual, *quasi*-prefixal, status of. *malo/-a*. In addition, invariable form *lungo* functions as a high frequency spatial and temporal preposition as well as an adverb.

The concomitance of high rate of LBD and SG occurrences of *lingua lunga* also calls for explanation. One factor is that several singular tokens are embedded in the idiom *avere la lingua lunga*, lit. 'to have the long tongue', which typically functions as a verb phrase and shows a tendency to only mark number agreement on the verb *avere*.

2.3   Evaluative derivates *linguaccia* and *boccaccia*

These two substantives share a morphological construction schema and a corresponding conceptual one, being formed by suffixation with evaluative morpheme *-accio/-azzo* to a base noun literally denoting a SPEECH ORGAN, the 'tongue', *lingua*, and the 'mouth', *bocca*, respectively.[5]

Evaluative morphology in Italian (and elsewhere) encodes, beside dimensional alteration (DIMINUTIVE/AUGMENTATIVE), a wide range of other functions, among which that of conveying ENDEARMENT, or, inversely, CONTEMPT. The expression of CONTEMPT, DISAPPROVAL, DISREGARD, that is pejorative evaluation, is the meaning commonly attributed to the suffix *-accio/-azzo* in grammatical descriptions of Italian. However, as pointed out by Merlini Barbaresi (2004: 275) *-accio/-azzo*, like the very productive augmentative suffix *-one* (e.g., *donnone* 'big woman' < *donna* 'woman'), always hangs in balance between AUGMENTATIVE and PEJORATIVE meanings. In fact, this kind of polysemy can be observed both in the derivational scope of these two suffixes and in contextual creative use by speakers.

Synchronic semantic complexity is partly related to diachronic change. According to Rohlfs (1969: 366), the Latin *-aceus* (antecedent of Italian *-accio/-azzo*) originally possessing an adjectival function encoding values of RESEMBLANCE, QUALIFICATION, PERTINENCE and APPROXIMATION (all still observable in the Italian lexicon), developed AUGMENTATIVE *and* PEJORATIVE meanings, so that the resulting derivatives denote something 'larger/coarser/worse' (and combinations of these) than the entity denoted by the lexical base.

The complex AUGMENTATIVE/PEJORATIVE semantics of this suffix, as well as of the prototypically augmentative *-one*, is not limited to Italian but can be observed elsewhere in the Romance area (Grandi 2002: 169–170). Compare, for example, the Spanish suffix *-azo*, that has the same Latin antecedent as Italian *-accio/-azzo*. While in Spanish the AUGMENTATIVE component prevails, the PEJORATIVE one is not at all absent, e.g.: *manazas* 'an unhandy person, sb. who breaks things easily'.[6] Indeed, Pharies (2002: 129–133) notes that this suffix, when combined with a N, has

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5.   The graphic variants of the plural forms, *linguacce* and *boccacce*, are absent in the *RP* and *CC* corpora.

6.   Olga Blanco-Carrión (personal communication).

a prevalent augmentative value, but can also convey a pejorative additional notion of 'bigger than what is normal or convenient' (Prieto 2005: 58).

The association of the notions of something BIGGER and WORSE is further discussed in Section 4.3.

2.3.1 *linguaccia*

Out of a gross total of 116 corpus occurrences of the form *linguaccia*, 29 correspond to the lexical item at issue, while 81 are tokens of a different metonymic expression of identical formation denoting, instead, a 'mocking/insulting gesture made by sticking out one's tongue', 48 of which are embedded in the idiom *fare una/la linguaccia/le linguacce* 'to make the gesture of sticking out one's tongue'.[7] Two more occurrences are "literal" pejorative references to a 'tongue', a kind of denotation that is reported in Battaglia but not in De Mauro.[8]

Interestingly, 25 of the metalinguistic occurrences are in the SG, *linguaccia*, and only 4 in the PL, *linguacce*.

As for distribution between the spheres of SPK and LBD, this is almost 50%: 14 SPK; 15 LBD. Contrary to *lingua lunga*, the distribution by grammatical number does not significantly correlate with semantic function (see Table 2).

Table 2. *linguaccia*: quantitative data

Type	Total tokens	Singular tokens	Plural tokens
III			
linguaccia	29: SPK 14, LBD 15	25: SPK 11, LBD 14	4: SPK 3, LBD 1

The relevant semantics can be characterized as follows:

1. SPK-III a. 'an (habitually) aggressive/unrestrained/impertinent/fearless speaker'; b. 'one who talks freely, and abundantly, disregarding of others' feelings', c. 'one who has no control over his/her linguistic production, who says what should not be said/reveals what should not be revealed and is detrimental to oneself/others';
2. LBD-III a. '(the tendency) to aggressive/unrestrained/impertinent/fearless linguistic behavior'; b. (the tendency) to talk freely, and abundantly, disregarding of others' feelings'; '(the tendency) to have no control over one's linguistic production, to say what should not be said/to reveal what should not be revealed and is detrimental to oneself/others'.

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7. Based on the chronology in De Mauro, the gestural denotation of *linguaccia* appears in written Italian much later (1950) than the metalinguistic one (1494).

8. Regarding the two "literal" occurrences, these might, in my opinion, also be interpreted as metonymic. However, the relevant analysis is not included in this chapter. Finally, the reference of 4 occurrences of *linguaccia* could not be determined based on the available context.

Clearly, there is a semantic overlap with *malalingua* in the representation of an indiscreet, gossipy, DETRIMENTAL behavior. However, unlike the case of *malalingua*, the outcome of such behavior may also be detrimental for the speaker him/herself. Another component that is not present in *malalingua* is the notion of LACK OF CONTROL: a *malalingua*'s behavior is typically fully intentional. In fact, notion of LACK OF CONTROL, and OVERABUNDANCE OF PRODUCTION are two conceptual components shared by all the items in this study except for *malalingua*.

On the other side, while the semantics of *linguaccia* is largely overlapping with that of *lingua lunga*,[9] one of the semantic foci in *linguaccia* is on AGGRESSIVENESS (as in the semantics of *malalingua*).

2.3.2 *boccaccia*

Like *linguaccia*, this form also has a parallel, non-metalinguistic, metonymic meaning in the domain of gestures. In the majority of cases this further value is embedded in the idiom *fare una/le boccaccia/-e*, that roughly corresponds to English expressions *to pull a face; to make a face/faces; to make mouths at someone*.[10]

Despite the formal and semantic similarities with *linguaccia*, this item differs from it in the following respects. First, in the case of *boccaccia*, there appears to be a correlation between SG grammatical number and LBD semantics, as in the case of *lingua lunga* (2.2). Moreover, unlike *linguaccia*, that displays an even distribution between SPK and LBD clusters, and like *lingua lunga*, corpus occurrences of *boccaccia* sharply favor LBD denotation, as shown in Table 3:

Table 3. *boccaccia*: quantitative data

Type	Total tokens	Singular tokens	Plural tokens
IV			
boccaccia	35: SPK 4, LBD 31	33: SPK 3, LBD 30	2: SPK 1, LBD 1

This quantitative result is particularly relevant as it contradicts dictionary definitions: the three sources (De Mauro, Battaglia and Pfister) *only* report reference to a SPK as metalinguistic meaning. Moreover, Pfister (1979–2011: 1203–1204) lists comparable forms from a number of areal varieties, like Florentine noun *boccaccia* 'slanderer, accuser', with meanings in cluster SPK-IV below. Based on these sources,

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9. One of the occurrences denoting a kind of SPEAKER is further qualified by means of adjective *lunga* 'long': *linguaccia lunga lei e finanziere d'assalto lui* (Lit. 'She, a long bad/big tongue, he, a ruthless businessman').

10. Based on De Mauro, the gestural denotation of *boccaccia* appears in written Italian much earlier (1712) than the one conveyed by *linguaccia* (1950).

the type *boccaccia* would appear to constitute an entrenched and widely attested representation of a specific kind of SPK. The incongruence with corpus data calls for an explanation, that exceeds the scope of this chapter.[11]

The specific meaning clusters for *boccacci*a can be characterized as follows:

1. SPK-IV 'a speaker who is: a. (habitually) unrestrained, careless, inopportune, nonsensical, boastful, who talks too much, is impudent, too explicit, detrimental to him/herself or to others; b. insulting, obscene; c. indiscrete, gossipy';
2. LBD-IV '(the tendency to) a linguistic behavior that is: a. unrestrained, careless, inopportune, nonsensical, boastful, excessive in quantity, impudent, too explicit, detrimental to oneself/others b. insulting, obscene, c. indiscrete, gossipy'.

Apparently, *boccaccia*, *lingua lunga* and *linguaccia*, share a semantic component that is testified by corpora occurrences as well as by dictionary definitions, i.e. the notion of an EXCESSIVE QUANTITY OF SPEECH, exemplified in (2) for *boccaccia*:

(2) *Tieni chiusa quella tua boccaccia, Derwood. <u>Parli troppo</u>.*
     Lit. 'Close that big/bad mouth of yours, Derwood. <u>You talk too much</u>'.
                                                                    (*CC* corpus)

3. Metonymy in the SPEECH ORGANS sub-domain of LINGUISTIC ACTION

In this Section, I briefly refer to previous accounts of the role of metonymy in LA that, while dealing with different languages, are specifically relevant to issues that arise in my own proposed analyses of the Italian data (Section 4).

Radden (2004) addresses the topic of metonymies taking "speech organs" as sources for the representation of different components within a "folk model of language" that is crosslinguistically widespread. His examples are, among other languages, from English an Italian.[12] The projection types he envisions take part in a chain of subsequent conceptual shifts (replicated here in Figure 1):

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11. Corpus results might reflect a (recent) semantic drift towards LBD reference that the dictionaries could not capture. The actual testing of this hypothesis would require an extension of the current data-base to include additional corpus resources, among which the *itTenTen10*, plus data directly extracted from texts available on the web.

12. Deignan and Potter (2004) also analyse, in contrastive perspective, Italian and English expressions containing *bocca/mouth*.

General metonymies	(i) INSTRUMENT FOR ACTION	(ii) ACTION FOR RESULT	(iii) SPECIFIC FOR GENERIC
Specific metonymies	SPEECH ORGAN FOR SPEAKING	SPEAKING FOR SPEECH	SPEECH FOR LANGUAGE
speech organ	> speaking	> speech	> language

Figure 1. Metonymic chain from 'speech organ' to 'language' (Radden 2004: 546)

Radden's crosslinguistic analysis diverges in several respects from the one in Goossens (1995), that focused on English *mouth* from a diachronic perspective. Beside a category of verbal expressions including *mouth*, Goossens' taxonomy (1995: 183–185) provides four types of projections resulting in nominals, in which "*mouth* is directly mapped onto an ingredient of LA" (Goossens 1995: 185):

1. *mouth* → WHAT IS SAID/WORDS/SPEECH;
2. *X's mouth*/*mouth of X* → X'S WORDS → X AS SPEAKER;[13]
3. *mouth* → SPEAKER;
4. *mouth* → SPEECH FACULTY.

Evidently, one difference with Radden's cross-linguistic proposal, is the individuation of a projection from the notion of SPEECH ORGAN to that of SPEAKER. Moreover, apart from type 2, his remaining categories do *not* imply chaining processes; rather, they envision *direct* projections onto different components of the scene of LA. In addition to this, Goossens (1995: 185–187) underlines that several textual occurrences of *mouth* in his data may be interpreted as instances of two or more of the above categories. That is, he notes a certain degree of *indeterminacy* in the semantics of *mouth* in the domain of LA. A similar indeterminacy has been observed in one occurrence of the Italian form *lingua lunga* (Section 2.2, Example (1)).

The viability of positing a direct projection from the SPEECH ORGAN to the SPEAKER is a crucial issue in my analysis of Italian data (Section 4.1). In fact, in Italian the speech organ may, independently, project onto different components of the scene of LA. For example, lexeme *lingua* 'tongue' can metonymically refer to at least: (i) a 'SPEAKER' (Section 2.1); (ii) a 'language' (Battaglia; De Mauro); (iii) the act of speaking, as in the equivalent of English proverb *The tongue ever turns to the aching tooth*, i.e. *La lingua batte dove il dente duole* (Battaglia) (lit. 'The tongue beats where the tooth aches'); (iv) a type of linguistic attitude, e.g. *Ha una*

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13. Goossens (1995: 185) interprets this projection as an instance of the "'Functional part' for WHOLE" metonymic relation.

lingua! (lit. 'He/she has a tongue!'), said of one who is unbridled and impudent in talking.[14]

According to Jing-Schmidt (2008: 248), the ORGAN OF SPEECH ARTICULATOR STANDS FOR SPEECH "systematic conceptual metonymy" and its interaction with a "supporting metaphor" underlie Mandarin Chinese figurative expressions describing a "particular kind of verbal behavior". Like Radden (2004), she does not refer to cases in which the target of metonymic transfer is the SPEAKER.

However, for the same language, Yu (2011: 119, 121–122), while explicitly adopting Radden's model of metonymic chaining, analyzes several compounds denoting kinds of SPK, including:

a. *èkǒu* 恶口 (lit. 'evil mouth'); 'an abusive tongue; a foul tongue; a wicked tongue';
b. *dàzuǐ* 大嘴 (lit. 'big mouth'); 'one given to loud offensive talk; one who has a loose tongue; one who shoots off one's mouth';
c. *chángshé* 长舌 (lit. 'long tongue'); 'a long tongue – a gossipy person; gossip-monger'.

All of these expressions allow for a close comparison with the Italian items in this chapter. In Yu's analysis there is a SPEECH ORGAN FOR PERSON metonymy (which profiles the target at the generic level of PERSON) underlying.[15] Nonetheless, Yu (2011: 122) observes:

> […] when it comes to such speech organ terms as *zuei* or *kou* 'mouth' and *she* 'tongue' used metonymically to stand for the whole person, they emphasize the person's characteristics of speaking or talking, […] SPEECH ORGAN FOR PERSON […] differs from other cases of BODY PART FOR PERSON.

What is also interesting from the perspective of my study (see Section 4.1) is that, apparently, Yu does not invoke metaphor in his analysis of the three Mandarin expressions. On the other side, neither does he *explicitly* define them as solely metonymic.

Nissen (2011: 88), likewise, posits a SPEECH ORGAN FOR PERSON metonymy in order to account for expressions such as Spanish *Es <u>una boca</u> que no tendrá piedad con sus enemigos* ('He/She is <u>a person</u> who has no mercy for his/her enemies'), as well as for *bocazas* 'a boastful person'. In Nissen's view, in the semantics of *bocazas*

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14. A textual instance of this denotation can be found in the *itWaC Corpus* (The Sketch Engine): *La Piera ha una lingua … però non è proprio cattiva … non sempre* (lit. 'Piera has a tongue … but she's not really nasty … not all the time').

15. SPEECH ORGAN FOR PERSON being one of the possible instantiations of BODY PART FOR PERSON (Yu 2011: 122).

the notion of the BIG SIZE OF THE MOUTH is *metaphoric* of the LARGE QUANTITY OF SPEECH and of its BOASTFUL QUALITY.

The literature on metaphor and metonymy in the domain of LA has addressed the role of value judgment in this area of linguistic representation. Pauwels and Simon-Vandenbergen (1995: 52) note that "value judgments are an important motivating factor in the creation of metaphors" and, more specifically, (p. 36) "speaker's intentions and behaviour, the linguistic form, manner of presentation, hearer's attitude etc. and the relations between these components all come in for evaluation". In addition, Simon-Vandenbergen (1995: 102) observes that *talking too much* or too long are more frequently metaphorized than too little, and that:

> In most cases value judgments expressed by metaphors are negative. […] metaphorical expressions will be coined particularly when LA is perceived as being 'out of the ordinary', 'extreme' in one way or another, i.e. 'too much or too little of something'.   (Simon-Vandenbergen 1995: 112)

Likewise, Jing-Schmidt (2008: 247), in commenting on Mandarin Chinese data, notes the "existence of a negativity bias in the affective valence of the figurative lexicon of verbal behavior".

In fact, in addition to the four items that are the object of this chapter, the majority of Italian figurative expressions denoting components of the scene of LA, and, particularly, those referring to speakers, their behavior and dispositions, encode a negative, rather than a positive, value judgment (Pannain 2005: 324, 327).

As regards metonymy, the evaluative function of this process is argued for by Littlemore (2015) and Barnden (this volume), and is also tackled by Portero-Muñoz (this volume) who focuses on compounding, specifically English bahuvrihi compounds with a body-part noun as morphological head, a subgroup of which, "possessive" compounds with personal denotation, includes the recent creation *fat-mouth*, 'someone who talks too much, especially about things that should be secret'.

4. Conceptual processes in the representation of speakers/verbal behaviors in Italian

This Section of the chapter provides an analysis and interpretation of the conceptual processes that, in my view, conjure the semantic constructions that are at the base of the SPK and LBD denotation clusters described in Sections 2.1–2.3.2. In the case of *malalingua* and *lingualunga* more than one interpretation is proposed. Different possible interpretations of the conceptual processed involved in the construction of a semantic representation are not viewed as mutually exclusive, as specified in Section 4.2.3.

The proposed analyses for all four items share a basic assumption: the MOUTH/ TONGUE, being a body part, is profiled in multiple domains involving humans, their activities and functions (among which the domain of BODILY SENSATION, that of FOOD CONSUMPTION, and that of LINGUISTIC ACTION). The profiling of a concept in different domains, united within a domain matrix for that concept, is argued for by Langacker (1987: 147).

In Barcelona's (2011: 14) view, metonymy – a mapping causing the activation of the target – only occurs if source and target are conceptually linked by a "pragmatic function" within a "functional domain". In the representations at issue, the relevant "functional domain" is that of LINGUISTIC ACTION, in which specific body parts (mouth, tongue, lips, teeth, throat, etc.), *and not others*, are profiled in their functioning as SPEECH ORGANS. As such, they may provide metonymic access to other entities in the domain, among which the SPEAKER and SPEECH BEHAVIOR/ DISPOSITIONS on the part of a speaker/-s, to which they are linked based on experientially motivated and culturally entrenched "pragmatic functions".

All four Italian expressions in the study imply a NEGATIVE VALUE JUDGMENT. Beside the general de-personalizing evaluative potential of metonymies (Barnden, this volume; Littlemore 2015), and, particularly, that of BODY PART FOR PERSON metonymies (Littlemore 2015: 23–24), these four metalinguistic Italian expressions entail additional negative evaluation of the target, as can be gathered from the corpus-based semantic analyses proposed for each of them is Sections 2.1–2.3. What I want to draw attention to here is that unlike *malalingua*, which linguistically encodes an explicit notion of BAD (*mala-*), in the other three expressions, *lingua lunga*, *linguaccia*, and *boccaccia*, if my analyses are correct, the domain specific negative judgment is attained *via* metonymic projections onto scalar dimensional notions.

In *lingua lunga / lingualunga* the dimensional concept, contributed by the adjective *lungo* 'long', is one of LENGTH. Comparable expressions can be found in other languages, e.g. Spanish *lengua larga* and in a Chinese *chángshé* 长舌 (lit. 'longue tongue', already mentioned in Section 3). A different Chinese construction, *duō-zuǐ-duō-shé* 多嘴多舌 (lit. 'much-mouth-much tongue') 'marked by the annoying tendency to make unsolicited remarks or general verbal indiscretion' (Jing Scmidt 2008: 244, 273), is an idiomatic multi-word unit that relates the SPEECH ORGANS to a notion of QUANTITY OF SPEECH. The conceptual projections underlying the Chinese expression might, in my opinion, be formulated as MUCH MOUTH/TONGUE → MUCH SPEECH → EXCESSIVE VERBAL BEHAVIOR→ INDISCRETE/ INAPPROPRIATE VERBAL BEHAVIOR. In Sections 4.2 and 4.3, I argue that a similar underlying representation, i.e. one that relates a NEGATIVE VALUE JUDGMENT to a notion of (EXCESSIVE) QUANTITY may be recovered also in the case of *lingua lunga*, *linguaccia*, and *boccaccia*.

4.1   *malalingua/mala lingua*

As noted in Section 2.1, among corpus occurrences of this item, 98 refer to 'a SPK who is prone to malevolent verbal behavior, indiscretion, backbiting, gossip, and slander', and *only* 4 designate the corresponding LBD. At the same time, *no* literal values are attested in the corpora nor reported in the dictionaries.

In *malalingua/mala lingua*, the BAD/MALEVOLENT semantic component enters the overall configuration as a value judgment of an ANIMATE ENTITY capable of INTENTIONAL BEHAVIOR, specifically, a SPEAKER. The notion of BAD/MALEVOLENT would, therefore, be metaphorical in the metonymic source sub-domain of SPEECH ORGANS, but not in the target sub-domain of SPK, within the domain of LA. If the domain unity of LA can be taken for granted, then a problem arises: can an intra-domain mapping be defined "metaphorical"? If the above analysis is correct, the metaphor *does* occur within a single domain (LA), and is made possible by the intra-domain metonymic association between the SPEECH ORGAN and the SPEAKER.

On the other side, if the metonymic projection is conceptually and lexically independent, as would be suggested by the fact that, according to the dictionaries (De Mauro, Battaglia), *lingua* 'tongue', in its own right, is capable of referring to a SPEAKER, then a purely metonymic interpretation of the composite unit might also be feasible: the entrenched form-meaning association *lingua* – denoting *not* a speech organ, but a human individual as involved in speech activity – comes to be modified by the adjective *mal/-a* 'bad malevolent', resulting in the Adjective-Noun multi-word unit *mala lingua*, and its further lexicalization, compound *malalingua*. The absence of conventionalized literal readings of *malalingua/mala lingua*, and the high degree of lexicalization (79 tokens of the compound variant out of 98 total occurrences, see Section 2.1) speak in favor of this interpretation.

As regards the relation between SPK and LBD, the striking synchronic primacy (and possible historical priority, see Section 2.1) of SPK denotations, suggest that the LBD readings might represent a conceptual/semantic extension from the first. Figure 2 describes the chain of metonymic projections that would be responsible for the semantics of *malalingua/mala lingua* according to a purely metonymical interpretation: i.e., (i) a direct shift from the ORGAN to the SPEAKER; (ii) the intervening modification by adjective *malo* 'bad malevolent', resulting in the prevailing designation for this expression, i.e. a specific kind of SPK; (iii) a further metonymic projection onto the related kind of LBD.

Of course, the last step in the chain would likewise be reachable from the outcome of the metaphorical shift envisioned in the first proposed interpretation for this item.

SPEECH ORGAN $\longrightarrow$	SPEAKER	modification by *malo* $\downarrow$ a specific kind of SPK $\longrightarrow$ 98 TOKENS	
			a specific kind of LBD 4 TOKENS
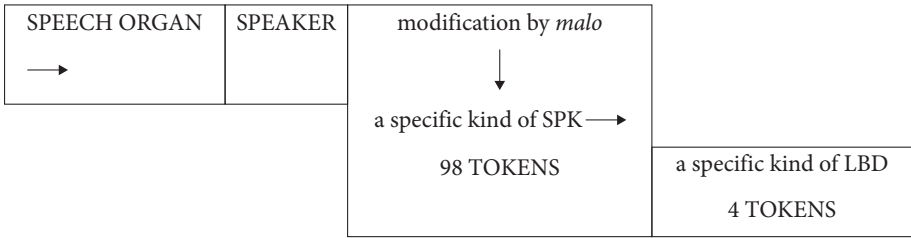
Figure 2. The chain of metonymic extensions in the semantics of *malalingua/mala lingua*

It needs be underlined that both of the above proposed analyses involve a *direct* projection from the ORGAN onto the SPEAKER (Sections 2.1 and 3), of the kind advocated by Goossens (1995), a projection that I would not formulate at the more generic level of SPEECH ORGAN FOR PERSON as in Yu (2011) (see Section 3): in my view the conceptual/semantic shifts take place within the specific domain of LA, in which THE BODY PART at issue is profiled as a SPEECH ORGAN and the person as a SPEAKER/HEARER.

4.2 *lingua lunga/lingualunga*

Three different analyses of the conceptual/semantic processes underlying this expression can be proposed (A, B, C). For reasons of clarity, the analyses are presented separately under 4.2.1–4.2.3. The three interpretations take as a starting point the obvious fact that in the literal value of the expression, which *is* attested externally to LA, ADJ *lunga* predicates that the tongue at issue is LONGER than the expected value for TONGUE in the SCALE OF LENGTH. In other words, the linguistically encoded DIMENSIONAL VALUE is located beyond the NORMATIVE POINT on that SCALE relative to entity TONGUE. In fact, the lines of reasoning proposed in this Section and in 4.2.1–4.2.3 presuppose that typical *normative* (i.e. expected) dimensions are part of the encyclopedic knowledge about body parts, as well as other physical entities.

In discussing the role of SCALES in the semantics of gradable adjectives like *tall/short*, *sharp/dull*, and *good/bad*, Clausner and Croft (1999: 17–18) observe:

> The SCALE domain contributes the linear ordering of the property, sensation or judgment, that is part of the meaning of the adjective (and that is what makes the adjective gradable). A word such as *sharp* profiles a location beyond the norm in the SCALE domain in its matrix; the word SHARP also profiles a qualitative dimension of SHARPNESS. […] scalar adjectives are a location in a domain having SCALE in its matrix (or alternatively, in the two-dimensional domain consisting of the SCALE dimension and the relevant qualitative dimension).

In synthesis, the conceptual/semantic representation of gradable adjectives would imply a "qualitative domain, the relevant scale, and a normal value (reference location) for the adjectival concept on that scale" (Clausner and Croft 1999: 18).

Contrary to *malalingua*, a conceptual priority of the metonymic projection from the SPEECH ORGAN onto the SPK/LBD needs to be ruled out in order to account for the final semantics of *lingua lunga*: a SPK, and consequently his/her LBD can be literally 'bad, malevolent' (*malo/-a*), while a SPK/LBD cannot be literally, i.e. spatially, 'long' (*lungo/-a*).[16] Moreover, literal occurrences of the Adjective-Noun combination are attested.

4.2.1   *lingua lunga A*

Being a tongue a TRIDIMENSIONAL OBJECT, the notion of a LONGER THAN NORMAL TONGUE (Section 4.2), must also imply that its SIZE exceeds the norm. This, in turn, entails that there is MORE tongue than normal. Namely, the value MORE on the SCALE OF QUANTITY is metonymically activated *via* its conceptual correspondent, BIGGER, on the dimensional SCALE OF SIZE, which, in turn, is accessed *via* the linguistically encoded notion of LONGER.[17]

In fact, the notion of a QUANTITATIVE EXCESS (in speech) is part of the semantics of Italian *lingua lunga* (Section 2.2), as it is in the case of Chinese *duō-zuǐ-duō-shé* 多嘴多舌 (Section 4). Only, in the conceptual construction underlying the Italian expression the quantitative notion is accessed *via* two subsequent metonymic projections, as represented in Figure 3:

LENGTH	SIZE	QUANTITY
(−) ---------‖-------- (+)	(−) ---------‖--------- (+)	(−) ---------‖--------- (+)
LONG →	BIG →	MORE

Figure 3. A chain of metonymic projections from the SCALE OF LENGTH to that of QUANTITY

The notion of a QUANTITATIVELY EXCESSIVE LINGUISTIC BEHAVIOR, in turn, permits metonymic access to a series of further conceptual-semantic components (i.e. gossiping, impudence, etc.). Since such an excessive linguistic behavior does not entail the actual possession of a QUANTITATIVELY EXCEEDING SPEECH ORGAN (TONGUE), it is the contribution of *metaphor* that licenses the overall semantics

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16. Of course, a *written* discourse can be "spatially" long. However, both corpus tokens and dictionary definitions primarily relate *lingua lunga* to spoken linguistic activity.

17. This line of reasoning is partly inspired by Barcelona's (2003) analysis of supposedly non-metonymic synesthetic collocations, like *sweet music*.

of the construction. But, it is the chain of projections sketched in Figure 3, representing an instance of "direct" metonymic chaining (Barcelona 2005: 336), that is responsible for conjuring the conceptual prerequisites for the metaphorical elaboration. A similar analysis might apply to English recent formation *fatmouth*, reported by Portero-Muñoz (this volume).

4.2.2   *lingua lunga B*

The second possible analysis of *lingua lunga* is one in which the notion of LENGTH, as related to a TONGUE, is metaphorically mapped onto the TEMPORAL notion of LENGTH OF A DISCOURSE. This is the association invoked by Radden (2004: 552):

> The length of the tongue correlates with the length of speaking, which in its turn may give rise to various implicated meanings: gossiping in Dutch (*een lange tong hebben*) and Chinese (*chang-she*), blabbing and giving away secrets in Polish (*mieć długi język*) and Italian (*avere la lingua lunga*), and being insolent and impertinent.

As already noted in the context of analysis A (Section 4.2.1), body parts are attributed average dimensions in their conceptual representation within specific cultures. Of course, dimensional excess receives different value judgments depending on the body part at issue (as well as on the specific domain in which the body part is profiled, see Section 4.3): compare the cross-culture widespread contrasting judgments of BIG EARS *vs.* BIG EYES. In Italian culture, as elsewhere, a LONG TONGUE does not, in most contexts, elicit a positive value judgment. In fact, the majority of literal corpus instances of *lingua lunga* are associated with notions of DISGUST/UGLINESS/DANGER.

As regards the metaphor, this, obviously, is made possible by the existence of a metonymic association between the ORGAN and the ACTIVITY, within the domain of LINGUISTIC ACTION.

Radden (2004: 543) asserts the unity of the domain within which the extensions take place: "The semantic shifts characterizing all these examples are metonymic: they operate within the same conceptual frame, which might be described as 'language frame'". Apparently, the metaphor in the case of *lingua lunga* would not entail a mapping between different domains (as in the case of the first interpretation of *malalingua*, 4.1). However, it might be observed that the LENGTH of the TONGUE/SPEECH ORGAN is not an *inherent* component of the domain of LA, but of the representation of a TONGUE in the domain of BODY PARTS. Consequently, the metaphoric association of the property LONG with a property of an entity within LA (DURATION) would involve a mapping between distinct domains. On the other side, it is the need to express a metalinguistic notion of DIMENSIONAL EXCESS OF SPEECH that triggers the highlighting of this property within the domain of BODY PARTS.

As in the case of interpretation A, the negative value judgment results from the violation of a normative QUANTITATIVE value in the subdomain of SPEECH within LA, that is paired to a violation of a normative DIMENSIONAL value in the domain of BODY PARTS, and the connection between domains is guaranteed by the existence of a profile for 'tongue' in both.

4.2.3   *lingua lunga C*

An additional possible analysis would, instead, involve the CONTROL SCHEMA interacting with the CONTAINMENT SCHEMA:[18] the concept of CONTROL OVER SPEECH PRODUCTION is figuratively represented in Italian, and in a variety of other languages, in constructions in which the MOUTH is envisaged as the CONTAINER OF SPEECH: for example, the two translation equivalents, Eng. *Keep your mouth shut!*, and It. *Tieni la bocca chiusa!*, are intimations to 'stop talking' or to 'not talk at all'. A longer than normal tongue is likely to be more difficult to keep inside the mouth and, consequently, to EXCEED its boundaries. The Italian idiom *tenere la lingua a posto* (lit. 'to keep one's tongue in its proper place') conveys the notion of the appropriateness in given circumstances of exercising CONTROL OVER ONE'S SPEECH PRODUCTION, in order to avoid being impudent, disrespectful, and saying things that might be out of place or insulting.

In summary, I believe that the three possible interpretations presented here and in Sections 4.2.1–4.2.2 are *not* mutually exclusive. These partially overlapping imagistic configurations, resulting from the action of partly diverging metonymic paths of conceptual extension, might all have been at play in entrenching the metalinguistic function of expression *lingua lunga* and in determining its semantics within LA, by jointly conjuring a notion of EXCESS with respect to a quantitative (and qualitative) normative value of SPEECH PRODUCTION. The possibility of construing for one and the same expressions alternative but equally plausible analyses, involving different configurations of metaphorical and metonymical links, is advocated for by Geeraerts (2002: 460).

4.3   *linguaccia* and *boccaccia*

As noted in Section 2.3, these two words display the same morphology and a similar underlying conceptual construction, and are, in fact, partly interchangeable in their capacity to denote an 'insulting, inconsiderate and indiscrete SPK, who talks too much and not in a proper manner', and the corresponding LBD.

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18. Among others, Pauwels and Simon-Vandenbergen (1995: 45, 49–50) mention the role of these two schemas in relation to figurative representations of LA.

Evidently, both expressions are metonymic: the conceptual component SPEECH ORGAN activates a further component of the scene of LINGUISTIC ACTION, either SPK or LBD. The specific characterizations of SPK/LBD exploit part of the chain of metonymic conceptual/semantic shifts proposed in Figure 3 for the analysis of *lingua lunga* (see Section 4.2.1). Indeed, in the construction of *linguaccia* and *boccaccia* only the semantic shift from SIZE to QUANTITY is at work, providing the conceptual base for the subsequent extension to a QUANTITATIVELY EXCESSIVE LINGUISTIC ACTIVITY (that is a core component of the semantics of both constructions, as well as of that of *lingua lunga*).

The encoding of value judgment (negative or positive) in combination with dimensional alteration is a typical function of evaluative morphology. As already observed in Section 2.3, the semantics of the suffix *-accio* is an instance of a conceptual link between the notion of DEVIATION (EXCESS) FROM A NORMATIVE DIMENSIONAL VALUE (SIZE) and (NEGATIVE) VALUE JUDGMENT. In fact, the majority of "literal" tokens of *boccaccia* are in contexts in which the body part is intended as 'big + ugly/disgusting/menacing' (see Section 2.3.2). Unfortunately, the context of the only two literal corpus tokens of *linguaccia* does not provide clues in this respect.

Two Spanish metonymic expressions that closely mirror the Italian *boccaccia* are synonyms *bocaza* and *bocaza*s (from *boca* 'mouth', the second with invariable plural inflection) 'a person who talks too much; one who says stupid things; one that out of indiscretion tells things he/she should not tell; a boastful person'.[19] In both the Spanish and Italian forms the suffix contributes the related notions of 'something bigger than normal' and of 'something bad' (Section 2.3).

The EXCESS IN SIZE provides the metonymic link to a notion of EXCESS IN QUANTITY, which in turn, based on the role of the SPEECH ORGAN in the domain of LA, metaphorically activates the notion of EXCESS IN QUANTITY OF LA (from which, as in the case of *lingua lunga*, further metonymic extensions within the frame of LA yield the other components of the complex semantics of *boccaccia* and *linguaccia*).

At the same time, it needs be underlined that, although the suffix *-accio/-azzo* has a prevailing negative denotation, the target domain, which is accessed via a metonymic projection that primarily rests upon the conceptual content of the base noun, *does* play a role in determining the nature of the value judgment conveyed by the suffix. For instance, a different formation in *-accio/-azzo* is Italian slang N *ficaccia/figaccia* 'a very sexy, attractive, beautiful woman'. The first component N. *fica/figa* is a vulgar denotation of the female sexual organ (a dead metaphor, from

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19. The on-line version of the *Diccionario de la lengua española (DRAE)* of the Real Academia Española gives the following definition: "Persona que habla más de lo que aconseja la discreción", the accuracy of which is confirmed by Olga Blanco-Carrión (p.c.).

Late Latin *fica(m)* < *ficu*s) (De Mauro), that by means of a PART FOR WHOLE ME-TONYMY also denotes a 'girl/woman', and, specifically, a SALIENT MEMBER of the category, i.e. an 'attractive, sexy girl/woman'. In *ficaccia/figaccia*, suffix *-accio* acts as an intensifier of the ATTRACTIVENESS/SEXINESS component and of the related POSITIVE VALUE JUDGMENT. The form also exists in the M version *ficaccio/figaccio* denoting a 'very sexy and attractive (young) man' (De Mauro). The role of target domain is demonstrated also by the semantics of N *fegataccio* (based on N *fegato* 'leaver → the seat of courage') that denotes 'a particularly brave, fearless, daring, reckless man'. This expression may occasionally convey a negative value judgment, but in the majority of instances it conveys a positive one (which is confirmed by the definition in De Mauro): in the Italian folk model of COURAGE, a LARGE QUANTITY/EXCESS IN COURAGE is valued positively. On the contrary, in the Italian folk model of LANGUAGE a LARGE QUANTITY/EXCESS OF LA is valued negatively. In synthesis the VALUE JUDGMENT of an EXCESS FROM A NORM eventually depends on the domain specific property on the scalar linear ordering of which the EXCESS is located (QUANTITY OF SPEECH ACTIVITY, VS. ATTRACTIVENESS, COURAGE, etc.).

As regards LINGUISTIC ACTION, the conceptual-semantic connection between SIZE, QUANTITY and NEGATIVE VALUE JUDGMENT, as conveyed by evaluative morphology in interaction with the meaning of the base noun, is testified by several forms based on the lexeme for 'mouth' in regional languages of Italy, including Italian, listed by Pfister under entry *bocca*, many of which are formed by means of prototypically augmentative suffix *-one*, besides the suffix *-accio/-azzo*.

In synthesis, metonymy is responsible, on one hand, for the intradomain connection of the SPEECH ORGAN (*lingua/bocca*) with the SPK and LBD. Within the suffix, BIG SIZE and VALUE JUDGMENT are metonymically connected, through the notion of EXCESS. At the same time, the BIG SIZE is able to activate the notion of LARGE QUANTITY (of TONGUE). As in the case of *lingua lunga*, the actual possession of an EXCESSIVE QUANTITY OF TONGUE in its capacity as SPEECH ORGAN is not an actual prerequisite for the production of an EXCESSIVE QUANTITY OF SPEECH; therefore, the completion of the mapping requires the contribution of metaphor. As regards the negative evaluation that is a component of the semantics of "literal" occurrences of *linguaccia* and *boccaccia*, in which it is contributed by alterative morpheme, this is fully licensed in the non-literal metalinguistic meanings by the interaction of source and target domain.

5.   Conclusions

In this chapter I have proposed an analysis of metonymic processes involving the notions of MOUTH and TONGUE, in their capacity as SPEECH ORGANS, based on the study of four semantically and formally related linguistic representations of speakers (SPK) and of linguistic behaviors/habitual linguistic dispositions (LBD) in standard Italian. For two of these, *malalingua* and *lingua lunga*, different possible interpretations of the conceptual processes underlying their constructions, which are not viewed as mutually exclusive, are put forward.

Most previous analyses of metonymic projections from the SPEECH ORGANS within the domain of LINGUISTIC ACTION (LA) envisage a privileged relation between the ORGAN and the ACTIVITY (Section 3). Instead, in one case (*malalingua*, Section 4.1) the Italian data reveal a direct projection from the ORGAN to the SPEAKER, comparable to the one posited by Goossens (1995) in his interpretation of English metonymies based on *mouth*.

The description of the semantics of the four Italian expressions is the result of my interpretations of the multiple senses observable in actual textual occurrences, retrieved through inquiries in two corpora of written standard Italian. For one of the items, *boccaccia* (Section 2.3.2), the analysis of corpus tokens resulted in a semantic representation that markedly diverges from dictionary definitions; in fact, the actual occurrences of this expressions sharply favor LBD denotation, while the three dictionaries consulted for the study (De Mauro, Battaglia, and Pfister) *only* report SPK denotation.

On the other hand, corpus based semantic analyses agree with dictionary definitions in highlighting that three of the forms (*lingua lunga*, *boccaccia*, and *linguaccia*) share a core semantic component, i.e., the notion of an EXCESSIVE QUANTITY OF SPEECH that triggers NEGATIVE VALUE JUDGMENT. The notion of QUANTITY is, in turn, attained through a chain of metonymic shifts *via* other related scalar dimensional notions (LENGTH and SIZE). The conceptual-semantic analyses of these expressions show how the final nature of value judgment is not only determined by the interplay of the semantics of the different lexical and/or morphological (specifically evaluative morphology) elements that make up their linguistic representations, but is partly determined by the structure of the target domain.

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Corpora

CORIS/CODIS: http://corpora.dslo.unibo.it/coris_eng.html
itTenTen10: http://www.sketchengine.co.uk/documentation/wiki/Corpora/itTenTen
itWaC: https://www.sketchengine.co.uk/itwac-corpus/
La Repubblica Corpus: http://dev.sslmit.unibo.it/corpora

On-line dictionaries

Diccionario de la lengua española (DRAE), Real Academia Española, http://lema.rae.es/drae/
Sabatini, F., & Coletti, V. *Dizionario della Lingua Italiana*. RCS Libri, http://dizionari.corriere.it/dizionario_italiano

CHAPTER 10

Are *smartphone face* and *Googleheads* a real or a fake phenomenon?

The current role of metonymy in semantic exocentricity

Carmen Portero-Muñoz
Universidad de Córdoba

This paper seeks to provide evidence of the pervasiveness of metonymy as a resource triggering the creation of examples of a remnant category in morphological research, so-called 'exocentric' compounds. Exocentricity is not a homogeneous phenomenon in English, where it is typically represented by *bahuvrihi* compounds, which refer to an entity via a salient property on the basis of the metonymy PART FOR WHOLE. This research starts up with the collection of a corpus of over 300 English compounds with a body-part noun as the right component. As a result of the search, some regions of productivity will be shown to exist, not only by the creation of new instantiations of existing patterns but also by the emergence of new subtypes.

Keywords: *bahuvrihi* compounds, body-part nouns, exocentricity, metonymy, possessive compounds, productivity

1. Introduction

"Whether smartphone face exists or not, it is certainly good for business".[1] This sentence is used to conclude an article warning about the consequences of staring at one's iPhone or laptop screen for hours and questioning the truthfulness of the news. In this paper it will be shown that, no matter whether *smartphone face* is only a made-up ailment to make chin surgery be on the rise, it is nonetheless a very real phenomenon from the linguist's point of view. The word has already made its way into the English lexicon and is defined at Word Spy as 'a drooping jawline and saggy jowls caused by neck muscles that have been shortened from constantly looking

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1. http://newsfeed.time.com/2012/05/30/dubious-medical-syndrome-of-the-day-smartphone-face/.

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down at a smartphone or similar device'. Linguistics-wise, one cannot deny the lexical status of this concept.

From the linguistic point of view, the word does not illustrate an unusual process, as it is an example of the so-called 'exocentric' compounds, that is, a compound word which refers to an entity external to the compound, *smartphone face* not being a specific type of face but a type of physical condition of the face. It is nevertheless not a prototypical example, as exocentrics are typically represented by *bahuvrihi* compounds like *Googlehead* ('a Google addict, i.e., one who constantly looks up information on Google', Urban Dictionary), but its exocentricity is, at least, reasonably clear.

The linguistic status of exocentric compounds in English is a different issue. Exocentrics have always been an irrelevant category of morphological research in English on the grounds that they are non-productive, atypical, opaque and non-analyzable (Benczes 2013). Different scholars have regarded them as a marginal or even unexisting category in this language. Bauer (2010: 174), for example, remarks that "exocentrics are a remnant after a well-defined group has been removed from the relevant field of enquiry. In this sense they are exceptions". Exocentrics are those formations which are not hyponyms of their head element, that is, which are not endocentric, a "sort of 'anomaly' in language design" (Scalise and Guevara 2006: 185). Dressler (2006) points out that they are a "marked" option as compared with endocentric compounds. Haspelmath (2002: 88) remarks that the pattern illustrated by *redhead* is "hardly productive in English". For Benczes (2006, 2013), the distinction between endocentric and exocentric compounds should be dispensed with within a cognitive approach to language.

As opposed to these views on the low relevance of exocentrics, the winds of change are blowing when different scholars advocate the high productivity of this type of formations. As Guevara and Scalise (2009) have noted, exocentric compounds are quite common in a vast number of the world's languages and they are even the most common pattern in some. Specifically, so-called *bahuvrihi* or 'possessive' compounds, which refer to an entity via a salient property, seem to be universal (Bauer 2008: 55). Some of the most recent and exhaustive accounts of English morphology also acknowledge that "exocentric attributives are highly productive in English" (Bauer, Lieber, and Plag 2013: 478–479), and even Bauer (2010: 168) acknowledges that "unless you know what to ask questions about, it will be easy to overlook the more marginal categories. And the sporadic attestation of minor categories may, in turn, mask their importance". Aware that the simplicity and the remnant-like status of exocentrics might be the result of insufficient description of an individual language, Bauer encourages descriptive linguists to look for "a different methodology, and the insights of linguist- informants who are sensitive to the presence of rare categories" (p. 175).

The aim of this chapter will be to take Bauer's suggestion seriously and try to give fair recognition to this type of compounds by highlighting the current productivity of different specific subtypes.

2. Exocentricity in English?

Admittedly, exocentricity is not a homogeneous phenomenon in English (Bauer 2010; Bauer et al 2013). Bauer remarks that the hyponymy test can be shown to fail in a number of different ways in this type of compounds. Some formations are clearly semantically and morphologically exocentric, as they function as a member of a word class which is not the word-class of their head element. Thus, in *pickpocket* the referent is a human entity, which does not correspond to the morphological verbal head *pick*. This pattern is marginally productive in English. An exocentric can also be so considered because it fails to display a head element (e.g. *gogo* 'dancer'). Finally, exocentrics can have a head element of the correct word-class, but with apparently the wrong denotation, in which case exocentricity is only semantic. An example of this type of exocentricity is *redcap*, whose referent is not a cap but a human being. In English exocentricity is typically represented by the latter subtype, also known as the 'possessive' type (or *bahuvrihi* compounds), as reference to an entity is made by means of a property that this entity possesses. This is nevertheless not always strictly the case, as will be shown in the subsequent sections.

As already mentioned, Benzces (2006, 2013) rejects the traditional endocentric-exocentric distinction on the grounds that it does not do justice to the creative wealth that is found in English compounding, and which cuts across these two labels. In her view a typical endocentric compound like *handwriting* would be as metonymic as widely acknowledged metonymic compounds (see also Coseriu 1977: 50).

We agree with Benzces (2006, 2013) that exocentrics are not so different from endocentric compounds, metaphor and metonymy being processes at work in both types. However, they are indeed different. Marchand (1969: 387), drawing on Petersen (1914–1915: 254–257) and Brugmann (1889: 654), points out that these formations were originally adjectival and that their origin must be sought in the practice of namegiving, where they had an appositional use in conjunction with personal names (e.g. *rhododáktylos eós = Rosefinger Eos*). The Sanskrit label *bahuvrihi* itself seems to have been an adjective first and then become a noun (Killingley and Killingley 1995: 47). It would have been used to denote 'having much rice' (e.g. of a village) and later 'one who/ which has much rice'. For Marchand, the rise of *bahuvrihi* compounds as nouns in Middle English is connected with the 'adjectivization'

of the types, mainly by *-ed* suffixation: when, for example, *red-breasted* had become the normal adjective, the way was free for the use of *redbreast* as a noun.

Marchand (1969: 14) proposed an analysis of *bahuvrihi* compounds by postulating a zero morph. In his view, these compounds are pseudo-compounds or derivatives since the combination "is not explainable as B determined by A". For example, *birdbrain* is not a brain, but a person having a birdbrain. Therefore, the combination cannot be substituted for a noun of the semantic type 'concrete' but for one of the semantic type 'personal'. He suggests that the determinatum is a zero morpheme acting as a semantic classifier, a transposer that puts a nominal construction in a different semantic class from that which the head of the construction belongs to. Accordingly, the meaning of a bahuvrihi compound is 'someone or something marked by what is expressed in the composite determinant'. Bauer (2008) suggests the tree structure representation in (1) for such an analysis of bahuvrihis as exocentrics.

(1)

```
                    N
            ┌───────┴───────┐
            N               N
        ┌───┴───┐           │
        A       N           θ
        │       │        [+human]
       red    breast
```
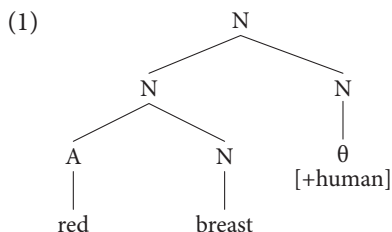
In a similar fashion to other cases where a zero morph is postulated, the element which determines the actual class of the compound has no overt representation.

Alternatively, some of these cases can be analyzed as the outcome of an ellipsis operation (Bauer et al. 2013: 479), an idea both advanced and rejected by Marchand (1969: 14):

> One might be tempted to argue that the determinatum is zero, but that the zero stands for an independent morpheme. This would be equivalent to assuming an ellipsis, i.e. a word left out and susceptible of being readily supplied by any speaker. This, however, is not the case, nothing is missing and nothing is to be substituted for the determinatum. When using the words *birdbrain* 'stupid person', *hunchback, loudmouth, paleface*, no speaker thinks of something left out or addable.

Bauer (2008: 59) also hints at an analysis in terms of ellipsis, suggesting that if a person or any other type of entity is understood by virtue of having the property denoted by the compound, there must be an apparently intermediate step where the head noun is present and the compound is a modifier of the head. Likewise, the idea of ellipsis is supported by Ryder (1994: 77, n.1), who claims that exocentric compounds (lacking a profile determinant) might have started off as complex

endocentric constructions, such as *hammerhead shark*, which have lost their head because the head is redundant in most contexts in which the expression is used since it can be inferred from the context. The compounds become so established as to lose their profile determinant due to lexicalization. This is indeed the case in many of the examples found, which are given alternative analyses in the same or in different sources as adjectives used as premodifiers of nouns or as nouns. Thus, *diamondback* is analyzed as an adjective, as a noun, and as a synonym of *diamondback rattlesnake / terrapin / moth* in different sources or even in the same source. This is by no means exceptional as many exocentrics used to refer to different animals or plants appear to have started out as complex endocentric formations. Further examples are: *rabbiteye*, from *rabbit-eye blueberry*, *longneck*, from *longneck clam*, or *longneck eel*, *littleneck*, from *littleneck clam*, or *largemouth*, from *largemouth bass*. In addition to animal names, there are other cases of binary compounds resulting from elision of the head noun, which are attested simultaneously with the whole phrase, such as *roll-neck* and *roll-neck sweater/shirt/jersey/pullover, paperback or hardback* and *paperback/hardback book*. The origin of at least some of these formations would then appear to speak of a true distinction.

Bahuvrihi compounds resulting from ellipsis might therefore be regarded as nominalizations of salient adjectival properties resulting from the reduction of a noun phrase with a pre-modifier noun or adjective in *-ed*. Thus, a *red-skinned/ red-skin person* would result in a *redskin* in a similar fashion to the conversion of adjectives into nouns used to refer to classes of human beings (e.g. *the blind*, resulting from *blind people*). Semantics-wise, this type of ellipsis in compounds can also be compared to syntactic ellipsis (e.g. *The House* for *The House of Representatives*) (Bauer et al. 2013: 479). The process at work in all these cases is therefore not – it must be admitted – compounding but ellipsis. Bauer (2008: 52) alludes to a distinction between *Wortbildung* 'the process of forming words' and *Wortgebildetheit* 'the analysis of complex words', which should be invoked in these cases to explain the fact that these compounds were not created from scratch as pure exocentric formations, though the output of the process are exocentric compounds. This is not meant to imply that true exocentrics do not exist, that is, exocentric compounds that are coined headless for the simple reason that there is no need to mention the head element, which can be inferred from the context and is regarded as superfluous by speakers (Marchand 1969: 11; Ryder 1994; Benczes 2013: 5). On a synchronic perspective, this distinction is nevertheless unproblematic for the language user.

The possession of an identity that tells exocentrics apart is also corroborated by the fact that students of English as a second language are prone to a wrong analysis of nominal exocentric compounds of the possessive type as adjectival, which might be an indication that speakers are intuitively aware of the adjective-like nature of these formations.

In addition to the differences derived from the adjective-like nature of these formations, psycholinguistics may also provide some grounds to keep exocentrics as a separate category. Benczes' contention that cognitive processes like metonymy and metaphor are not alien to endocentric formations cannot be rebutted. However, the place and type of the cognitive operation at work within a compound might be said to provide a basis for the distinction between the two types. Thus, whether a compound has a metonymic or metaphoric head or non-head constituent may determine different degrees of semantic complexity and of processing times (Libben et al. 2003). Exocentric compounds of the possessive type have a metonymic head, which makes them a different cognitive subtype. As a matter of fact, the category 'person/thing which has X' seems to be found useful in many languages and there must be cognitive reasons for this salience which makes it recur across languages of different types and families (Bauer 2008: 5).

In any case, the distinction is still maintained in most recent accounts of English morphology (Barcelona 2008; Bauer 2010; Bauer et al. 2013: 478–479), even though there is consensus on the fact that endocentric and semantically exocentric compounds (that is, those in which the denotation of the head element is semantically different from the denotation of the whole) are not so different, and that an alternative analysis can be proposed for such exocentrics which does not involve exocentricity but a metonymic reading of the head noun (Jespersen 1942: 149; Bauer 2008: 19). Bearing in mind this general lack of agreement, the distinction will be maintained in this work, if only to distinguish a specific subtype of compounds with a second metonymic component from the remaining subtypes.

3. The scope of this work: Semantic exocentricity

The scope of this survey will be different cases of semantic exocentricity. This label involves compounds which, in spite of having a morphological head (the right-hand constituent) which shares all of its formal features with the whole compound, have no correspondent semantic head, as the formal head does not also share its lexical-contextual information with the whole compound (see Scalise and Guevara 2006 for the distinction between formal and semantic head).

Semantic exocentricity includes, but is not restricted to, the main representative of exocentrics in English, so-called *bahuvrihi* or 'possessive' compounds. *Bahuvrihis* have been analyzed as a prototype category whose members display a number of defining properties (Barcelona 2008: 211):

1. they are exocentric compounds where a characteristic property is used to denote a category not explicitly mentioned in the compound,
2. the characteristic property is presented as a (typically physical) thing (hence it is reified). In other words, they *profile* (Langacker 1987: 118) a type of *thing* (Langacker 1987: 183–217), via the mention of its characteristic property,
3. there exists a possessive relation between the category denoted by the compound and its reified characteristic property,
4. they typically denote *people*, their second base normally indicating some part of the body or dress (Jerspersen 1909–1949), and are often used as nicknames (Jespersen 1909–1949: VI, pp. 149–152; Quirk et al. 1985: 1576), though they can also denote animals (*redbreast*), plants (*longleaf, whitehorn*), and inanimates (*greenback*, a type of banknote; *hatchback*, a kind of car) (Huddleston and Pullum 2002: 1652), even actions, as in *hot-foot* (Jespersen 1909–1949: VI, pp. 149–152),
5. when applied to people, they are typically derogatory (Huddleston and Pullum 2002: 1652; Quirk et al. 1985: 1576),
6. they are typically informal in style (Quirk et al. 1985),
7. in English, they typically respond to the morphosyntactic patterns Modifier Adjective + Head Noun (*fathead*) and Modifer Noun + Head Noun (*birdbrain*),
8. they are limited in number in English (Huddleston and Pullum 2002: 1651–1652), though they are still productive.

In addition to these prototypical properties, Barcelona points out that the overall metonymy in all *bahuvrihi* compounds is CHARACTERISTIC PROPERTY FOR CATEGORY.

As already mentioned, these are cases where a metonymy is activated in the second component. To cast our net wider, the analysis in this paper will not be restricted to prototypical *bahuvrihis*, but will also be concerned with other formations where a metonymy is at work in the second component.

4.   Methodology and discussion

The basis for the survey in this paper is a collection of over 300 compounds with a body-part noun on the right, which were retrieved using different sources, like *findtheword*, which allows searching words by the final or initial parts, and the COCA corpus (Davies 1990–2012). The search at the COCA corpus was restricted to formations between 2010 and 2012, so as to get examples of relatively current use. The hits were then searched for definition in several dictionary sources like

the online version of Merriam Webster dictionary (www.merriam-webster.com/dictionary) (henceforth MW), which provides information on the first known use of the word, WordSpy (www.wordspy.com) (henceforth WS), which keeps track of many new attestations which have not yet been included in any dictionaries, the Urban Dictionary (www.Urbandictionary.com) (henceforth UD), Wiktionary (henceforth Wk), www.dictionary.com (henceforth D), www.thefreedictionary.com (henceforth FD),[2] and www.oxforddictionaries.com (henceforth OD).

UD deserves especial mention, as it challenges the traditional dichotomy between 'existing' words and 'possible' words (Plag 2003: 46). In its origin the UD was intended as a Web-based dictionary of slang or ethnic culture words and phrases not typically found in standard dictionaries. However, it is now used to define any word or phrase. It not only contains literal or strict definitions but also descriptions (more than seven million as of March 2013). Time's journalist Anita Hamilton included it on her 50 best websites of 2008 list.

Newest formations, that is, those dated in the 21st century or the last decades of the 20th century, include not only new formations but also older ones that have been reinterpreted in more recent sources, like the aforementioned UD. It should be made clear, however, that it is not possible to establish the origin of many examples accurately as it is not given in most of the sources used[3]. For this reason, examples which are not included in more standard dictionaries like MW but which are included in brand-new sources like UD (1999), WS (1996), D (1998), Wk (2002) have been considered recent formations. In addition, compounds attested in older sources but reinterpreted in more recent ones are regarded as new.

As a result of the search two different sets were found to be of especial interest, namely, (i) possessive compounds (e.g. *Googlehead*), which typically refer to personal entities via a salient property, specifically an inalienable body-part in the cases under study, and (ii) compounds referring to different physical conditions ('ailment descriptors'), labeled 'diagnosis' (e.g. *smartphone face*) and 'symptomatic' (e.g. *wryneck*) compounds in this paper, and to personality traits (e.g. *sticky fingers*). Additionally, some compounds were found illustrating different types of inanimate reference (e.g. *sleeve face*).

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2.   The proprietary content for dictionary.com is based on the *Random House Unabridged Dictionary*, with other licensed content from the *Collins English Dictionary*, *American Heritage Dictionary* and others. Thefreedictionary.com cross references the contents of the *The American Heritage Dictionary of the English Language*, the *Columbia Encyclopedia, the Computer Desktop Encyclopedia*, the *Hutchinson Encyclopedia* (subscription) and Wikipedia, several financial dictionaries, legal dictionaries and other content.

3.   When available, the date of the earliest citation is provided for examples of the different sources in the Tables and next to the source, as follows: (WS, 1991).

4.1 Possessive compounds

4.1.1 *The case of* -head *formations*

Formations in *-head* are the most representative case of exocentrics in English, if only by virtue of the number of instantiations. Bauer et al. (2013: 478) mention them as typical exocentric compounds of the 'possessive' type in English. These formations can be included within an overarching category of 'Part-for-Whole' exocentrics, as they all share the property of referring to an external entity through its head by activating a PART FOR WHOLE metonymy.

The number of bases which *-head* can attach to has been growing continuously over the centuries but they do not constitute a uniform group (see Portero Muñoz 2014). Interestingly, some of the newest examples are semantically different from the oldest ones. The oldest attested exocentric forms with *-head* are formed by an adjective attributed to *head* (e.g. *baldhead*) or a noun denoting a concept with which *head* (e.g. *blockhead*) is compared. Later, the process has extended beyond these cases to formations in which the first noun denotes some kind of addiction (e.g. *cokehead*). This pattern appears to have served as the basis for the latest one, in which the semantic restriction on the first noun has been relaxed, as it no longer denotes a drug or an addictive substance but anything a person is very keen on (e.g. *Googlehead*). These cases can be taken as evidence of the emergence of a new type and hence of the productivity of the process. Examples of this latest pattern are given in Table 1.

Table 1. Examples of *-head* formations of the *Googlehead* subtype

Example	Meaning	Date	Source
beach head	'a man or woman who has extraneous amounts of beach related elements, plants, or toys stuck on his or her face or hair. Usually this person will consider this fine and normal'		UD
Beatlehead	'one who has excessive knowledge of and interest in the Beatles'		Wk
Bellhead	'a supporter of traditional centralized telecommunications networks (after the Bell telephone company)'	2001	
breadhead	'a person who is motivated by, or obsessed with, making money'		OD
bloghead	'an excessive, possibly a qualifiable addict, reader of blogs'		UD
dittohead	'a person who mindlessly agrees on an issue or idea because it fits in with their ideology or because they are followers of the person who put forth the idea in the first place'	1989	WS
Deadhead	'a person who greatly enjoys the music of the Grateful Dead and particularly the genius of Jerry Garcia'		UD
drumhead	'a fanatic of Ringo Starr. It is often used on Beatles fan forums on the Internet'		UD
gearhead	'a person who pursues mechanical or technological interests, as in automobiles or computers'	1974	MW

(*continued*)

Table 1. (*continued*)

Example	Meaning	Date	Source
Flathead	'a term used to describe a person who lives "on the edge" and is very wild. The term came from Michael Flatley, who invented the Riverdance Irish Dance ensemble. "Flathead" was used to describe his fans who were very wild and crazy and the term grew from there…'		UD
Googlehead	'a Google addict, i.e. one who constantly looks up information on Google'		UD
greenhead	'a person who is an environmentalist. One who respects nature. A conservationalist'		UD
Hiphophead	'someone that embodies the Hip Hop culture usually consisting of an avid interest or participation in Hip Hop Music, MCing, Djing, Breakdancing and Graffiti Art'		UD
Jazzhead	'a jazz music enthusiast'	2008	Wk
Machead	'a fan of the Apple Macintosh computer'	2003	Wk
maphead	'a person who is passionate about maps and cartography'	2014 1998	WS
metalhead	'someone who listens to heavy metal music'	1982	Wk
Nailhead	'a person who is obsessed with Nine Inch Nails/Trent Reznor'		UD
Nethead	'a person who is enthusiast about or an expert on the Internet'	1995	D Wk
	'an obsessive Internet user, a supporter of the Internet and its flexibility and technical underpinnings'		
petrolhead	'a car enthusiast'	2004	Wk
Potterhead	'a person who is a big fan of the Harry Potter series of books'	1999	WS
	'one who loves the Harry Potter series of books, especially to a fanatical degree'	2007	Wk
propeller-head	'an enthusiast of technology and especially of computers'	1982	MW
Redhead	'a fan of the folk trio Red Molly'		UD
Revhead	'someone who takes part in, or enjoys watching motor racing'	2008	Wk
rivethead	'an aficionado of industrial music (from the metal bolts of the same name 'rivet', which are used in the industrial construction of architecture)'	2004	Wk
seamhead	'a devoted baseball fan (from the distinctive seam on a baseball)'	2007	Wk
Sneakerhead	'a person who owns multiple pairs of shoes as a form of collection or fashion'	2004	Wk
stathead	'a person with a keen interest in statistics, particularly in sport'	2008	Wk
Webhead	'a compulsive or frequent user, or contributor, to the www'	1994	FD
wirehead	'a hardware hacker, a person who likes to tinker with electronics'		Wk

The majority of these examples are 21st century formations. However, all of the previous patterns are also productive, as shown in the newly coined compounds of Tables 3–4 in the Appendix.

Some examples are not coined anew but they have been reinterpreted in more recent sources. In these cases only the latest definition is shown in the Tables. For example, *baldhead* is defined as 'a bald-headed person' in MW, and reinterpreted as 'in rastafarianism, someone who is not rasta, someone who is generally an outsider, someone who is generally considered "square" or uncool or a bad racist white person' in the UD. Similar cases are *sleepyhead*, defined as 'a sleepy person' in MW, which has been reanalyzed by editors of UD and is used as 'a derogatory way to describe an Asian person. Used because of the way Asians' eyes appear to be semi-closed or sleepy'; *hop-head*, 'a drug addict' (MW), redefined as 'someone who enjoys really hoppy beers, or drinks hoppy beers exclusively. Most likely this person is a beer-geek or craft-brew drinker' (UD); *juicehead*, 'an alcoholic' (MW), redefined as 'a bodybuilder that uses, or appears to use, steroids and is of poor intellect or by extension any large male' (Wk).

4.1.2   *Other body-part formations*

In addition to *-head* formations, the use of the PART FOR WHOLE metonymy in the creation of new compounds with a different body-part noun is not unusual. Thus, *fatback* (UD), *flatbelly* (UD), *ROM brain* (WS), *mezzabrow* (WS), *glowface* (WS), *chocolate face* (UD), *thickneck* (UD), *fatmouth* (UD), *redthumb* (UD), *sharpskin* (UD), *cleanskin* (UD) are all 21st century creations. These are all examples of personal reference. Examples of animate referents (plants and animals) are usually older formations and will not be considered in the present study; those with inanimate referents will be dealt with in the subsequent sections. New formations where the PART FOR WHOLE metonymy is activated for personal reference are included in Table 8 in the Appendix.

In some of these cases, what we find is not the creation of a new compound but a reinterpretation of existing ones, which is especially true in the case of compounds included in the UD, where speakers provide new definitions or descriptions for some established compounds. As an example of this, consider the word *diamondback*, defined as 'a large North American rattlesnake, Crotalus adamanteus, having cream-and-grey diamond-shaped markings' (FD) and reinterpreted as 'a woman who looks great from behind, but when she turns around shows off an ugly as hell face' in the UD. Likewise, *bluenose* is defined in MW as 'a person who advocates a rigorous moral code' and redefined as 'a fan of the Scum (or Birmingham City FC)' (UD). In some cases, a noun with personal reference is reinterpreted as non-personal. Thus, *long-arms* is initially defined as 'an individual who intends to steal or borrow things without asking' (Wk) and is reinterpreted as the action

performed 'when you hold a camera out to take a picture of yourself or yourself and someone else while stretching your arm out long' (UD). Conversely, *wide-body* is defined in MW as 'a large jet aircraft characterized by a wide cabin', while it is reinterpreted as 'a fat person' in the UD.

Summing up, in this section Part-for-Whole exocentrics, more specifically, those referring to a personal entity via a cognitively salient body-part have been shown to be highly productive. The current productivity of this type of compounds is more remarkable in the case of formations in *-head*, not only by the emergence of new semantic patterns (21st century formations) but also by the creation of new examples of older semantic subtypes as well as by the reinterpretation of existing compounds. New formations and semantic reanalysis are also found with formations containing different body-part nouns.

At this point, especial recognition should be given to the UD, which has been described as 'an online democratic dictionary shaped by the masses' (Smith 2011: 45). Notwithstanding that the words and definitions provided by this source are probably not accepted by a majority of English speakers, what is crucial is the fact that the cognitive mechanism by which exocentrics of the possessive type are created is active in the minds of young speakers (80% of users are younger than 25). In the light of the corpus results, reference to (mostly) personal entities through salient parts of those entities is a much less marginal process than suggested by the scarce interest that these formations appear to have aroused traditionally. Because of this, the UD has turned out a valuable source of evidence for the current productivity of exocentrics. While most traditional dictionaries attempt to draw a line between acceptable/ existing words and those that are not, the UD reflects popular and current usage and it shows the way in which a whole generation is thinking about language.

4.2   Ailment descriptors

4.2.1   *'Diagnosis' compounds*

This subtype subsumes 21st century formations which denote physical or mental conditions and provide a one-word diagnosis, that is, the reason for this condition. This has motivated the label given to this group in the present work, 'diagnosis' compounds. *Phone neck*, 'neck pain caused by holding a telephone between one's shoulder and ear for extended periods', whose earliest citation dates from 1989 (WS), might have been used as an analogy basis for all subsequent creations, like *Nintendo thumb*, 'a repetitive stress injury that causes swelling at the base of the thumb due to overuse of video games' (WS, 1991), or *smartphone face* (WS, 2012), defined previously. Further examples of this subtype are shown in Table 2.

Table 2. Examples of the *Smartphone face* subtype

Example	Meaning	Date	Source
qwerty tummy	'a stomach illness caused by typing on a germ-ridden keyboard'	2008	WS
Wii elbow	'elbow pain or numbness caused by excessive use of the Wii gaming console's remote control'	2006	WS
bypass brain	'memory loss and reduced mental functioning after coronary bypass surgery'	2006	WS
BlackBerry thumb	'a repetitive stress injury characterized by swelling and pain at the base of the thumb and caused by prolonged use of the thumb while operating a BlackBerry or other personal digital assistant'	2002	WS
Tetwrist	'a repetitive strain injury acquired after extended play of "addictive" computer games, e.g. Tetris'	2002	FD
mouse wrist	'pain in the wrist caused by excessive or improper use of a computer mouse'	1995	WS
chemobrain	'impaired cognition – as memory loss or lack of concentration – that has been observed in patients who have received chemotherapy'	1991	MW
computer spine	'an ill-defined condition which appears to correspond to lower back pain related to long periods of sitting at a computer'		FD

Given the recency of many of the examples, this subtype provides evidence of the current productivity of the process. Benczes (2006: 156–157) mentions some of these examples and includes them in a small set denoting 'gadget-related illnesses', though the pattern would appear to be wider than suggested by Benczes, or rather, the offshoot of a more general pattern. As pointed out by Benczes, what these compounds share is the denotation of a pain that is caused by spending too much time on an activity associated with the entity denoted by the first noun, so that the modifier and the head stand in a cause-effect relationship to one another.

These compounds might appear to fall outside the scope of *bahuvrihis*, which typically refer to an external personal entity via a part or property characterizing it. On closer inspection, however, it turns out that they have been created by a similar cognitive process, as the different body-parts stand metonymically for the pain felt in the body part specified by the right-hand noun. Benzces argues that in these cases the conceptual metonymy THING PERCEIVED FOR PERCEPTION is at work, and that it is not a PART FOR WHOLE metonymy but a PART FOR PART one that activates the meaning. The interpretation is therefore still based on a metonymic relation, but the accommodation of the meaning involves a different type of metonymic mapping. In addition, the modifier element is also metonymic, as it denotes – in Benczes' view – an instrument that stands for the action for which it is used, that is, it is

based on the INSTRUMENT FOR ACTION conceptual metonymy. Thus, it is not the phone itself that causes the problem on the neck but the action of using the phone as an instrument. One can easily agree with Benczes in the latter contention, but not quite so in her conclusion that a PART FOR PART (and more specifically, THING PERCEIVED FOR PERCEPTION) metonymy is activated. What all these formations do is refer to different physical conditions through the specific body-parts affected by these conditions, which might still be regarded as a sort of PART FOR WHOLE metonymic relation. In other words, a body-part is cognitively as relevant to refer to a physical condition, that is, an inanimate entity, as it is to identify a personal (or animate) entity.

Benczes baptizes this subset as 'gadget-related illnesses', as mentioned previously. However, in addition to these formations, there is a closely related group in which no gadget is involved. As a matter of fact, Benczes (2006: 157) picks out *tetwrist* as the "odd-one-out", for in this case – she remarks– the first noun denotes the object of the action (a computer game) rather than the instrument (the computer). More accurately, what the first noun designates is the action of playing the game through an active zone metonymy, as suggested by Barcelona (pc).

Yet, *tetwrist* is not an isolated case, since no instrument appears to show up in other examples like *milk brain* (WS)*, chemobrain* (MW)*, avocado hand* (WS)*, rum nose* (OD), *qwerty tummy* (WS), or *aging ear* (WS), though they still hold a cause-effect relationship. In all these cases an active zone metonymy activates different specific actions in which the different first nouns play a salient role. Thus, consider the compound *milk brain*, which is defined as 'feelings of disorientation and mental sluggishness reported by some mothers of newborn babies; total involvement in the care of a newborn baby, to the exclusion of almost everything else' (WS). *Milk* in *milk brain* does not denote the instrument involved in the action causing the mental state denoted by the whole (in which case *breast brain* or *bottle brain* should have been used). *Milk* stands for the action in which it takes part, that is, 'feeding with milk', which stands for the overall action of taking care of a newborn baby; in addition, *brain* stands for a state of mind of mothers in which feeding, or more generally, taking care of their babies becomes their main concern. Hence, not only the whole compound but also the first and the second components are metonymic. Likewise, in *chemobrain* ('impaired cognition, as memory loss or lack of concentration, that has been observed in patients who have received chemotherapy') (MW), the whole compound designates a mental condition as a result of the action of 'drug delivery' in which the left-hand noun *chemo* participates. Similar cases are *avocado hand* or *rum nose*. Finally, in *qwerty tummy, qwerty* stands metonymically for computer keyboard on the basis of a PART FOR WHOLE metonymy (as qwerty are the first five letters appearing on a keyboard), and this stands for the

action of using the computer. Additionally, in *tetwrist* or *chemobrain* and similar examples we also find an instance of a purely formal metonymy motivating the clipped or truncated form of the first lexical morpheme: SALIENT PART OF FORM FOR WHOLE FORM (Barcelona, pc). In all, it appears that 'gadget-related' illnesses are only a subtype and that there are other metonymies at work, so that different subgroups should be established accordingly.

4.2.2   'Symptomatic' compounds

The denotation of different physical conditions through compounds with a second body-part noun is not new. Alongside the newest formations shown above, a different set of compounds was found. For example, *clawfoot* denotes 'a deformity of the foot characterized by an abnormally high arch and hyperextension of the toes which gives the foot the appearance of a claw' (FD). Further examples of this group are shown in Table 6 in the Appendix.

These cases are nevertheless different from *phone neck* in the fact that the first component is either an adjective denoting a property that can be ascribed to the second noun or a noun denoting an entity to which the second noun is compared. In *phone neck* no property is ascribed to the referent of the noun and no similarity relation is established, the first noun making reference to the cause of the pain metonymically accessed via the second noun. The label 'symptomatic' will be used to refer to this subtype as all these compounds express a symptom that stands for a physical ailment or condition. This property sets them in contrast with the *phone neck* subtype, since the whole compound is used to access the target, while only the second noun, that is, the body-part affected is used in the case of *phone neck*.

These formations appear to be older than the previous set (that is, examples like *phone neck*) and they might have been the base for the newest set. If that were the case, the listener would have been obliged to accommodate his knowledge about the existing pattern. Thus, when encountering a compound like *phone neck*, he would have had to discard the default interpretation, that is, the meaning associated with the older pattern, since the interpretation 'physical condition associated with the neck, consisting in having a neck like a phone' is not a plausible one. Therefore, his knowledge on existing forms would have been adapted so as to get at the more likely interpretation 'physical condition associated with the neck caused by the use of the phone'.

The pattern illustrated by *clawfoot* is still productive, as shown in newly attested creations like *Fritofeet*, defined at WS as 'a condition in which a dog's paws smell like corn chips', or *moonface*, defined as 'a medical sign which people are often born with, resulting in a large chin and large forehead' (Wk).

4.2.3   *Personality traits*

There are also compounds where the denotation is a trait related to character rather than a physical property or impairment, like *itchy feet*, 'very strong or irresistible impulse to travel' (FD), *green thumb*, 'an unusual ability to make plants grow' (MW, 1937), *sweettooth*, 'a craving or fondness for sweet food' (MW, 14th c.). These formations share with the previous two sets the reference to a specific condition, albeit not a physical condition in this case but one related to personality. They are based on the same kind of metonymic relation as they refer to this condition via a body-part. However, they differ in various ways from the previous cases. For example, *green thumb* (also *green fingers*) might illustrate the metonymy RESULT FOR ACTION, as a gardener spends a lot of time handling plant material, which might stain his fingers. On the other hand, in *itchy feet* there might be an EFFECT FOR CAUSE metonymy at work, since it seems that the itching in one's feet is due to the irresistible impulse to travel.

Productivity-wise, what is relevant in these cases is the fact that, in spite of being an older pattern than that instantiated by *phoneneck*, there are also 21st century formations, like *black thumb*, 'a notable inability to make plants grow: a tendency to fail as a gardener' (MW), or *brown thumb*, 'lack of skill at growing plants; something possessed by a poor gardener' (Wk), which might have been paved the way by *green thumb*, or *meat tooth*, 'a craving or fondness for meat' (WS, 1998), which might have been coined on the basis of *sweet tooth*. Further examples are given in Table 7 in the Appendix.

4.3   Other inanimate formations

In Section 4.2 body-part nouns have been shown to take part in different compound patterns which share a similar reference. A specific physical condition or a certain personality trait is, however, not the only possible denotation of non-prototypical exocentrics. In addition to the previous cases, formations with inanimate reference may activate a number of other metonymic relations.

Firstly, some examples denote some kind of action on the basis of the metonymy INSTRUMENT FOR ACTION. Examples of this type are *long-arms*, referring to the action carried out 'when you hold a camera out to take a picture of yourself or yourself and someone else while stretching your arm out long' (UD), *gladhand*, defined as 'a warm welcome or greeting often prompted by ulterior reasons' (MW, circa 1895), *piggyback*, referring to 'the act of carrying someone on your back or shoulders' (MW, 1592), or *gooseneck*, defined as 'the act of extending and shifting the neck back and forth to the rhythm of music' (UD). A slightly different case is represented by examples denoting the result of the action performed by activating

the metonymy INSTRUMENT FOR RESULT. Thus, *longhand* refers to 'writing that is done by using a pen or pencil rather than with a typewriter or computer' (MW, 1666) and *backhand* is used to refer to 'a stroke (as in tennis) made with the back of the hand turned in the direction of movement' (MW, 1657).

Other cases are based on the metonymy SALIENT PART FOR WHOLE and can therefore be compared to formations in Section 4.1, were it not for their inanimate reference. In some of these compounds, the target is a garment made out of the material that the body-part denotes (*deerskin, bearskin, pigskin, sealskin, wolfskin*), while in other cases the referent is some kind of inanimate entity of which the second noun is a salient part. Examples of this pattern are *silverskin*, 'a variety of potato, onion or garlic' (D), *yellowback*, 'a cheap sensational novel' (Wk), *paperback*, 'a book with a flexible paper binding' (MW, 1843), *sleeveface*, 'a photo in which the sleeve from a music album obscures a person's face to artfully extend the album cover image' (WS, 2008), *bigface*, 'bills like $20, $50, $100 because of tha big faces' (UD), *passface*, 'a picture of a human face that is used instead of a password as part of a security system' (WS, 1999).

Crucially, in each of the patterns in Sections 4.2 and 4.3 different body-part nouns were found in compounds referring to inanimate entities. The largest set of these compounds are used to denote a physical condition or impairment in connection with the body-part named in the second component. Examples like *smartphone face* provide evidence for the emergence of a new 21st century subtype which has been referred to as 'diagnosis' compounds in this paper. This might be regarded an offshoot of an older pattern (e.g. *wryneck*), which is still productive and which has been labeled 'symptomatic' compounds. More marginally, there are formations referring to other inanimate entities, like a garment made out of the body-part involved (e.g. *wolfskin*), an action in which the body-part is used as an instrument (e.g. *gladhand*), or the result of this action (e.g. *longhand*). The denotation of all these compounds is therefore not a person with the property described in the compound. Hence, these cases appear not to stick to the prototype described by Barcelona (2008), though they are generated by exactly the same process as the ones with personal reference, that is, they still denote an entity where different body-parts play a role as a salient part or an instrument.

5. Concluding remarks

The present study on exocentric formations has shed new light on the current productivity of the ugly duckling of morphological research on compounds in English. Body-part nouns have been shown to constitute a productive tool in the formation of different patterns of semantic exocentricity.

Firstly, in Section 4.1 Part-for-Whole exocentrics with personal reference via a cognitively salient body-part have been shown to be highly productive. The current productivity of this type of compounds is outstanding in the case of formations in *-head*, not only by the emergence of new semantic patterns (21st century formations) but also by the creation of new examples of older semantic subtypes as well as by the reinterpretation of existing compounds. New formations and semantic reanalysis are also found, however, with formations containing different body-part nouns. Additionally, in each of the patterns in Sections 4.2 and 4.3 different body-part nouns were found in compounds referring to inanimate entities. Many of these compounds are used to denote a physical condition or impairment in which the body-part named in the second component is involved. Two main subtypes have been found. The first subtype is formed by compounds like *smartphone face*, which provide a one-word diagnosis of the physical or mental condition denoted and have been labelled 'diagnosis' compounds. These cases reveal the emergence of a new 21st century subtype and can be seen as the offshoot of an older pattern. This older pattern is formed by compounds like *wryneck*, which have been labelled 'symptomatic' compounds, as all these compounds express a symptom that stands for a physical ailment or condition. Closely related to symptomatic compounds are those compounds whose denotation is a trait related to character rather than a physical property or impairment, like *itchy feet*. More marginally, there are formations referring to other inanimate entities, like a garment made out of the body-part involved (e.g. *wolfskin*), an action in which the body-part is used as an instrument (e.g. *gladhand*), or the result of this action (e.g. *longhand*).

These latter sets of compounds which denote inanimate entities appear not to be highly representative cases of the prototype described by Barcelona (2008), as the denotation of these compounds is not a person with the property described in the compound. Yet, they are generated by exactly the same process as the ones with personal reference, that is, they still denote an entity where different body-parts play a role as a salient part or an instrument.

The main contribution of the present chapter is thus the discovery of the increased productivity in the 21st century of a type of domains (body parts) as direct or indirect metonymic sources for such targets as diseases/ailments, as well as several personal entities (especially people suffering from some type of addiction). This increased productivity may be related to the various functions of metonymy, like its maximization of source-target contrast (Barnden, this volume). In the case under study, this contrast is seen, for example, in formations like *Potterhead* and the like, by drawing attention away from personal qualities, or cases like *Smartphone face*, where some contrast is established between the body-part affected and the intended target, that is, a specific physical condition.

Additionally, the increased productivity of these types can be related to the function of metonymy in creating/maintaining discourse communities (Littlemore 2015: 85–90). As a result of this survey, the cognitive processes underlying the creation of exocentrics of the possessive type have been shown to be alive and kicking in the minds of an entire generation of youngsters, which provide their own redefinitions of existing words or create new ones which are not found in other sources. Sceptic though one may be about the reliability of some of the sources used, one must admit that the Internet has changed the way to do things in the 21st century, which includes a new way to define words (see Damaso and Cotter 2007). No matter how accurate a definition may be, the 15 million visitors that the UD has on a monthly basis must indeed not pass unnoticed. Additionally, the productivity of exocentrics is made evident in the emergence of new subtypes of both the most typical Part-for-Whole exocentrics and of quite similar formations with non-personal reference, most of them recognized as established ones in more standard dictionaries.

The study presented in this chapter thus conveniently shows the efficiency of metonymy as a cognitive and linguistic process motivating new body part-based exocentric compounds in the 21st century. It can therefore be seen as an extension of earlier work on the role of metonymy in morphology in general and, more specifically, in the process of compounding, complementing previous research on the relation between metonymy and morphology in cognitive linguistics (Barcelona 2008; Benczes 2006; Radden 2005; Panther and Thornburg 2009, among others).

Acknowledgements

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Appendix

Table 3. Examples of new -*head* formations of the *baldhead* subtype

Example	Meaning	Date	Source
barehead	'a person who is an obvious 'chav' or 'ciderdrinker' and does extreme chav activities. Mostly used as a sarcastic name to normal people who take part in a chavtastic thing'		UD
baldhead	'in rastafarianism, someone who is not rasta, someone who is generally an outsider, someone who is generally considered "square" or uncool or a bad racist white person'		UD
big-head	'a conceited or arrogant person'		OD
blackhead	'a person with black hair'		UD
crosshead	'a person who is bad-tempered'		UD
flathead	'a member of any of several North American Indian peoples that practiced head-flattening'		MW
	'a term used to describe someone with few or no brains or common sense, resulting from repeated beating of one's head against the wall. An antiquated term from mid-20th century'		UD
hothead	'one who angers easily or goes in search of arguments or fights'		Wk
rawhead	'someone who is very cool/bait/popular'		UD
redhead	'a person with red hair'		Wk
roundhead	'in the British civil war, the opposers to the king were called roundheads, because their typical haircuts made their heads appear round'		UD
	'a slang term used throughout New England and parts of Canada used to describe the phenomenon of Polish people who all seem to have unusually round heads'		
shorthead	'someone who says something without thinking of the consequences possibly something that saves time or a short cut'		UD
sleepyhead	'a derogatory way to describe an Asian person. Used because of the way Asians eyes appear to be semi-closed or "sleepy"'		UD
sorehead	'a person who has a tendency to be angry or to feel offended'		Wk
whitehead	'an old person'		UD

Table 4. Examples of new *-head* formations of the *fathead* subtype

Example	Meaning	Date	Source
beanhead	'someone who has done something silly or slightly foolish, or is more than a silly-billy but less than a dickhead'		UD
	'someone with an abnormally small skull'		
bolthead	'a person who tends to be a bit of a chav, but Bolthead was coined long before chav was in common use. I first heard the term "Bolthead" in 1979, in Kingston upon Thames, UK, in these circumstances- i was short of my busfare, and so was my friend, and he said, "don't worry, put yer best Bolthead voice on, and ask for a child ticket" we were teens- he said boltheads were rough or "common" types, that have little culture, the sort one now sees on programmes such as "Jeremy Kyle"'		UD
bowhead	'a female undergraduate student who invariably walks around campus with a large bow in her hair. The species was common in the early 1990s and can still be found in remote parts of the US such as Kansas'		UD
cathead	'Asian person'		UD
cockhead	'someone who is an idiot or annoying or just vexes you in general'		UD
chickenhead	'a girl or woman who is passed around from one male to another in short term, exclusively sexual relationships'		UD
cloth head	'a stupid person'		OD
copperhead	'someone with ginger head'		Wk
horsehead	'an "IV" drug addict under the influence of heroin in a euphoric state nodding in and out of a state consciousness, like a horse rearing his head'		UD
jughead	'a fool'		Wk
	'a person who acts below normal intelligence'		UD
manhead	'a female who is very similar in appearance to a male'		UD
pudding-head	'a stupid person'		OD
rattlehead	'a person who enjoys headbanging, preferably to Heavy Metal music'		UD
sheepshead	'limerick term for a flaming curly haired homosexual'		UD
shithead	'a complete dumbass; a genuine moron. Someone who has committed an act in which causes harm or temporary discomfort to another'		UD
shovelhead	'slang for someone who is oriental, because they have that flat spot in the back of their heads perfect for hitting with a shovel'		UD
spearhead	'one who leads or initiates an activity (such as an attack or a campaign)'		Wk
zipperhead	'a stupid person, or a person who has a closed mind'	1989	WS

Table 5. Examples of new *-head* formations of the *acidhead* subtype

Example	Meaning	Date	Source
beanhead	'a heroin addict', 'one who uses heroin beans regularly or habitually'		UD
chilihead	'someone who enjoys eating chili peppers'		Wk
granola head	'a healthy food eater, especially one with an unconventional lifestyle'		D
hop-head	'someone who enjoys really hoppy beers, or drinks hoppy beers exclusively. Most likely this person is a beer-geek or craft-brew drinker'		UD
juicehead	'an alcoholic'	1955	MW
	'a bodybuilder that uses, or appears to use, steroids and is of poor intellect or by extension any large male'	1995	Wk
poppyhead	'a slang term for someone who uses opium in any of its forms. Based on the word 'pot head' for marijuana users'		UD
shroomhead	'one who takes magic mushrooms'	2011	Wk
smackhead	'a person who is addicted to heroin'		D
teahead	'a habitual marijuana smoker' (from tea, a dated term for marijuana derived from the appearance of the dried leaves of both plants)'		Wk
weedhead	'a person who smokes cannabis regularly, to excess'		Wk
winehead	'a staggering, scraggly, usually dishevelled and smelly homeless bum who spends his daily allowance of $2 on another pint of Thunderbird'		UD

Table 6. Examples of the *wryneck* subtype

Example	Meaning	Date	Source
busybrain	'a mental state that includes racing thoughts, anxiety, lack of focus, and sleeplessness'	2001	WS
dryeye	'a condition associated with inadequate tear production and marked by redness of the conjunctiva, by itching and burning of the eye, and usually by filaments of desquamated epithelial cells adhering to the cornea -called also keratoconjunctivitis sicca'		MW
pinkeye	'an acute and contagious infection that causes inflamation of the surface of the eye, acute contagious conjunctivitis'		UD
clubfoot	'a foot that does not have a normal shape: a badly twisted or deformed foot that someone is born with'; 'the medical condition of having such a foot'	1538	MW
flatfoot	'a condition in which the arch of the instep is flattened so that the entire sole rests upon the ground'	1890	MW
splayfoot	'a usually fatal toxaemia especially of young cattle caused by a soil bacterium (Clostridium chauvoei)'Circa	1722	MW

Table 6. (*continued*)

Example	Meaning	Date	Source
cottonmouth	'Xerostomia, dryness of the mouth due to salivary gland dysfunction'		FD
dry mouth	'when you get stoned on weed after a certain point your mouth will get really dry'		UD
blue tongue	'a virus disease chiefly of sheep that is marked by hyperemia, cyanosis, and by swelling and sloughing of the mucous membranes especially about the mouth and tongue and is caused by a reovirus (species Bluetongue virus of the genus Orbivirus)'	1863	MW
wall eye	'strabismus in which the eye turns outward away from the nose'		MW
frog-eyes	'any of various fungal leaf diseases characterized by concentric rings about the diseased spots'	1906	MW
redheart	'incipient decay in lumber indicated by a dark red discoloration not found in sound wood'		MW
trenchmouth	'a painful infection of the mouth and throat characterized by ulcerations of the mucous membranes, bleeding, and foul breath'		FD
wryneck	'an unnatural condition in which the head leans to one side because the neck muscles on that side are contracted'	1575–85	FD
blacknose	'a physiological disease of the date that is characterized by darkening, cracking, and shriveling of the distal end of the fruit'		
brandynose	'enlargement of the nose with dilation of follicles and redness and prominent vascularity of the skin; often associated with excessive consumption of alcohol'		MW
coppernose	'an inflamed nose such as that of acne rosacea or that sometimes produced by habitual drunkenness'		MW
hammernose	'enlargement of the nose with dilation of follicles and redness and prominent vascularity of the skin; often associated with excessive consumption of alcohol'		D
potato nose	'enlargement of the nose with dilation of follicles and redness and prominent vascularity of the skin; often associated with excessive consumption of alcohol'		FD
rum nose	'(a nose affected by) rosacea or rhinophyma, often believed to be caused by excessive alcohol consumption'	late 19th c.	OD
runny nose	'persistent watery mucus discharge from the nose (as in the common cold)'		FD
blackleg	'a usually fatal toxaemia especially of young cattle caused by a soil bacterium (Clostridium chauvoei)'		MW
milkleg	'a painful swelling of the leg caused by inflammation and clotting in the veins and affecting some postpartum women'	1860	MW

Table 6. (*continued*)

Example	Meaning	Date	Source
alligator-skin	'alligator-skin a hereditary skin disease in which the epidermis continuously flakes off in large scales or plates'		D
dryskin	'epidermis that lacks moisture or sebum, often characterized by a pattern of fine lines, scaling, and itching. Causes include too frequent bathing, low humidity, and decreased production of sebum in aging skin'		FD
lizard-skin	'a fanciful descriptor for the lichenoid skin changes -e.g., dried, scaling, atrophic, depigmented- caused by Onchocerca volvulus, and characterised by layers of keratin loosely attached to the epidermis, accompanied by scarring and loss of dermal elastin fibers'		FD
sore-throat	'also called pharyngitis, is a painful inflammation of the mucous membranes lining the pharynx. It is a symptom of many conditions, but most often is associated with colds or influenza'		FD

Table 7. Examples of the *greenthumb* subtype

Example	Meaning	Date	Source
bluebrains	'the feeling you get when you are deep in a conversation, usually gossip related, and someone stops short of revealing a secret they've been building up to for at least five minutes'		UD
deadeye	'a penchant for noticing a particular thing, or a person who has such a penchant'		Wk
sticky fingers	'a propensity to steal'	1930–35	FD	'one incline to steal everything within reach, as if their hands were covered with glue. Used either to describe the culpable thief or the hands themselves'		UD
pottymouth	'the characteristic of regularly using vulgar language, especially strong profanitites'		Wk
dirty mouth	'the characteristic of regularly using vulgar language or profanity'		Wk
mushmouth	'the inability to speak properly because of the genormityness of the person's lips'		UD
smartmouth	'an ability or tendency to make cheeky retorts; impudence'		OD
fatmouth	'if you have a fat mouth, you talk too much, especially about things that should be secret'		UD
foulmouth	'a tendency to use bad language'		OD
brass neck	'effrontery, nerve'		FD
hard neck	'audacity, nerve'		D

(*continued*)

Table 7. (*continued*)

Example	Meaning	Date	Source
stiff neck	'obstinacy'		MW
thick skin	'the ability to withstand criticism and show no signs of any criticism you may receive getting to you'		UD
thin skin	'to have a thin skin is to be extremely sensitive to criticism or rebuffs; to be easily offended'		D
forked tongue	'intent to mislead or deceive'	1839	MW
sharp tongue	'a bitter or critical manner of speaking'		OD
silver tongue	'a tendency to be eloquent and persuasive in speaking'		OD

Table 8. Recent formations with a second body-part noun (personal reference)

arm	*longarms* (Wk)
back	*diamondback* (UD), *fatback* (UD), *halfback* (UD), *leatherback* (UD), *nickelback* (Wiki), *offensive back* (Wk), *silverback* (UD)
beard	*bluebeard* (UD), *graybeard / greybeard* (UD), *longbeard* (Wk, UD), *white beard* (UD)
belly	*flat-belly* (UD), *fish-belly* (UD), *jelly-belly* (UD), *long-belly* (UD), *porkbelly* (UD), *yellowbelly* (UD)
body	*blackbody* (UD), *hardbody* (UD), *lightbody* (UD), *peabody* (UD), *widebody* (UD)
brain	*beanbrain* (Wk, UD), *cockbrain* (Wk), *musclebrain* (Wk), *nerdbrain* (Wk), *ROM brain* (WS), *superbrain* (Wk, UD)
brow	*mezzabrow* (WS), *nobrow* (D)
eye	*wolfeyes* (UD), *frogeye* (UD), *deadeye* (Wk)
face	*bigface* (UD), *blackface* (UD), *boneface* (UD), *buttface* (Wk, UD), *butterface* (Wk), *babyface* (UD, D), *bitchface* (Wk, UD), *coalface* (UD), *chocolate face* (Wk, UD), *dogface* (UD), *freckleface* (Wk), *frogface* (Wk, UD), *ghostface* (UD), *glowface*, *hatchetface* (UD), *jerkface* (Wk, UD), *milkface* (UD), *monkeyface* (UD), *moonface* (UD), *scarface* (UD), *sexyface* (UD), *whiteface*
finger	*sticky fingers* (Wk)
hand	*weakhands* (FD)
heart	*bleeding heart* (Wk), *trueheart* (UD)
mouth	*fatmouth* (UD), *foulmouth* (UD), *mushmouth* (Wk), *poormouth* (D)
neck	*pencil-neck* (Wk, UD), *thickneck* (UD). *whiteneck* (UD), *yellowneck* (UD)
nose	*bluenose* (UD), *butternose* (UD), *hooknose* (Wk, UD), *snotnose* (UD)
skin	*cleanskin* (UD), *sharpskin* (UD)
tongue	*forked tongue* (UD)
throat	*deepthroat* (D)
thumb	*brownthumb* (UD), *blackthumb* (UD), *redthumb* (UD), *sore-thumb* (UD)

CHAPTER 11

Metonymy and the dynamics of conceptual operations in Spanish Sign Language

Ana-Laura Rodríguez-Redondo

Universidad Complutense de Madrid

This paper aims at presenting a first approach to the multilevel dynamics of metonymy in Spanish Sign Language (LSE) within Barcelona's approach to cognitive metonymy (2000, 2002, 2005, 2011, 2015). At the same time, within this framework, we see the compatibility of the current approaches to metonymy and iconicity in signed languages (Taub 2001; Wilcox 2003, 2004). We propose a metonymic approach to the conceptualization of manual articulators and develop a three level analysis (Barcelona 2005) of three LSE examples. The examples are extracted from a corpus of cooking recipes recorded by Spanish native signers. The first results show the complex multilevel metonymic chained nature of signed meaning-form construals in LSE to be confirmed by further studies at each level.

Keywords: conceptualization, iconicity, metonymic chains

1. Introduction

The role of metonymy, interacting with metaphor and iconicity, has been recognized in Sign Language studies from a cognitive approach mainly in Wilcox and Taub's models (Taub 2001; Wilcox et al. 2003; Wilcox 2004; 2007; Wilcox P. 2004, 2005). These studies pointed out the fact that metonymy in sign languages "often involve a complex interaction between form and meaning" (Wilcox et al. 2003: 152). In this way, they agree (Wilcox P. 2004: 198) with Barcelona's approach (2000, 2002a, b, 2011, 2015) in that metonymy conceptually maps one domain onto another both being included within the same domain or Idealized Cognitive Model (ICM) and in doing so the source provides mental access to the target. In addition, they also agree with Barcelona's claim (2005, 2011, 2015; Blanco-Carrión, this volume) that metonymy plays an important motivational role both in the construction of the form and in the construction of meaning. However, there are few studies on

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the motivational role of metonymy intertwined with iconicity at the level of the symbolic construction (Barcelona 2002a, b; Wilcox et al. 2003; Wilcox P. 2004) and even fewer studies (Barcelona 2007, 2013; Wilcox P. 2004) about the motivational role of metonymy at the constructional level of form beyond the lexical level in signed languages.

In this paper, we aim at presenting a first approach to the multilevel dynamics of metonymy in signed languages while linking current approaches to metonymy and iconicity in signed languages (Taub 2001; Wilcox 2003, 2004). Following Barcelona's (2011, 2015) insightful proposal for the analysis of the role of metonymy motivating constructional form and meaning at different levels of analysis (Barcelona 2005; Blanco-Carrión, this volume), we try to establish those levels at which metonymy plays that role in signed languages. In addition, following Barcelona's (2005, 2011, 2015) and Wilcox's (2004, 2007) approach, our data is drawn from natural Spanish signed language (LSE) video recordings, rather than just from lexical entries. Thus, the constructions reflect LSE in real use by native signers. The video recordings are fragments of cooking recipes from YouTube[1] by native signers, specially addressed to the deaf community, but also available to anyone interested in cooking.

For this first approach to the dynamics of metonymy in signed languages, especially in LSE, we have chosen only a few examples in an attempt to establish the first steps in the study of the multilevel motivational role of metonymy (Barcelona 2005). First, we schematically present the theoretical basis of our approach that relies on specific views on metonymy and iconicity; second, we present a first modest proposal for the metonymic nature of the conceptualization of signed language manual articulators. This constitutes the basic conceptual foundation for the understanding of the multilevel function of metonymy in LSE; third, we analyze three LSE constructions from our corpus at different levels, from the iconic construal to the signed phrase/utterance level; finally we submit the conclusions of this first approach.

2.   The approach to Cognitive Metonymy and Iconicity

According to Barcelona (2003: 95), metonymy is a fundamental cognitive model in nature. Barcelona's (2011: 52) definition of metonymy highlights the main conditions for metonymicity as an asymmetrical mapping between conceptual domains that are functionally linked by a pragmatic function. The asymmetrical relation implies (2011: 12) a non-structure-preserving mapping between domains. These

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1.   The videos were originally found in YouTube, but only two are still uploaded. The rest are being relocated to a new web page in the references section of this paper.

domains "include at least the most relevant facets of the speaker's encyclopaedic knowledge about them" (Barcelona 2011: 49). They are *functional domains* (Barcelona 2011: 41) organized in Frames and ICM models, after Lakoff (1987) (also see Radden, this volume).[2]

Moreover, metonymy in Barcelona's approach, although it is still a conceptual phenomenon, applies to both, to the linguistic expression and to the semantic expression, that is, to both poles of the structure of symbolic units or constructions. Barcelona (2005, 2009) provides the necessary framework for the detailed study of the metonymic cognitive model functioning at different levels of the linguistic constructions motivating constructional form as well as constructional meaning. The multilevel study of the motivational role of metonymy results (Barcelona 2005: 339) in the evidence that when metonymies are observed at grammatical and semantic levels, they tend to be chained. These chains are "direct or indirect series of conceptual metonymies guiding a series of pragmatic inferences" (Barcelona 2005: 328, also see Hernández-Gomariz, this volume).

Metonymy in sign language has been approached from two different but compatible perspectives. On the one hand, metonymy in Taub's (2001) *Analogue-building model* is understood as an association between an image and a concept (Taub 2001: 45–46). The main role of metonymy is found in the first stage of her model, in the image selection process. Metonymy contributes to the selection of conceptual features to be selected in the first schematization stage (Taub 2001: 46; also see Meir 2010). The image selected is iconically mapped onto hand configurations and that image is metonymically associated with a concept (Taub 2001: 74). However, although Taub acknowledges the importance of metonymy in the building up of signed language units, she does not go further into this topic beyond its role at the image selection process but encourages to its further study and comparison with spoken English (2001: 46). On the other hand, Phyllis P. Wilcox (2004), after Barcelona (2002b), considers metonymy as a process that uses a conceptual entity to provide mental access to another concept, but she describes this process as derived from the iconic configuration (Wilcox et al. 2003: 143).

The differences between Taub's (2001) and Wilcox's (S. Wilcox et al. 2003, 2004) in relation to metonymy are based on their different approach to the processes that contribute to the build-up of signed language constructions. This also obeys to their different goals: Taub's main goal is to study the role of iconicity and metaphor so her model approaches grammatical construction from the perspective of production. Her model describes the iconic constructional process from its conceptualization to

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2. According to Barcelona (2011: 40), these functional domains are different from those whose connection gives rise to metaphors (Lakoff 1987: 118, 287) insofar as the former are based on a taxonomy of domains mainly based on a folk classification of the world.

the iconic surface expression. However, Wilcox's goal is to unravel not only iconic and metaphorical but also metonymic cognitive processes involved in grammatical constructions. Accordingly, this is done from the comprehension perspective. Wilcox et al. approach the study of the role of metonymy at both grammatical and semantic level by assuming that metonymies are typically "iconically depicted in signed languages" (Wilcox et al. 2003: 154). This idea is applied in Wilcox P. (2004) where she explains different examples of ASL metonymy from the interpretation of the handshapes to the evoked schematic images depicted by these handshapes. These images are then labelled according to the type of metonymy they represent. Thus, opposite to Taub's approach, Wilcox P. (2004) and Wilcox et al. (2003) describe metonymy from the iconic surface expression to the metonymic conceptualized image.

This difference in perspective is already accounted for by Talmy (2003a) in relation to schematization processes that are the same processes accounted for in Taub's (2001) iconicity model before manual encoding. Talmy (2003a: 243) stated that in communicative transmission the speaker normally attempts to convey a whole conceptual complex with only a portion of such complex, i.e. "to engender the emergence of a full image in the mind of an addressee" (Talmy 2003a: 243). At the other end of the communication channel, the receiver "fleshes out" or reconstitutes the whole from this portion by image-constructing processes (also see Panther and Thornburg, this volume).

Beyond the perspective assumed by each author, they both coincide in placing metonymy as motivating iconic constructions. On the other hand, iconicity is described in different but also compatible ways: Taub's iconicity is understood as the "relationship between our mental models of image and referent" (Taub 2001: 19). According to Sherman Wilcox, cognitive iconicity consists in "mappings between construals of form and construals of reality" (S. Wilcox 2004: 141). The reality here would be real world scenes (S. Wilcox 2004: 123) whose conceptualization is revealed by their iconicity (S. Wilcox 2004: 141). This difference is also based on the different goals and perspectives, but they are compatible because although mental models and real world conceptualizations are different conceptual constructs, they are both conceptual complex structures that are mapped onto the iconic form and semantic meaning of signed language lexical and phrasal units.

In this paper, we follow Taub's (2001) perspective in a first analysis of signs at the lexical level so we believe that signs really represent a conceptual image. However, we also consider after S. Wilcox (2004) that the conceptual image is a construal, hence a gestalt and as such it is analyzable in its parts (Clausner and Croft 1999: 9). According to Taub (2001), the different conceptual parts of the image are reflected in or projected onto the different surface iconic components (Stokoe 1960; Battison 1978 in S. Wilcox 2004). Then, the result of the different

conceptual parts on different iconic surface expressions is, in turn, a construal of form (S. Wilcox 2004). In addition, in order to avoid an overuse of the term "mapping", and in agreement with Wilcox et al.'s idea of metonymies being "iconically depicted" (2003: 154), we prefer to use the term *projection* to refer to the iconic relation between the image or conceptual construal and the manual configuration.

Our first step is then to see the conceptual parts projected onto the iconic surface construal. In order to see this, and in agreement with S. Wilcox (2004; Wilcox et al. 2003), metonymies that affect the construal of form are to be derived from the conceptualization of the different dimensions of manual articulators. However, following Barcelona's (2009, 2015), and Kövecses and Radden's (1998; Radden, this volume) approach to the different conceptual constructs such as frames or ICMs that are involved in metonymic mappings, we suggest that we can observe the beginning of the motivational role of metonymy, as when we conceptualize two fingers as two legs, at the conceptualization of the articulators functionally linked by PERCEPTUAL ICMs, i.e. those formed by the proprioceptive and somatosensory experiences that allow us to establish similarities of shape, movement etc. between ourselves as objects or entities and external-to-us objects or entities.

3.   Metonymic conceptualization of articulators

Wilcox (2004) claimed that in order to understand iconicity in signed languages the first thing we need is to conceptualize the articulators as objects. Wilcox's conceptualization of the articulators is based on two idealized cognitive models (P. Wilcox 2004: 126): Langacker's BILLIARD-BALL MODEL and the STAGE MODEL (Langacker 1991: 284, 2000: 24). However, although these ICMs are quite useful for the conceptualization of event structure and grammatical constructions (Rodríguez-Redondo and Díaz-Wengelin 2007a; b), we believe that the conceptualization of the articulators is actually facilitated by metonymic processes that allow us to access the conceptual domain of physical entities from the embodied domain of our body part entities. We propose that the manual articulators are conceptualized as entities not dependable on our motor activity. That is, although articulators are body-part entities, we conceptualize them as a different class of entities.

Bearing in mind Barcelona's (2000, 2011, 2015, this volume) approach to metonymy, we believe that this process involves a primary metonymy that relates physical dependent entities with physical independent ones. To see body parts as physical independent entities may be a bit difficult except for those who have lost a leg, or a hand or an arm or other body parts and, of course, for doctors at a dissection table. This perspective has also given rise to metonymies in which body parts are seen as independent entities acting, for example, as instruments hence,

the activation of SPEECH by MOUTH via the metonymy INSTRUMENT FOR ACTION (Hilpert 2009: 89). In addition, the PART-WHOLE schema (Lakoff 1987: 273–274) is grounded in our "perception of our own bodies as part-whole configurations, i.e. wholes with parts arranged in a particular fashion" (Santibañez 2002: 189). Taub (2001: 67) had already claimed that iconic devices draw on the perceptual abilities that, for instance, allow us to recognize the parts and functions of our own bodies as well as those that are similar in animals or body movements linked to specific activities. To this perceptual schema, we have to add other types of knowledge, highly developed when your main communication channel is grounded in your own body. A sharper and smoother proprioceptive and somatosensory awareness of the way our body works allows us to observe the organization of other objects or independent entities as being susceptible of being mapped onto our articulators, thus establishing perceptually motivated metonymic mappings.

Moreover, the fact that these two domains are functionally linked may also be observed by the fact that in ASL and in LSE even body parts are conceived as physical independent entities themselves. For example, in both signed languages there are specific signs to represent body parts within the signing space such as signs for *legs*, *head*, *nose* etc. even though in a language that uses manual modality, pointing to the signer's body part would have been considered the more readily expected referring means (Pyers 2006: 287). So body parts and independent physical entities are conceptualized within the same domain of PHYSICAL ENTITIES. Both categories share perceptual, functional and interactional roles within the ICM of physical entities which, in turn, may be the figures profiled in the canonical event model described by the BILLIARD-BALL and STAGE ICM proposed by P. Wilcox (2004). So we agree with P. Wilcox (2004) as far as the need to conceptualize the articulators, but we suggest conceptualizing hands not specifically as objects, but as independent physical entities. This allows comprising inert objects and living entities deriving from the same conceptualization.

Accordingly, our proposal for the conceptualization of articulators is that the ontological CONSTITUTION ICM (Kövecses and Radden 1998: 52) facilitates the activation of HUMAN DEPENDENT PHYSICAL ENTITIES and the NON-HUMAN INDEPENDENT PHYSICAL ENTITIES ICMs. In turn, the HUMAN DEPENDENT PHYSICAL ENTITIES ICM facilitates the BODY-PARTS FRAME activation. The activation and combination of these two ICMs trigger the PART-FOR-PART metonymy HUMAN DEPENDENT PHYSICAL ENTITIES FOR NON-HUMAN INDEPENDENT PHYSICAL ENTITIES.

In addition, this metonymy may trigger different inferences. These inferences may be based on a re-phrasing of the different aspects of the conceptualization of articulators (P. Wilcox 2004: 125).

4. Analysis of three LSE constructions

4.1 Metonymies at the lexical level of iconic construal

The metonymic nature of the conceptualization of articulators in signed language allows us to integrate Taub's (2001) schematization and encoding processes in the building up of the iconic construal from which other metonymies can be potentially derived (Wilcox et al. 2003).

At Taub's schematization stage the complexity of the conceived image must be adapted to the resources of expression of signed languages (Taub 2001: 46), that is, to the possibilities of encoding through manual articulators. In the encoding stage, the articulators encode only the most salient sensory aspects of that schematized image (Taub 2001: 61). Then, in the "refleshing" process (Talmy 2003a, b) the iconic structures can be extended to more abstract notions (Janzen 2006: 367). The main dimensions of sign language articulators, i.e. handshape, movement, location, and orientation (Stokoe 1960; Battison 1978), project different aspects of the conceived image. These are the formational building blocks of iconic forms/signs (Taub 2001: 34; Meir 2010: 870). Therefore, each sign comprises a construal of form, based on these componential dimensions to project a construal of meaning based, ultimately, on a schematic conceptual complex or gestalt.

The construals of form-meaning pairing constitute what we may call constructional gestalts. These can be analyzed in their parts (Clausner and Croft 1999: 9). The metonymy HUMAN DEPENDENT PHYSICAL ENTITIES FOR NON-HUMAN INDEPENDENT PHYSICAL ENTITIES triggers the setting of the PHYSICAL ENTITIES ICM that, in turn, when necessary, will activate the WHOLE THING-AND-PART ICM and its implicit PARTS OF AN ICM (Kövecses and Radden 1998: 49). And these ICMs facilitate the inference that each part of the gestalt is reflecting a specific feature of the schematic conceptual complex, giving rise to sequences of PART-FOR-PART metonymies such as ONE PART OF THE HAND [ONE FINGER] FOR ONE PART OF THE NON-HUMAN PHYSICAL PART [ONE HORN].

One of the most pervasive types of iconic mapping described by Taub (2001) is what she called the *shape-for-shape iconicity* (Taub 2001: 72–77). This usually involves the shape of the hand projecting part of the shape of the conceived image. Other types of iconic mapping described by Taub (2001) are those in which the movement of the hand projects the entity's movement; and the location of the hand projects the location of the entity, although this is not always so straightforward. Based on these frequent iconic projections, and on Barcelona's theory of Chained metonymies (2005), we suggest that if the most common projection of the hand (although this does not always have to be the case) is the schematic shape of the conceptual complex, then this could facilitate the setting up of the PHYSICAL ENTITIES

CONSTITUTION ICM and the WHOLE ICM AND ITS PARTS. Likewise, movement and location would facilitate ACTION ICMs that belong to the more general PARTS OF AN ICM or *part-for-part configuration* (Kövecses and Radden 1998: 54). This part-for-part configuration allows us to see shaping features projected onto the hand linked to the shape features of the conceived independent physical entity. Likewise, the motion projected onto the hand may be observed as linked to the motion of the conceived independent physical entity schematically projected in the *shape-for-shape construction*. Moreover, the location and/or the orientation features projected on the hand may be considered as part of the conceived independent physical entity projected on the motion and location of the hand. All these inferences will facilitate PART-FOR-PART metonymies such as the physical metonymies HUMAN BODY PARTS FOR NON-HUMAN BODY PARTS or SHAPE OF THE HAND FOR SHAPE OF THE ENTITY; the action metonymy THE ACTION OF THE HAND FOR THE ACTION OF THE ENTITY INVOLVED IN THE ACTION; the locative metonymy THE LOCATION OF THE HAND FOR THE LOCATION OF THE ENTITY; and the orientation metonymy THE ORIENTATION OF THE HAND FOR THE ORIENTATION OF THE ENTITY. All these metonymies combine with the metonymy HUMAN DEPENDENT PHYSICAL ENTITIES FOR NON-HUMAN INDEPENDENT PHYSICAL ENTITIES and THE PHYSICAL ENTITIES ICM to trigger further metonymies.

The experiential links that connect the source and target domains in these mapping are based on the awareness of our own proprioceptive processes that are mapped onto other entities. So if we are aware that we walk moving our legs forwards, one at a time, we would project that movement onto two parts of our body i.e. two fingers moving forward one at a time. In Signed languages, if we see a four-legged animal, we would represent the same forward movement but using at least four fingers.[3] There is an experiential link based on our perceptual system between the perception of our own body parts, functions and activities and the perception of these same elements in other animals or even in other objects. Because of the limited extension of this paper, a more detailed account on those experiential links based on conscious perceptual properties has to be treated in a separate study. Now we propose to examine the possible application of our proposal in three examples from our corpus and to observe the possible metonymic mappings that can be derived from the iconic construal. We present the different iconic construals but not the gloss or possible translation. We agree with Zwitserlood (2012: 172) that giving a spoken word as the gloss to a sign usually influences researchers and makes them

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3. This perceptual ability is not so well developed in those people who do not know signed languages. Acquiring proprioceptive awareness is one of the first steps to learning signed languages because of the importance of linking the perception of your own body parts, functions and movements to the same or similar parts, functions and movements of the entities you want to represent.

overlook the internal structure of the signs, which do not usually match the gloss. Additionally, this prevents jumping directly to the conceptual mappings studied in the next section, which deals with the second level of analysis.

Moreover, although we know that a more fine-grained account can be done by analyzing each type of classifier predicate and verb roots (Meir 2010; Jarque 2011; Zwitserlood 2012), we just start from the level of analysis that is more salient for an ordinary person with no professional linguistic goals. A more exhaustive analysis would go beyond the possible extension of this paper. In addition, we are using the term "entity" understood as a domain (Barcelona 2011: 9–10). This provides conceptual flexibility to account for more or less schematized or elaborated underlying conceptual complexes.

4.1.1   *First example*

The iconic gestaltic construal of our first example (see Figure 1) consists of a handshape in which the index and little fingers are straight, the rest of the fingers are bent and touching the palm, and the thumb is placed on the bent fingers. This handshape projects the schematic shape of the conceived entity represented in the shape of the fingers. This handshape facilitates the PHYSICAL CONSTITUTION ICM that combined with the PART-FOR-WHOLE ICM facilitates the inference that the shape of the hand is representing the most salient or prototypical shape of the conceived physical image of an entity.

Figure 1. bull/cow

These ICMs combined with the metonymy HUMAN DEPENDENT PHYSICAL ENTITIES FOR NON-HUMAN INDEPENDENT PHYSICAL ENTITIES trigger the PART FOR WHOLE metonymy THE SALIENT/PROTOTYPICAL PHYSICAL PART'S SHAPE OF THE ENTITY FOR THE WHOLE SHAPE OF THE CONCEIVED ENTITY.[4] This is further elaborated as the WHOLE SHAPE OF THE CONCEIVED ENTITY FOR THE WHOLE PHYSICAL

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4.   This is a slight variation of THE SHAPE OF A PART STANDS FOR THE ENTIRE OBJECT metonymy suggested in Wilcox et al. 2003: 143.

CONSTITUTION OF THE CONCEIVED ENTITY. This metonymy will link the physical iconic manual representation with a more complex or "fleshed" conceived entity. At this point, it is important to understand that this handshape configuration in sign language is used as a classifier for shaping other concepts such as those glossed as *architecture* or *Monday*.

The location of the hand in the right upper part of the signer's head within the PART-FOR PART ICM triggers the inference that the location of the hand is related to the location of the physical image projected on the handshape. This triggers the already mentioned locative metonymy THE LOCATION OF THE HAND FOR THE LOCATION OF THE ENTITY. As the location is the upper part of the forehead, this location facilitates the inference that the entity is not a human entity so it establishes the ANIMALS ICM. This combines with HUMAN DEPENDENT PHYSICAL ENTITIES FOR NON-HUMAN INDEPENDENT PHYSICAL ENTITIES that, in turn, triggers LOCATION OF THE ENTITY [HUMAN HEAD] FOR THE LOCATION OF THE ENTITY [ANIMAL HEAD]. Likewise, the motion and orientation of the hand, uprising movement and forward orientation, leads to the inference that these two parameters are also related to the conceived entity projected on the handshape. These inferences trigger the action metonymy THE ACTION OF THE HAND FOR THE ACTION OF THE ENTITY INVOLVED IN THE ACTION, and the orientation metonymy THE ORIENTATION OF THE HAND FOR THE ORIENTATION OF THE ENTITY. In addition, these metonymies trigger these PART-FOR PART metonymies: THE ACTION OF THE ENTITY FOR THE ENTITY INVOLVED IN THE ACTION; THE ORIENTATION OF THE ENTITY FOR THE ORIENTATION OF THE ENTITY INVOLVED IN THE ACTION. All these metonymies within the ANIMALS ICM facilitate the following: THE MOTION OF THE ENTITY [IN THE HUMAN'S HEAD] FOR THE MOTION OF THE ENTITY [IN THE ANIMAL'S HEAD] and THE ORIENTATION OF THE ENTITY [IN THE HUMAN'S HEAD] FOR THE ORIENTATION OF THE ENTITY [IN THE ANIMAL'S HEAD]. The interrelation of these metonymies triggers the inference that the entity described is a pair of horns.

Furthermore, THE SHAPE OF A SALIENT/PROTOTYPICAL PHYSICAL PART OF THE ENTITY FOR THE SHAPE OF THE WHOLE CONCEIVED ENTITY[5] within the ANIMAL ICM triggers the metonymy PROTOTYPICAL PHYSICAL FEATURE OF A CATEGORY [AN ANIMAL BODY PART] FOR THE CATEGORY [PART OF AN ANIMAL BODY].[6] This metonymy combines with the inference that the entity is a pair of horns which within THE ANIMAL ICM activates a specific taxonomic domain of animals namely, the BOVINE

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5.   This is a slight variation of THE SHAPE OF A PART STANDS FOR THE ENTIRE OBJECT metonymy suggested in Wilcox et al. 2003: 143.

6.   It is important to understand that in signed languages the form of the horns changes according to the form of the horns of the animal so the horns of a cow are not iconically depicted in the same way as those of a goat or a lamb.

ANIMAL CATEGORY FRAME. This, in turn, facilitates the metonymy PROTOTYPICAL PHYSICAL CHARACTERISTIC OF A CATEGORY [HORNS] FOR THE WHOLE CATEGORY [BOVINE ANIMALS]. The BOVINE ANIMAL category is facilitated not only because of the form and location of the handshape but also because of the motion. In LSE the sign for *lamb* has the same handshape and location but different motion. However, signs for *cow* and *bull* share the three parameters. In addition, the sign for *cowboy* i.e. the one who herds and tends cattle uses the sign for *cow/bull* [BOVINE ANIMALS] plus the sign for *to care*.

As can be observed, the main trigger for the understanding of this construal is the location of the sign that facilitates the ANIMALS ICM. However, in this first example, there is another ICM that complements the rest of the background knowledge ICMs: The conventional conceptual representation of this iconic configuration in the gesture system of Spanish people. In addition, the context may facilitate the conventional reading of this sign as *cow meat* i.e. beef/calf and not as *bull meat*. Although in Spain *bull meat* is also part of the Spanish menus, it is not as frequent as the use of *cow meat*. This helps to trigger the final metonymy facilitated by the iconic construal (see Panther and Thornburg, this volume). However, this is not always the case as can be observed in the two following examples.

4.1.2   *Second example*

In this construal (see Figure 2), contrary to the previous example, both hands, the dominant one and the non-dominant one, project shapes. This sign is performed with the non-dominant hand in an [A] shape, vertically oriented. The dominant hand open palm, fingers extended and separated touches the upper part of the non-dominant hand configuration twice. In this case, a conceived entity's shape or at least part of the conceived entity is schematically projected onto the non-dominant handshape.[7] This facilitates THE PHYSICAL PART'S SHAPE FOR THE WHOLE SHAPE OF THE CONCEIVED ENTITY. The PHYSICAL CONSTITUTION ICM facilitates the metonymy WHOLE SHAPE OF THE CONCEIVED ENTITY FOR THE WHOLE PHYSICAL CONSTITUTION OF THE CONCEIVED ENTITY. The dominant hand iconically projects the shape of a flat branching object which facilitates the same metonymies and ICM setting as in the non-dominant hand, with a specific difference. Being the dominant hand, it represents not just a feature but a prototypical or salient feature of the entity. In this case, the PHYSICAL CONSTITUTION ICM facilitates THE SHAPE OF A PROTOTYPICAL PART OF THE CONCEIVED ENTITY FOR THE WHOLE SHAPE OF THE CONCEIVED ENTITY.

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7.   From now on and due to extension issues, we take for granted the previously explained chained metonymies by which the hands are conceptualized as parts of physical independent entities.

Figure 2. tomato

In addition, the movement of the hand sets up the ACTION ICM that allows us to infer that the contact made on the non-dominant hand projects another prototypical feature of the entity. This triggers the metonymy THE SALIENT SUB-EVENT OF THE MOTION ACTION [CONTACT] FOR THE ENTITY INVOLVED IN THAT SUB-EVENT [LEAVES ON TOP IN CONTACT WITH THE FEATURED ENTITY]. These metonymies triggered from the iconic representation activate the conceptual complex of a rounded physical entity to which something flat is attached or makes contact with it.

4.1.3   *Third example*

Our third sign (see Figure 3) is produced by using the dominant hand with flat palm, all fingers closed, and oriented downwards. The movement consists in the hand touching the upper part of the signer's hip twice with the lower part of the palm. The movement is oriented outwards. The shape of the hand, in this case, projects the shape of a flat surface. This facilitates the PHYSICAL CONSTITUTION ICM that triggers the metonymy THE SALIENT/PROTOTYPICAL PHYSICAL PART'S SHAPE FOR THE WHOLE SHAPE OF THE CONCEIVED ENTITY.

As in the case of the second example, the movement dimension sets up the ACTION ICM that facilitates two inferences: the inference that the contact sub-event is the most salient feature; and the inference that the location where the contact takes place is related to the location of the object. These two inferences trigger the metonymy THE LOCATION OF THE CONTACT SUB-EVENT FOR THE LOCATION OF THE ENTITY.

Furthermore, the LIVING BEINGS ICM within the PHYSICAL CONSTITUTION ICM facilitates the PART-FOR-PART metonymy SPECIFIC LOCATION OF THE SUB-EVENT IN A HUMAN BODY [LEG/HIP] FOR THE SPECIFIC LOCATION OF THE NON-HUMAN ENTITY [LEG] that is the conceptual referent of the sign. The functional link (Barcelona personal communication) between the source and the target being again based on
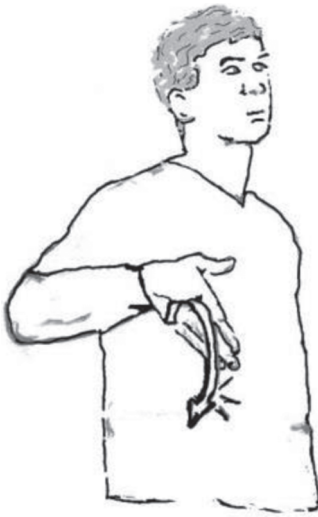
Figure 3. ham

our perceptual experience relates the signer's hip with the animal's leg due to its similar position, thus, triggering the metonymy.[8] Although the sign takes place at the hip level, the leg is the location of the sign. The signer's leg is outside of the signing space so the closest point to the leg within that signing space is the hip.[9] Thus, the iconic construal projects a flat entity onto an animal's body part.

As far as can be observed, the fact that the iconic construals in Examples 2 and 3 are so far from any Spanish iconic gesture that it is almost impossible to trigger a final metonymy without an explicit translation or gloss.

4.2 Metonymies at the phrasal level

The second level of analysis observes the "refleshing" (Talmy 2003a) process from the conceptual construal projected from the different parts of the iconic construction to that of the lexical level and to the phrasal level. In this stage, contextual and co-textual triggers facilitate more inferences and the setting of more specific ICMs or frames (Barcelona 2005, 2011).

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8. I want to express my indebtedness to Antonio Barcelona for his enlightening comments to this paper.

9. Within our corpus, there is a variation in the location. It can also be produced by sliding the flat handshape down the lateral part of the signer's body. This is just a variation that increases the localization of the sign in a more central part within the signing space.

Our examples are taken from videos about *Cooking recipes*. This context facilitates inferences and setting frames related to the specific COOKING ICM. This ICM activates all the relevant knowledge about the entities and processes and sub-contextual features. Within this ICM, we may find the COOKING FRAME as a more specific group of action-entity assembly. Moreover, the type of discourse i.e. giving instructions imposes the need to be very specific to avoid the misunderstanding of the instructions. This implies the use of more visual and vocalization[10] contextual triggers.

4.2.1   *First example*

The metonymy triggered by the iconic construal PROTOTYPICAL PHYSICAL CHARACTERISTIC OF A CATEGORY [HORNS] FOR THE WHOLE CATEGORY [BOVINE ANIMALS] is too close to a gesture construal of spoken Spanish. The main difference is that gestures usually co-occur with speech and this fact may act as a co-textual trigger that may even change the animal's category. However, without any specific contextual or co-textual element, the prototypical concept of this iconic construal within the gesture system of oral Spanish being activated is that of a *bull*, whereas in signed language the conventional meaning of this construal is either of the sub-categories BULL or COW. That is, different instances of the BOVINE ANIMALS category.

Wilcox et al. (2003) classify this sign as an example of PROTOTYPICAL CHARACTERISTIC FOR WHOLE ENTITY. They explain that this is "a simple lexical metonymy in which the prototypical physical characteristic of the animal is used to represent the whole animal" (Wilcox et al. 2003: 144). They also noticed that these types of signs were studied by Mandel (1977), but the latter author studies their iconic nature, and are classified at that level as "virtual depictions" (Mandel 1977: 65).

We agree on the suitability of the metonymy proposed in Wilcox et al. (2003) for this sign, but we disagree on certain points: first, we do not agree with the idea that these are simple lexical metonymies. Although there may be an automatic connection between the iconic image and the conceived entity, the closeness to the iconic gesture being one of the factors, a more detailed analysis may uncover the cognitive complexity underlying this type of construals; second, we think that the metonymy proposed is quite schematic. The understanding of the notion of *conceptual entity* as a type of *domain* (Barcelona 2011) proves to be quite useful then, as it fits with the conceptual construal projected from the iconic construal, that is, an instance of a category.

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10. Vocalization in Signed languages is understood as the quasi-silent vocalization of the word. It is important to remember that deaf people cannot hear but they are not mute. They can utter sounds that reflect the vocalization of the word by a non-deaf person although not necessarily pronounced as perfectly as the latter would.

At a higher constructional level, this sign is found in our corpus as part of a complex signed expression. The expression could be literally glossed as: *esto carne, yo (para mi)- ternera-yo (para mi)-mitad-y-cerdo-mitad* ('this meat I calf/veal pig/ pork half') which would be rephrased in grammatically correct spoken Spanish as *esto (es) carne, yo (pongo) mitad de ternera y mitad de cerdo* ('This is meat, I use half-veal half-pork mixture').

The first thing to notice when translating this gloss, or even in the spoken Spanish translation into English, is the well-known fact (Brdar 2009) that spoken English has two distinct lexical items to refer to live animals or to the processed meat of those animals, whereas in Spanish we only have one term for both. The second feature to point out is that we have already glossed the iconic construal with a word that designates a specific instance of the category of BOVINE ANIMALS, i.e. CALF. This instance is not the one used in LSE dictionaries to gloss the concept conventionally attached to this sign i.e. *cow* or *bull*.

We start from the metonymy triggered by the iconic construal PROTOTYPICAL PHYSICAL CHARACTERISTIC OF A CATEGORY [HORNS] FOR THE WHOLE CATEGORY [BOVINE ANIMALS] within the ANIMAL PHYSICAL CONSTITUTION ICM. The sign for *meat*, a co-textual trigger (Barcelona 2011) and the COOKING FRAME trigger the setting of a more specific ICM that activates the functional role of animals as food providers within the more general ANIMALS ICM. According to Brdar (2009: 263) the use of the names of the animals to refer to their flesh as processed foodstuff "are analyzed as WHOLE FOR PART metonymies, specifically OBJECT FOR MATERIAL-CONSTITUTING-THE-OBJECT within the CONSTITUTION ICM". The object, i.e. the whole animal, "stands here only for a particular aspect of the whole animal, i.e. its bodily substance/flesh/ meat as processed and used as foodstuff" (Brdar 2009: 263). However, we would not use the term "object" in the case of animals because this would not allow us to observe the already mentioned metonymy HUMAN PHYSICAL BODY PARTS FOR ANIMAL BODY PARTS.[11] In fact, the cooking context will narrow the scope of the ANIMALS ICM to those used as food providers so as to activate just those that prototypically play the role of foodstuff providers.

Moreover, Brdar (2009) already acknowledged the fact that the use of certain grammatical constructions signals "the non-default meaning towards the intended metonymic target" (Brdar 2009: 271). In our corpus, we have those grammatical

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11. This metonymy is based on the idea that within the Great Chain of Being (Lakoff and Turner 1989: 166), animals are our closest relatives (Radden 2009: 218) and one of the reasons is that at the physical structural and functional level we can find the same or almost the same correspondences. The main difference lies in the fact that outside the physical and instinctual domains, animals have different functional roles. Animals function as work force; as source of amusement or company; and certain types of animals function as food resources.

constructions that, following Barcelona (2011), are considered co-textual triggers. The sign *meat* activates the LIVESTOCK ANIMALS FRAME and the inference that the next sign refers to the prototypical functional part of the animal prototypically processed as foodstuff i.e. the flesh/meat. So we would reconsider Brdar (2009) metonymy as THE WHOLE CATEGORY MEMBER [A BOVINE ANIMAL] FOR THE PRO-TOTYPICAL FUNCTIONAL PART OF THE ANIMAL [FLESH/MEAT]. This implies, after Brdar (2009), the activation of the CONSTITUTION ICM (Kövecses and Radden 1998: 51) in order to facilitate the WHOLE FOR PART metonymy. In addition, the sign *meat* also leads to the inference that the functional part of the animal is viewed as an unbounded whole. This fact together with the vocalization of *ternera* ('calf') facilitates a variation of the INSTANCE FOR TYPE metonymy (Barcelona 2013: 24; Radden 2009: 219) INSTANCE OF A CATEGORY [CALF] FOR THE TYPE OF SUBSTANCE OF THAT CATEGORY [CALF MEAT].

This can also be applied to the sign used for *pig* in this sentence. In this case, the iconic construal leads to the metonymy PROTOTYPICAL PHYSICAL CHARACTERISTIC OF A CATEGORY [SNOUT] FOR THE WHOLE CATEGORY [PORCINE ANIMALS] and the same contextual and co-textual triggers yield the metonymy AN INSTANCE [PIG] OF A CATEGORY FOR THE TYPE OF SUBSTANCE OF THAT CATEGORY [PIG MEAT]. In both cases, the context and the co-textual factors contribute to framing adjustments that provide the basis for the metonymies (Barcelona 2003: 86–87). However, this does not occur every time the animal is activated as food provider.

Another ingredient found in our corpus is the iconic construal that can be glossed as *pollo-contra-muslo* (literally: chicken-against-thigh). The first sign's iconic construal triggers the metonymy PROTOTYPICAL PHYSICAL CHARACTERISTIC OF A CATEGORY [BEAK] FOR THE WHOLE CATEGORY [FOWL ANIMALS].[12] However, in this case, contrary to what was observed in Example 1, we do not have the vocalization of the co-textual trigger *meat*. But we still have the contextual COOKING FRAME trigger and the vocalization *pollo* ('chicken') co-occurring with the first sign. What is different is the co-textual trigger *contra-muslo*. These two signs correspond to a word-for-word translation of the oral Spanish lexical compound *contramuslo* (the upper part of a fowl's leg).

Contrary to what has been observed in the previous example, this sign language compound construal is the one that facilitates the ANIMAL'S PHYSICAL CONSTITU-TION ICM triggering THE PHYSICAL BODY PART [UPPER PART OF THE LEG] FOR THE PROTOTYPICAL THE FUNCTIONAL PART OF THE ANIMAL [FLESH/MEAT]. This, in turn, triggers the PHYSICAL PART OF THE ANIMAL FOR ITS SUBSTANCE. This fact supports the idea previously highlighted of the strong functional link between the

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12. As in the case of *calf/veal, pork/pig*, in LSE and in spoken Spanish, there are no two different words to distinguish between *fowl* and *poultry*.

different parts of the domain of animals – functional physical properties – and the substance they contain. Finally, the vocalization of the word *pollo* ('chicken') triggers the metonymy AN INSTANCE [CHICKEN] OF A CATEGORY [FOWLS] FOR THE TYPE OF SUBSTANCE OF THAT CATEGORY [POULTRY].

As already observed at the iconic construal level, Examples 2 and 3 are perhaps the best representatives of the metonymic chains derived from an iconic construal, but also the most difficult ones to "reflesh" without a previous concept instantiated by a spoken word or gloss. The following provides the glosses and their analysis at a higher constructional level.

4.2.2   *Second example*

The previously mentioned metonymies triggered by the iconic construal in Figure 2 evoke the image of a rounded physical object to which something flat is attached or makes contact with. In this case, this sign is found co-occurring with the sign that may be glossed as *lata* ('can'). The phrase may be glossed as *tomate + lata* ('tomato-can'). Now that we know the prototypical meaning of the gestalt evoked by means of the iconic construal in Figure 2, we can see that the form-meaning pairing is not as straightforward as might have been imagined. So for the first sign of this construction, it is necessary to bear in mind that it was built up within a cognitive context. In our specific case, the cooking context provides one of those possible cognitive contexts, the COOKING ICM. Now it is possible to interrelate each of the features iconically projected onto the prototypical image – at least, to the prototypical image in the Spanish Peninsula because the sign for this concept is rather different in ASL.

In ASL, according to Costello's (2008) dictionary the construal for the first sign is formed by bringing "the extended index finger of the dominant hand from the lips, palm facing in, with a deliberate movement across the thumb-side of the [letter O] handshape held in front of the chest, palm facing down, ending with the right palm facing down in front of the body" (Costello 2008: 1094). In the Spanish construal the physical properties of the conceived entity are projected onto the iconic manual construal, each parameter contributing to that physical constitution, whereas in the ASL construal, the iconic projection is based on the prototypical action exerted on the entity.

In this phrase, the COOKING FRAME facilitates the FOOD ICM which, in turn, triggers the identification of the construal with the prototypical meaning of the sign i.e. tomato, that motivated the iconic and metonymic projection PROTOTYPICAL PHYSICAL PROPERTY OF THE CATEGORY [ROUND OBJECT WITH A FLAT ELEMENT ON TOP] FOR THE CATEGORY [EDIBLE FRUIT]. The sign of *can* specifies the container and this facilitates the SUBSTANCE FRAME through the CONTAINER-CONTENT ICM. This triggers the inference that the content is a type of substance that, in turn, facilitates

the construal for *tomato* to be interpreted as the type of edible substance that the *can* contains. All these inferential chained processes shift the perspective of the *tomato* from being observed as an entity to be observed as a substance. Consequently, this gives rise to the metonymy INSTANCE OF A CATEGORY [TOMATO] FOR THE TYPE OF SUBSTANCE OF THAT CATEGORY [TOMATO SAUCE/PURÉE].

4.2.3   *Third example*

The iconic image evokes the gestalt of a flat object in an animal's body part. In our corpus, the phrase is glossed as *jamón-loncha* ('ham-slice') and is supported by vocalization. As previously mentioned when discussing the third iconic construal the LIVING BEINGS ICM within the PHYSICAL CONSTITUTION ICM facilitates the metonymy SPECIFIC LOCATION OF THE SUB-EVENT IN A HUMAN BODY [LEG/HIP] FOR THE SPECIFIC LOCATION OF THE NON-HUMAN ENTITY [LEG]. The contextual COOKING FRAME elaborates the ANIMAL ICM by activating the substance subdomain. The CONSTITUTION ICM facilitated by the metonymy triggers THE PHYSICAL BODY PART [LEG] FOR THE FUNCTIONAL PART OF THE ANIMAL [FLESH/MEAT]. This facilitates the inference that the leg is a prototypical functional part of a specific animal. This inference triggers the metonymy prototypical functional part of an animal [LEG] for the animal category [PIG], which in turn facilitates the specific PIG ICM.

The specific body part together with the PIG ICM facilitates the subdomain of the processed food products within the functional domain of the activated animal category [PIG]. In addition, this ICM triggers the metonymy PROTOTYPICAL FUNCTIONAL BODY PART [PIG LEG] OF AN ANIMAL FOR THE PROTOTYPICAL PROCESSED PRODUCT OBTAINED FROM THAT PART OF THE ANIMAL CATEGORY [HAM]. Ham is not the raw flesh or meat of the pig as seen in the previous examples but, prototypically, in Spain, ham is the result of a salt-curing process. As such, ham is part of the category of processed food: thus, this becomes an INSTANCE OF A CATEGORY [PIG LEGS] FOR THE TYPE OF SUBSTANCE OF THAT CATEGORY [THE RESULT OF PROCESSING THAT PART: HAM].

The construal for *loncha* ('slice') in the prototypical sense of the English translation equivalent described in the OED "A thin, broad piece of food, such as bread, meat, or cake, cut from a larger portion" is motivated by MEMBER ([PORTION OF] A PHYSICAL ENTITY) FOR CATEGORY ([PORTION OF] ANY PHYSICAL ENTITY metonymy (Barcelona 2009: 377). In our example, the entity's category is activated by the construal for *ham*. And this triggers MEMBER ([SLICE OF] PHYSICAL ENTITY) FOR CATEGORY ([SLICE OF] THE PRODUCT [HAM] OBTAINED FROM THE PROTOTYPICAL PART OF THE CATEGORY [PIG LEGS].

4.3 Metonymy motivating the constructional form at phrase level

The conventional form of the sign for Example 1 is the iconic construal that is used for the category of bovine animals that are glossed with words such as *cow* or *bull*. However, we saw that the concept instantiated was that of a calf. According to LSE dictionaries, the frozen sign for this sub-category of bovine animals consists of the previously studied iconic construction plus the iconic construction for the concept SMALL. The whole iconic form for this sub-category of animals i.e. TERNERA ('calf') could be glossed as *cow/bull + small*. Nevertheless, in our sign-utterance, one can see only the first part of the prototypical lexical construction i.e. the head of the construction.

The metonymy THE WHOLE CATEGORY MEMBER [BOVINE ANIMAL] FOR THE PROTOTYPICAL THE FUNCTIONAL PART OF THE ANIMAL [FLESH/MEAT] imposed the perspective at the constructional phrasal level changing the conceived entity from being a bounded entity to become an unbounded one. This metonymy motivates the grammatical change of the head of the form from the category of count nouns to that of mass nouns (Brdar 2009: 263). In addition, the FOOD FRAME and the vocalization of the signer facilitate the metonymy INSTANCE [CALF] OF AN ANIMAL CATEGORY FOR THE TYPE OF SUBSTANCE MAKING UP THE ANIMAL CATEGORY [CALF MEAT]. This metonymy, in turn, facilitates the inference that this sign is adding a specification to the unbounded head. These two metonymies trigger the formal metonymy SALIENT PART [HEAD] FOR THE WHOLE FORM [HEAD + MODIFIER] applied to the original form construction for *calf*.

In Examples 2 and 3 there are no PART FOR WHOLE metonymies in the construction of the form at the phrase level as in Example 1. Instead, there appears the prototypical LSE sign order structure for the examples studied at this level [HEAD + MODIFIER/SPECIFICATION]. But in all of them, this prototypical order really maps the perspective imposed by the metonymies that change the grammatical status of the heads from count-nouns to mass nouns combined with the INSTANCE OF CATEGORY FOR TYPE OF SUBSTANCE MAKING UP THAT CATEGORY, the instance of the category being the head of the phrasal construction followed by specifications on the container of the substance (Example 2) or the form of the substance (Example 3).

5. Conclusion

In this first approach to the multilevel dynamics of metonymy in sign language Barcelona's framework (2005, 2011, 2015) has been shown to be a fruitful tool for unraveling the fundamental role of metonymy in signed languages. Moreover, it has been suggested that the conceptualization of articulators based on metonymy rather

than on ICMs for event construals may constitute the basis for other metonymies triggered at different constructional levels.

We have seen that at the iconic construal level, the schematic nature of the conceptual pole projected on the iconic construal is different from the conceptual content conveyed by words in spoken language. Most probably, because of its arbitrary nature, a lexical form provides a quick access to the conceptual complex it represents. However, the iconic construals *per se* do not provide that quick access. An often unconscious "refleshing" process (Talmy 2003a) is needed. Obviously, when that process is conventionalized, then the conceptual referent is accessed immediately. Moreover, the analysis at the iconic construal level shows the real result of Taub's (2001) approach to iconicity according to her model. What is projected from the conceptual space onto the physical space, i.e. from the concept onto the iconic construal, is a very schematized concept/image. This concept is conceptually schematized through a series of metonymic processes, mainly of a part-for-whole type. The main aim of this schematization process is to encode complex concepts, i.e. concepts comprising a wide variety of perceptual and world knowledge, within the physical limitations of manual articulators. The schematic concept that results from metonymic processes is such a rough conceptual outline that unless the construal is close to gesture in spoken languages, it is very difficult to access the original concept which gave rise to the iconic construal. In this way, the iconic construal analysis helps us to understand the distance between the construals at the semantic pole and the construals at the form pole of the symbolic structure (Wilcox, P. 2004).

Metonymic chains motivating meaning at the phrasal level show the importance of co-textual and contextual triggers. Bearing in mind the sensory foundation of sign language construals, these triggers can be said to be these that facilitated the operation of the metonymies that motivated the original conventional meanings of frozen signs. Obviously, the specific contextual and co-textual elements observed in our examples are not the original ones, but it seems that specific contexts and co-texts are even more significant triggers than in spoken languages. This explains why signers may form iconic construals on the spot if they do not have a frozen sign for what they want to convey in a specific communicative situation. At the constructional phrasal level form, the phrasal structure reflects the perspective imposed by the conceptual metonymies in what may possibly be part-for-part structural metonymies.

Finally, this study illustrates that metonymy is not just a simple and ancillary conceptual process that helps to bridge the meaning and form construction of signs from conceptualization to metaphorical meanings. This study shows and highlights the importance and complexity of the multilevel dynamics of metonymy, as well as the essential role of co-textual and con-textual triggers, and the activation of specific frames or ICMs as essential motivational elements at different levels of sign

language constructions. Since this is a first approximation at a multilevel motivating role of metonymy in sign construction, further research is needed on each specific level, especially at the iconic construal level.

Acknowledgments

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La cocina sorda de Isabel: http://canalcocinadeisabel.blogspot.com.es/

Metonymy index[1]

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1.   This index is not exhaustive but it includes most of the metonymic patterns mentioned and at least minimally discussed in the book. We have included in it most of the metonymic patterns for which a label in small capitals has been provided by the authors of the introduction and the book chapters, and of these, only those that have been selected by these authors for inclusion in the index. Metonymic hierarchies are not included either. For further metonymic patterns, please check the subject index as well.

2.   Panther and Thornburg (this volume, 129, 150) label this metonymy "CONTAINER FOR CONTAINED".

3.   Barcelona (this volume, 38, 39, 51) labels this metonymy DEGREE OF FULLNESS OF CONTAINER (ENTITY) FOR DEGREE OF AMOUNT OF CONTENT (ENTITY).

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4. Barcelona (this volume, 35) calls this metonymy PROPERTY OF AN ENTITY FOR THE ENTITY and Barnden (this volume, 108) calls it PROPERTY FOR ENTITY. Since the property in their examples is a salient property, we have grouped these labels under SALIENT PROPERTY FOR ENTITY.

Name index

Subject index

The volume addresses a number of closely connected methodological, descriptive, and theoretical issues in the study of metonymy, and includes a series of case studies broadening our knowledge of the functioning of metonymy. As regards the methodological and descriptive issues, the book exhibits a unique feature in metonymy literature: the discussion of the structure of a detailed, web-based metonymy database (especially its entry model), and the descriptive criteria to be applied in its completion. The theoretical discussion contributes important challenging insights on several metonymy-related topics such as contingency, source prominence, "complex target", source-target contrast / asymmetry, conceptual integration, hierarchies, triggers, de-personalization and de-roling, and many others. The case studies deal with the role of metonymy in morphology, monoclausal if only constructions, emotional categories, and iconicity in English and other languages, including one sign language. Beside cognitive linguists, especially metonymy researchers, the book should appeal to researchers in A.I., sign language, rhetoric, lexicography, and communication.

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