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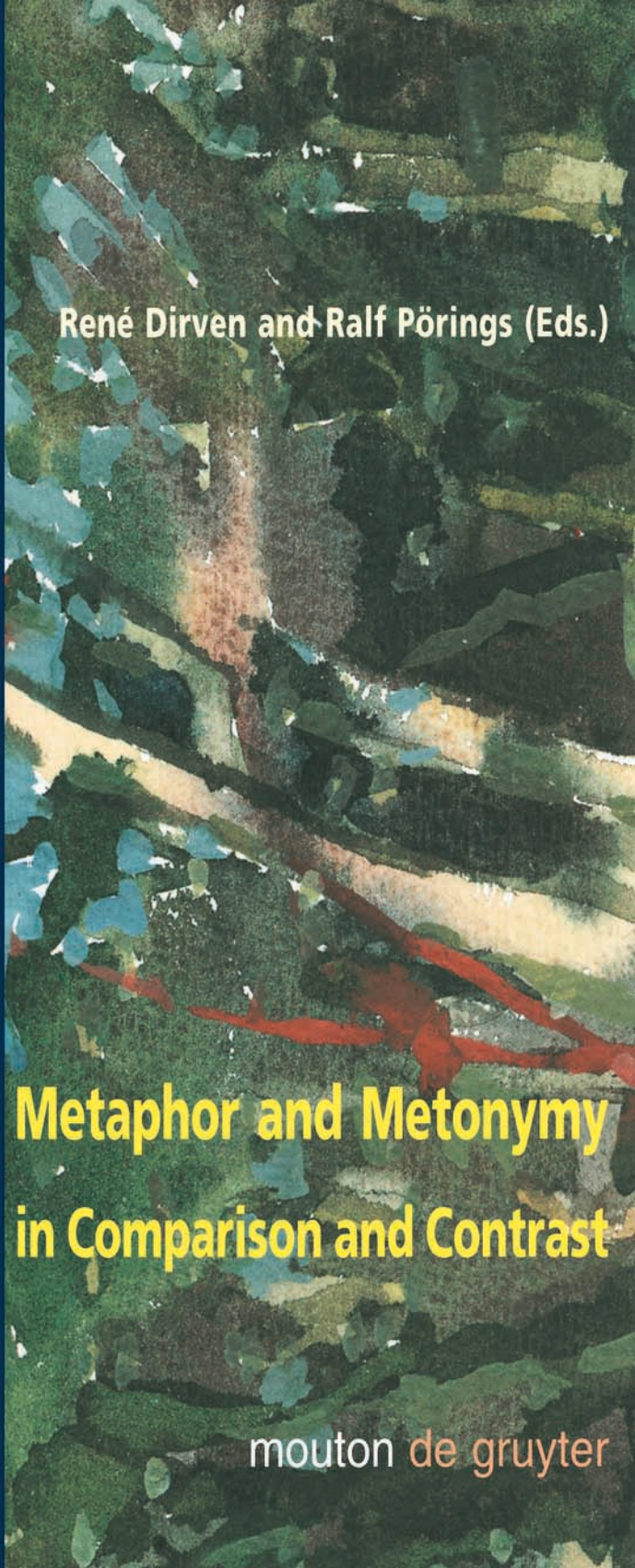

René Dirven and Ralf Pörings (Eds.)

Metaphor and Metonymy in Comparison and Contrast

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Edited by
René Dirven
Ralf Pörings

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Preface

This volume intends to offer a relatively complete state of affairs in metaphor and metonymy research in cognitive linguistics and related research areas.

The editors want to express their thanks to all the contributors for their willingness to cooperate in this project and to take into account the views expressed in other contributions to this volume. Seldom before has there been a collective volume with so many internal cross-references.

Precisely for this reason, the reference formula "in this volume" would have been a permanent hindrance for the reader's fluent reading automatisms. Therefore we have introduced an iconic equivalent in the form of an asterisk (*). This may occur after the name of an author, after the year of publication, and before a page number, as, for instance, Turner & Fauconnier *474, meaning "p. 474 in this volume.".

The editors also want to thank several other people, besides all the contributors. In the first place we want to thank the Mouton de Gruyter staff in the persons of Anke Beck, Birgit Sievert and Wolfgang Konwitschny for their quick and efficient handling of so many managerial problems. Next we want to thank all the publishing houses for granting us the permission to reprint the (heavily or slightly) revised papers. The list of the original publications is presented on the next pages.

Last but not least we want to thank Dipl.-Soz.-Wiss. Jörg Behrndt for his perfect technical handling of the formatting and the indexing of a collective volume of this size in all its manifold dimensions.

Duisburg, January 2002 René Dirven and Ralf Pörings

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Contents

Introduction

René Dirven

Whenever George Lakoff got bored with MIT in the sixties, he went across the place to Harvard University to listen to Roman Jakobson. Here we find the living link between the past and the present, between a long nineteenth century tradition and its rebirth at the end of the twentieth century. Jakobson's (1956) brief paper "The metaphoric and metonymic poles" was the first linguistic light signal in an age of objectivist structuralism and oncoming formalism. It came as an echo of a smouldering, but historically very strong belief in the power of metaphor and metonymy (see Nerlich & Clarke*). Even more remarkable is that Jakobson was the first to pay equal attention to both metonymy and metaphor. This balanced view was probably still impossible at the time of the metaphor revolution launched by Lakoff & Johnson's canon shot known as *Metaphors We Live by* (1980). It took almost another twenty years to fully redress the balance between metaphor and metonymy, culminating in Panther & Radden's *Metonymy in Language and Thought* (1999) and Barcelona's *Metaphor and Metonymy at the Crossroads* (2000). The present volume comes full circle again in that its contributions, mainly cognitive linguistic ones, look at metaphor and metonymy simultaneously, comparing and contrasting them all the time. It is intended to be a representative survey of combined metaphor and metonymy research during the last decade Therefore this collection of papers contains both new papers and ones which are already published, but less accessible or heavily revised. The volume's overall theme is structured in four main sections:

Section 1: The metonymic and the metaphoric
(Jakobson, Bartsch, Dirven,Warren).

Section 2: The two-domain approach
(Kövecses et al., Croft, Barcelona,
Panther/Thornburg).
Section 3: The interaction between metaphor and metonymy
(Taylor, Goossens, Riemer, Radden, Geeraerts).
Section 4: New breakthroughs: blending and primary scenes
(Turner/Fauconnier; Ruiz de Mendoza/Díez;
Grady/Johnson; Nerlich/Clarke).

Section 1 introduces and further examines Jakobson's distinction between the metaphoric pole based on similarity and the metonymic pole based on contiguity. By concentrating on categorisation and new concept formation, Bartsch underpins Jakobson's distinctions from a philosophical point of view. Dirven links Jakobson's poles with the paradigmatic and syntagmatic axes of linguistic structure and is in search of the meeting point of metaphor and metonymy on the conceptual continuum constituted by these two poles. And Warren exploits the notion of the syntagmatic to account for the typical characteristics of referential metonymy.

Whereas in Section 1 metaphor and metonymy are seen from an external viewpoint as two poles, different perspectives, or mental strategies, Section 2 groups papers taking an internal look into the structure of metaphor and metonymy. That is, the two-domain approach is first linked to its underlying philosophical claims and placed in a wider scientific context in a paper by Kövecses et al. One of the most criticised aspects of the Lakovian approach was the two-domain claim for metaphor and the one-domain claim for metonymy. This problem is tackled in the contribution by Croft, whose merit it is to have built up a very strong scaffolding for the domain theory. Barcelona's contribution applies Croft's distinctions to a number of vexing questions left unsolved in the cognitive theory of metaphor and metonymy. Whereas all these discussions and the Lakovian theory are mainly concerned with lexical conceptualisations, Panther and Thornburg apply the two-domain approach to an area of morphology, thus providing evidence for the basic similarity of all types of linguistic conceptualisation.

Section 3 groups a number of papers that deal with the interaction between metonymy and metaphor, and especially with the metonymic basis of a great many metaphors. Taylor discusses the internal variation between pre-metonymic and metonymic expressions, and has been the first to point out the metonymic basis of a number of metaphors. Goossens analyses the ways a metonymy and a metaphor can merge, captured in the term *metaphtoymny*. Riemer, however, criticises the metaphtonymy analysis and proposes to treat them as post-metonymies. Radden offers a broad canvas of all types of metonymic bases of metaphors. Geeraerts finally builds a prismatic model with syntagmatic and paradigmatic axes, charting the many ways metaphor and metonymy can interact in idioms and compounds.

Section 4 presents the two breakthroughs the nineties saw in the prevailing two-domain approach: a multi-domain (better a multi-space) approach and a pre-domain approach. The 'multi-space approach' was born when Fauconnier & Turner (1994) applied Fauconnier's theory of mental spaces to the analysis of metaphor and metonymy. Ruiz de Mendoza & Díez adopt this model, though rejecting one of its crucial aspects, and apply it to the interaction between metaphor and metonymy. This contribution could therefore equally well have figured in Section 3, except for its use of the multi-space model. A second breakthrough is Grady & Johnson's discovery of primary metaphors, based on the distinction between primary scenes and subscenes, which is at the basis of much domain mapping. The closing chapter by Nerlich & Clarke briefly introduces the technicalities of the multi-space model, and offers a broad view of the precursors of domain mapping, fuzziness, family resemblances and blending in 19th century non-mainstream linguistics.

For the sake of an optimum of accessibility, each of the contributions will now be characterised and summarised in a more detailed way.

Section 1: The metonymic and the metaphoric poles (Jakobson, Bartsch, Dirven, Warren)

Roman Jakobson (1971* [1956]) was convinced that the metaphoric and the metonymic are the two fundamental poles or manifestations of human behaviour, as he called it. His brief chapter "The metaphoric and metonymic poles" concludes other chapters all dealing with aphasia. The two extreme cases of aphasia are 'selection aphasia,' the disturbance of the ability of substituting words for other words, and agrammatism, the disturbance of the ability of making phrases and sentences. He also calls the former a 'similarity disorder,' and the latter a 'contiguity disorder.' More generally, he associates the metaphoric with the principle of selection and substitution, which both operate on the basis of similarity; the metonymic is associated with the principle of combination and contexture, which operate on the basis of contiguity. In line with the structuralist tradition – but Jakobson's brief text does not go into this, – the metaphoric can be associated with the paradigmatic axis in that metaphor offers alternative conceptualisations for the same phenomenon, whereas the metonymic corresponds with the syntagmatic axis in that it links phenomena which are somehow contiguous to each other. While fully concentrating on the two extreme poles and associating the metaphoric and metonymic with different styles of art (e.g. romanticism vs. realism, expressionism vs. cubism) or even with art forms (the film as a typically metonymic art), Jakobson was far more interested in opposing metaphor and metonymy and, in fact, he did not much bother about the idea of a continuum, on which metonymy and metaphor can be supposed to meet and to develop.

* * *

Jakobson's 1956 paper was visionary, but very brief and highly programmatic. He claimed the existence of the two poles based on similarity and contiguity, and by doing so implied the existence of a continuum between the two extremes. In fact, he left it to later research to show how the link of the metaphoric and the metonymic with conceptualisation was to be seen, and how the notion of the continuum was to be understood. The former question is explored in

the contribution by Bartsch, the latter in Dirven's and, to some extent, in Warren's contributions (and also, in some way or other, in each of the papers in Section 3).

The great merit of **Renate Bartsch**'s contribution to the ongoing debate on metaphor and metonymy is that she offers a philosophical underpinning for and interpretation of Jakobson's visionary opposition of metaphor and metonymy, and their conceptual bases of similarity and contiguity. As a language philosopher, Bartsch is, of course, primarily interested in concept formation, the creation of new concepts, and their relation to linguistic expressions. Bartsch starts from the assumption of a very strong interaction and interdependence between concepts and their linguistic expressions. A concept is represented by a stabilised set of experienced examples or satisfaction situations for the linguistic expression. A linguistically coded concept that is not yet stabilised is a quasi-concept. Stabilisation of a concept means that the internal similarity of the representative set of examples for a concept is not decreased anymore by the addition of new examples. In order to maintain the stability of the growing representative set, a new example of use of the expression that does not fit into this set has to be taken as the starting example of a new set, which is metaphorically or metonymically linked to the old set and can grow into a set, representative of a new concept, but expressed by the old expression. Metaphor and metonymy in this way presuppose the existence of non-metaphoric and non-metonymic terms which can be transferred to new extended uses. Basing her line of argumentation on the notions of perspective and change of perspective, Bartsch sees a fundamental difference between two main sets of possibilities for extending linguistic categories, i.e. broadening and narrowing versus metaphor and metonymy. Broadening and narrowing are conceptual processes that do not involve a change of perspective. The real conceptual innovations are those that involve a change of perspective, which is based on a contextual change in interest or attention, and can be made explicit by a question, e.g. when speaking of a lion, by the question "What kind of animal is it," but when calling John a lion, by the question "What kind of behaviour is this."

Under the new perspective, either similarity (metaphor) or physical or mentally imposed contiguity (metonymy) is seen to hold between the new examples and the old examples of use of the linguistic expression.

Perspective is understood, not only in the every-day sense of "a way of regarding situations," but also and especially in the technical sense of a second-order concept for the various concepts that fall under it; for example, the concepts "having pain," "feeling sick," "being healthy" all fall under the perspective of health. Likewise, a polysemic complex is a concept of two or more concepts that come about after a first concept has been mapped onto a second concept by metaphor or metonymy. The concept of "lion" is in the default case seen under the perspective "What kind of animal is it," but under perspective change it relates to the perspective of "behaviour in adverse or dangerous situations," under which both animal and human behaviour are seen now. Perspective thus also accounts for the question of which source-domain features are mapped onto which target-domain features and which features of either domain are irrelevant in the transfer operation. For Bartsch, all transfer is subject to a very general, central constraint: the stability principle, which says that both the pre-existing categories and also the newly created ones must be allowed to remain stable, at least in the adults' world. Young children, on the contrary, may extend a category such as *dog* from the animal domain to domains such as "mummy's fur coat" (transfer from the dog's woolly coat) or to that of the buttons on her dress (transfer from the dog's eyes), but adults' categories tend to be stable and any extension only comes about if stability of categories is guaranteed.

Conceptually, the similarity and contiguity principles account for different areas of entities: the similarity principle accounts for the identity of the properties of objects and situations, whereas the principle of contiguity accounts for the identity of individuals and events. Thus the contiguity principle gives rise to historical concepts, especially event concepts and individual concepts.

Metaphoric concepts are, in line with Indurkhya's theory of metaphors, divided into two groups: similarity-based metaphors as in

John is a wolf, and similarity-creating metaphors, as in the poet's view of the white flowering bushes of hawthorn on the slope of a hill as *an ivory, downhill rush of water*. Bartsch's criticism is that these across-domain mappings fail to mention the underlying principle, i.e. the change of perspective. In the similarity-based metaphor *John is a wolf* this is the perspective of social behaviour. All the physical properties of having a mouth, teeth, eyes etc. are not taken into account, but only the perspective of social behaviour counts. The same principle applies to similarity-creating metaphors: it is the poet who in our example transgresses from the natural kind perspective (Of what natural kind is it?) to the perspective of appearance (What does it look like?) and thus transfers the image of rushing water to masses of hawthorn flowers; so the reader can come to see things as the poet saw them for the first time. In a trivial sense all metaphors can be said to be similarity-creating, namely for those who have not yet thought of the similarity at issue. Also in metonymy there is a perspective change, going along lines of contiguity in a situation, usually from a part of something to the whole, from cause to effect etc., or the other way around. The perspective change relates to such questions as "which part of which object is concerned" to "which person is concerned," e.g. in a hospital situation the expression *the liver from floor 3* undergoes a perspective change to *the patient*.

Finally, in a number of cases it is not clear whether we have to do with metonymy or metaphor, and in fact both views are possible, which Bartsch labels as the metaphor-metonymy switch. Thus the transfer of feeling a cold temperature to cold colours or cold persons can be seen both as a metonymic and as a metaphoric transfer. More generally, in the numerous cases where similarity across perspectives is based on a relational identity, we can just as well speak of a metaphor based on that identical relationship, as of a metonymic transfer along this relationship in either direction, which results in a chain of metonymies.

René Dirven's (1993*) "Metonymy and metaphor: Different mental strategies of conceptualisation" explores the notion of a continuum on which the metaphoric and the metonymic are situated and may

meet. He proposes several steps from the literal to the figurative on this continuum. First there is a step from the literal to the non-literal and non-figurative; then we can make a step from the non-literal to the figurative; within the figurative we can distinguish between the metonymic and the metaphoric; finally within the metaphoric we can distinguish between low vs. high metaphoricity. Whereas metonymy can be either literal, non-literal, or figurative, metaphor can only be figurative.

The distinction within the metonymic is linked to the three different types of syntagm that are available to human thought: linear, conjunctive, and inclusive syntagms. A *linear syntagm* as in *Different parts of the country may mean different things when using the same word* is based on a linear subject-predicate relation. A *conjunctive syntagm* as in *Tea was a large meal for the Wicksteads* subsumes various elements such as tea, cakes, biscuits or sandwiches, or even, as in *high tea*, a cold evening meal. This extension of *tea* is non-figurative. A figurative conjunctive syntagm is found in *The Crown has not withheld its assent.* An *inclusive syntagm* underlies *good head* in *He's got a good head on him*, in which *head* stands for 'intelligence.' These elements *head* and *intelligence* form, together with the elements *brains* and *mind*, a metonymic chain, where head includes brains, brains include thinking, or thought processes, and the mind includes intelligence. This third type of metonymy is, just like metaphor, always figurative, so that we really seem to have a continuum. The difference between metonymy and metaphor is therefore not fully adequately caught if only discussed in terms of domains in reality, so it also needs to be approached in terms of conceptual closeness and conceptual distance. In the inclusive metonymy *Their brains work about half as slow as ours* the neurological domain of thought processes is closely related to the mental domain of intelligence. The distance is just wide enough for *brains* to mean figuratively "thought processes" and hence leads via the *mind* to "intelligence." If we compare this inclusive syntagm to a metaphor like *More brains!*, we see a very wide distance between the notion of "quantity" of brains and that of a greater creative intelligence.

The two different mental strategies underlying metonymy and metaphor are then, in the case of metonymy, the need for relevant and salient links of contiguity e.g. between "brains" and "thought processes," on which also reference rests, and, in the case of metaphor, the need to make abstract concepts such as "creativity" more tangible, manageable and understandable. In these prototypical instances, metonymy serves a referential function, and metaphor an expressive function. In the three metaphors a) *have a problem on one's hands*, b) *have a problem on one's mind*, and c) *the problem is uppermost in his mind*, the various metaphoric locations designate different understandings of the abstract idea of "problem" requiring the interpretations of a') manual skills, b') emotional worry, and c') attention, respectively.

In his conclusions, Dirven sets up a more extensive continuum of literalness and non-literalness. The former is not at issue here. The latter stretches over modulation, frame variation, linear metonymy and conjunctive metonymy as non-figurative gradations. The figurative gradations are (figurative) conjunctive metonymy, inclusive metonymy, post-metonymy, and metaphor.

Of all the papers in the present volume, **Beatrice Warren**'s (1999*) contribution "An alternative account of referential metonymy and metaphor" concentrates most deliberately on the comparison and contrast between the two processes. In fact, she sums up and analyses all the main commonalities and differences between metaphor and metonymy. These are the following:

(i) Metaphor sees one thing in terms of some other thing and is thereby hypothetical (as if it were a journey), whereas metonymy is non-hypothetical.
(ii) Metaphor is a rhetorical device or a meaning-extending device. Metonymy can but need not fulfil these functions.
(iii) Metonymy operates at phrase level only, while metaphors may also operate at sentence level, or even beyond.
(iv) Metaphor allows multiple mappings from the source to the target domain; metonymy never allows more than one relation.

(v) Metaphor allows themes or chains of figurative expressions, but metonymy doesn't (but see Bartsch*, Dirven,* Ruiz de Mendoza & Díez*).
(vi) Metaphor does not allow zeugma, but metonymy does.

Warren's thesis is that neither the traditional accounts nor the modern, cognitive accounts (both Lakoff & Johnson and Turner & Fauconnier*) are able to explain any of these differences beyond the first. Therefore she proposes an alternative, in essence syntagmatic, approach: metaphor is a property-transferring semantic operation, whereas metonymy is basically a construction of the modifier-head type. Thus in *The kettle is boiling, the kettle* is the modifier of the head *that which is in the kettle.* Here no new properties are transferred and the term *kettle* does not have to change in meaning as is necessarily the case with metaphor. Given the syntagmatic relation, only one mapping is possible, i.e. in this case, from container to the contained, whereas in metaphor any relevant source aspect can be mapped onto the target domain, and this allows whole chains of mappings to be formed. In metonymy, the source/target relationship is but the head/modifier relation, in which the intended referent as target (the water) is only implicit and the source as modifier is explicit. This also explains the possibility of zeugma in metonymy, e.g. *The kettle is on the stove and boiling right now*: with the first predicate *be on the stove* no metonymy is involved and the meaning is literal; with the second predicate *be boiling*, the non-literal meaning of a metonymy, i.e. the target referent *water* is meant. The author's conclusion is that metonymy is basically a syntactic operation, whereas metaphor is basically a semantic operation. Needless to say this view differs from that of most contributions. (Especially see Panther & Thornburg *281). Still, Warren sees some similarity between her approach and cognitive theories of domain mapping. In metonymies, sources and targets are experienced simultaneously and therefore necessarily fall within the same domain. In metaphor source and target may be experienced together, but the process may also encompass very distant domains, although the problem of domain boundaries remains a weak point in the domain approach.

Section 2: The two-domain approach (Kövecses et al., Croft, Barcelona, Panther/Thornburg)

Although few linguists are aware of this, the rise of the two-domain approach was, in a sense, a continuation of a traditional approach reaching back to the nineteenth century (see Nerlich & Clarke*). It was, however, at the same time revolutionary in that it was intimately linked to two other major claims: (i) the experientialist, bodily basis of metaphor and metonymy, and (ii) the universalist basis for conceptual metaphors and metonymies. Perhaps the best summary of the whole approach is to be found in a paper originally written by Kövecses & Palmer (1999*) and revised and abridged for this volume as "Language and emotion: The interplay of conceptualisation with physiology and culture" by Kövecses, Palmer & Dirven (abridged as Kövecses et al.). This wider topic goes beyond the proper scope of this volume, but it offers the invaluable advantage that here metaphor and metonymy theories are seen in their application to a given conceptual domain. This even has the further advantage that the Lakovian approach can be compared to emotion theories which are seen to be claiming just the opposite. Thus this wider scope reminds us of strongly differing scientific approaches to conceptualisation and invites a cautious relativisation of the role or importance of metaphor and metonymy in the development of thought and language.

Zoltan Kövecses, Gary Palmer and René Dirven (1999*) confirm, even more strongly than Lakoff & Johnson (1980, 1999), the interrelatedness of the two-domain approach with the claims of experientialism and universalism. The source domain for emotional metaphors and metonymies is the physical domain (LOVE IS FIRE, THE ANGRY PERSON IS A PRESSURISED CONTAINER, HAPPINESS IS UP) and/or the physiological domain (PHYSIOLOGICAL AGITATION STANDS FOR ANGER, DROP IN BODY TEMPERATURE STANDS FOR FEAR). The surprising thing is, however, that most emotion researchers in anthropology and psychology have attached little or no importance to figurative aspects of emotional language. Also important linguists like

Ortony or Wierzbicka do not include metaphor or metonymy in their analysis of emotional processes.

The reason why in the Lakovian approach metaphor and metonymy are so all-pervasive is their philosophical stand of experientialism. Metaphors are said to be based on pre-conceptual image schemata like containment, bodily orientation, verticality, etc, whereas the basis of metonymy is formed by bodily, especially physiological, experiences. Whereas for Lakovians this experientialism is based on the bodily experiences of the individual, social constructionists such as Radcliffe-Brown (avant la lettre) and Lutz (1988) see emotions and emotional experiences as something learnt in the children's education by their parents and by society at large. Therefore Lutz claims that emotions are highly culture-specific constructs built up by people's social and geophysical context and conditions. As a consequence Lutz is concerned with denying unversalities, which in her view are an error of Western philosophy and follow from its essentialism. In the Lakovian view, conceptual metaphors and metonymies must by necessity have a universal character, since they are strongly bodily-based and by the same token are fully experientially grounded. Since the human bodily experience is essentially a universal one, their experientialist orientation cannot but predict universalism. The various titles of the books by Lakoff and/or Johnson *Body in the Mind*, or *Philosophy in the Flesh* reflect this dualism of experientialism (through the body) and universalism (through the mind). In social constructionism, the basic starting point is the social and geophysical context so that metaphor or metonymy is not denied, but cannot possibly be attributed a special or central function. Further research of many more cultures along the lines of both the Lakovian experientialist and universalist two-domain approach and the social constructionist approach may bring more light, since both approaches may be complementary (but see Dirven 2001). Interestingly, a study of anger and love expressions in Chinese by Ning Yu (1998) revealed the use of the same conceptual metaphors which Lakoff & Johnson (1980) had discovered for English.

Bill Croft's (1993*) paper "The role of domains in the interpretation of metaphors and metonymies" offers one of the best justifications and clarifications of the two-domain approach. Croft shows that metaphoric sentences such as *Denmark shot down the Maastricht Treaty* receive a top-down interpretation, here by invoking the political domain, whereas in a non-metaphoric interpretation *shot down* is associated with the military domain and the sentence would receive a bottom-up compositional interpretation. This "conceptual unity of domains" also determines the interpretation of the metonymy *Denmark*: here the Danish voters are meant, not the army. In the view of cognitive linguistics, word meaning is encyclopedic and semantic space comprises the whole of a common sense experience or world knowledge. This knowledge is structured in domains, but the notion of domain itself has never been explored in great detail in cognitive linguistics. It is precisely what Croft intends to do in his paper and then to apply these insights to the demarcation of metaphor and metonymy.

In his endeavour, Croft starts from Langacker's distinction within a concept (as a semantic structure symbolised by a word) between a profile and a base. The concept or predication *arc* has as its profile "a curved line segment" and as its base "a circle." A cirlce itself is profiled against the base of "shape" and shape itself is profiled against the base of "two-dimensional space." Thus the base (or domain) is that aspect of knowledge which is necessarily presupposed in conceptualising the profile. In his own words, a domain is defined as "a semantic structure that functions as the base for at least one concept profile."(*166). From all this it follows that a particular semantic structure can be a profile in a given domain, or else a domain itself.

Some domains, e.g. space, are not profiled in any other domain and are therefore *basic domains*, as are matter, time, physical objects, etc. They emerge directly from experience and are not defineable relative to other more basic concepts. A non-basic domain is an *abstract domain* in the sense that it presupposes another domain, which need not be a basic domain, but can also be another non-basic domain as in the chain *arc-circle-shape-(two-dimensional) space*. The

domain that serves as the base for a profile, also called the "scope of a predication," is a *base domain* or just *base*.

Many concepts involve more than one domain, e.g. a human being can only be defined relative to the domains of physical objects, living things, volitional agents etc. All the domains presupposed by a concept constitute the *domain matrix*. The difference between domain and domain matrix is crucial for the demarcation of metaphor and metonymy. Thus the notion of "physical object" is, in fact, not a domain, but a domain matrix, consisting of the domains *matter, shape*, and *location*. A domain matrix comprises not only the base domains, but the entire domain structure. Thus the notion of "body" is profiled against the domains of physical objects, life (or living things), time (since subject to processes of birth and death), and cause. The activation of a concept does not *necessitate* the activation of more peripheral knowledge, but it only *facilitates* their activation. Still, the activation of the base domain of a profiled concept is necessary. Activation is thus a question of degree.

This complex scaffolding then serves to explore the conceptual domains involved in metaphor and metonymy. Croft explains the two-domain approach to metaphor as a conceptualisation of one domain in terms of the structure of another independent domain, whereby the two domains do not form a domain matrix for the concept involved. Thus in the example *She's in a good mood*, the emotional domain is conceptualised in terms of the domain of space, but the spatial relation itself is not encoded; the emotion *good mood* is only seen as having structure similar to space. The two domains involved here are base domains, i.e. they are the bases of the profiled predication. The domain of location in its three-dimensional form denotes containment and this is mapped onto the domain of emotion.

Whereas metaphor is *domain mapping*, metonymy is *domain highlighting*. It is less directly linked to the role of domains, but rather to the "schema" or ICM, structuring a complex domain or domain matrix. Metonymic mapping, therefore, occurs within a single domain matrix, not across domains. This leads to a *domain shift* within the domain matrix. In fact, domain shift is achieved as a form of domain highlighting. The domain matrix of "book" comprises the

domains of physical object, artefact, authorship, reading, etc. and a speaker may highlight any of these domains in the domain matrix: *Proust is a fat book, Proust is difficult to read, Proust is out of print.* Similarly, the domain matrix of *trumpet* (*playing*) comprises the domain of sound as in *We all heard the trumpet*, or the domain of the player as in *The trumpet could not come today.*

Croft finally links domain mapping with dependent predications and domain highlighting with autonomous predications. Autonomy and dependence relate to whether a concept is or is not a substantive in another concept. In most grammatical combinations, one predication elaborates a salient substructure of another predication, the autonomous one. Applied to *the mouth of the bottle*, *bottle* is the autonomous predication and *mouth* as a dependent predication fills a substructure of *bottle.* In other words, in domain mapping, it is the autonomous predication that induces the mapping. In domain highlighting, e.g. with *swear*, one can focus on the contents as in *He swore foully*, or on the manner as in *He swore loudly.* Here *swear* is the autonomous predication and *foully* or *loudly* is the dependent predication. So in domain highlighting it is the dependent element that induces the highlighting in the autonomous predication. Finally, the autonomous predication and the dependent predication are always to be interpreted in one single domain or domain matrix. The unity of domain reflects the hearer's assumptions that the sentences he hears are coherent, even when two different domains in the same domain matrix of metonymy are involved, as in *I cut out this article on the environment*, which combine the physical object and reading domains. In metaphor a predication may be dependent on more than one autonomous predications. Thus in *I won't buy that idea* the metaphor is dependent on the two autonomous predications *buy* and *I*: *buy* must be mapped on the domain of mental activity, and in *I* the domain of the mind must be highlighted.

Barcelona (1998*) takes up many of the points raised by Croft and others and discusses a series of problems left unsolved in the cognitive linguistic theory of metaphor and metonymy (CTMM). In order to do so, he first presents the CL theory of metaphor and metonymy,

both the standard or two-domain theory and the multi-space approach. In a third part he develops a methodological procedure for the application of CL insights in metaphor and metonymy to text analysis.

In the two-domain theory of metaphor a number of elements of a source domain such as *seeing* are mapped onto corresponding elements in a target domain such as *understanding*. These elements may be of an ontological nature (the two acts of *seeing* and *understanding*, two persons, light, possible impediments), and of an epistemic nature (transparent objects corresponding to clearly expressed ideas). The main constraint to this mapping is that the two domains share, in part, their image-schematic structure, which is known as the "Invariance Hypothesis" (Lakoff 1990). Metonymy is a one-domain mechanism whereby one (sub)domain is understood in terms of another (sub)domain, included in the same experiential domain or domain matrix, i.e. all the domains that join in a given entity, e.g. a human being. Whereas Croft calls metaphor a cross-domain mapping and metonymy an intra-domain highlighting, Barcelona proposes that metonymy presupposes a form of mapping, too. Alongside this two-domain model, a new theory known as blending or multi-space approach has recently been developed by Turner & Fauconnier*. This is not incompatible with the two-domain model of metaphor, but what is more: it even presupposes it. However, Barcelona, just like Ruiz de Mendoza & Diez*, rejects Turner & Fauconnier's* analysis of the "smoke coming out of his ears" example, but accepts that in many cases the blend enables the development of new structure, not contained in the source and target input domains.

Barcelona then tackles the definitional problems in the CL notions, first of metonymy, and next, in the distinction between metonymy and metaphor. First, metonymy is often claimed to be a relation between entities, concrete and abstract, but in fact these always constitute domains, so metonymy is a relation between domains, not just between entities. Next, on the relation between metonymy and reference, Barcelona cannot see metonymy as necessarily restricted to the act of reference. Further, Barcelona accepts Croft's view of metonymy as highlighting or activation of a (sub)domain in a (matrix) do-

main. But it is also 'mapping' albeit an *asymmetrical* one, that is, one without a structural match between the (sub)domains. Metaphor, in contrast to this, constitutes symmetrical mapping. Two further question are: what qualifies as a target in a WHOLE FOR PART metonymy, and how do metonymies become conventionalised. The answer to the first question leads him to propose three degrees of metonymicity, with *prototypical* metonymies displaying the highest degree and (exclusively) *schematic* metonymies displaying the lowest degree.

Problems in the distinction between metaphor and metonymy relate to their fuzzy boundaries, their dependence on contextual or world knowledge, and their intricate patterns of interaction. Fuzzy boundaries may lead to the interpretation of *have a long face* either as a metonymic mapping of a physiological expression for the emotion of sadness, or as a metaphorical mapping of the domain of verticality onto emotions (HAPPY IS UP, SAD IS DOWN). The solution is that in metonymy the two domains may be in the same overall domain (bodily expression of emotions and the emotion itself), whereas in metaphor they may not (emotion is a mental domain, verticality a physical domain). However, this solution does not solve the problem of *John is a lion*, where the two domains (human being, animal world) are both included in the overall domain of living beings. The solution here is that the taxonomic classification recedes in the face of a functional superordinate domain. Although humans and animals are included in the same taxonomic classification, they are not included in the same superordinate functional domain and therefore the two-domain basis in the *lion* metaphor remains intact. On the other hand, *the White House* is both a building and the seat of a government: the functional superordinate domain includes both, hence we are dealing with a metonymy here.

Contextual or world knowledge may lead to the interpretation of *He fell in the war* as metonymy or metaphor. If one knows that the soldier got wounded, fell and died, this is a metonymy, but if during the night he was bombed to death while sleeping, it can only be a metaphor. The intricate patterns of interaction between metaphor and metonymy are extensively discussed, but we cannot go into them

here, because this would require a preliminary synthesis of the opinions expressed in the various papers of Section 3.

Finally Barcelona presents a methodological procedure for the analysis of metaphor and metonymy, which is applied to a fragment and sentence of Romeo and Juliet: *Young men's love then lies not truly in their hearts, but in their eyes.* Here the PEOPLE ARE CONTAINERS, the HEART IS A CONTAINER, and the EMOTIONS ARE SUBSTANCES metaphors are contrasted to and combined with the *eyes* metonymy, and the paper meticulously works through the many differentiated steps and substeps leading to this conclusion.

Klaus-Uwe Panther and Linda L. Thornburg (1998*) focus on morphology and, more specifically, on the roles and interactions of metaphor and metonymy in creating polysemy in *-er* nouns. While they largely agree with Croft's views, they offer a more constrained characterisation of the notions of conceptual metonymy and contiguity. They accept the Lakoff and Johnson view of metaphor as a cross-domain mapping but define metonymy as an intra-domain mapping based on a *contingent*, i.e. non-necessary, and therefore cancellable relationship between two conceptual entities. The metonymic target is usually relatable to its source though it may become completely detached from its source, resulting in post-metonymy (Riemer's* term).

Panther & Thornburg's main thesis in their contribution "The roles of metaphor and metonymy in English *-er* nominals" is that *-er* formations constitute a semantic network, having as their central sense that of "professional human Agent" embedded in a conceptual action schema that is multi-dimensional and whose parameters are scalar. The other senses of *-er* words are then metaphoric and metonymic extensions of this central sense. Moreover, the authors defend a non-syntactic approach to *-er* formations, considering e.g. both verb-based (*baker*) and noun-based formations (*hatter*) as realisations of the underlying action schema, where the former is derived from the verb *bake* in a direct, non-metonymic way, whereas the latter is formed from the Patient role *hat* on the basis of the metonymy PARTICIPANT FOR ACTION. The scalarity of the defining properties of

the central sense a transfer of energy from a professional Agent to a Patient (as in *baker* or *hatter*) allows for such non-prototypical formations as *owner* and *dreamer*. Consequently, the *-er* morpheme in *dreamer* does not have the prototypical sense of "professional human Agent," but only that of 'someone who is inclined to dream.'

The authors show that the processes of metaphor and metonymy operate equally well on the lexical stems and on the *-er* suffix itself. Concerning the latter, metonymic extensions of the *-er* suffix from Agent account for Instrument, Location, and even Patient referents of *-er* formations. Their analysis thus supports the view that derivational morphemes form symbolic units that are subject to the same conceptual operations of meaning extension as lexical morphemes.

The authors show that the motivated polysemy of *-er* nominals can often be demonstrated in individual lexical items. For example, the various meanings of *sleeper* can be explained as motivated metaphoric and metonymic extensions from its basic use to denote 'one inclined to sleep' or 'one sleeping.' There are metaphoric extensions of the stem *sleep-* as in the sense of 'someone with an unexpected success' (after a period of "sleeping") or in the sense of an 'inactive spy.' A metonymic extension of the suffix *-er* is found in the case of the interpretation of *sleeper* as 'sleeping pill,' where the Instrument is the contiguous element linking itself to an Agent-like role. This sense also involves the ubiquitous high-level metonymy EFFECT FOR CAUSE: The stem *sleep-* names the (intended) effect of the active ingredient of the drug. Instrument roles may themselves be further metonymically connected to what the authors call Quasi-instruments such as *sleeper* in the sense of 'baby's sleepwear,' or to a purposeful Location as in 'sleeping carriage in a train.' Metaphoric extensions of the whole nominal *sleeper* can by definition only apply to non-human entities and go in the direction of human-like plants, animals or objects. The latter is realised in *sleeper*'s sense of 'underground railroad tie.'

All the extensions of the central sense of *-er* discussed so far relate to object referents, be they humans, plants, or objects in the narrower sense. But *-er* nominals may also have a whole event as their referent. Just as agents transfer their energy onto patients, inanimate

causes may trigger off an event. Hence a metaphoric mapping is possible from Agent to Cause as another pattern of *-er* extension, realised in the sense of *sleeper* as 'boring event,' i.e. some event that bores you to sleep. Besides Agent/Cause event referents, other *-er* extensions based on the EVENTS ARE OBJECTS metaphor reflect the key semantic roles in an action scenario, namely Instrument and Patient, as seen in formations like *season opener,* or *keeper* as 'memorable event.' Events lacking a metaphoric semantic role can be denoted by *-er* via metonymic operations on a stem, e.g., *kegger*, *sundowner*, *tailgater* (all types of party events whose salient feature is named in the base) or on the suffix itself, e.g. *cliff-hanger* (via the PARTICIPANT FOR EVENT metonymy).

In their conclusions, the authors relate the productivity of *-er* nominals to their capability of undergoing an array of metaphoric and metonymic elaborations from the central meaning and their extended senses. They contrast the extremely diversified conceptual richness of *-er* formations with the relatively constrained meanings of *-ist* and *-ent/ant* nominals that are usually formed from non-native bases and are only productive in the human-agent sense (*-ist* and *-ent/ant*) and the instrumental sense (*-ent/ant*) with almost no metaphoric or metonymic extensions.

Section 3: The interaction between metaphor and metonymy (Taylor, Goossens, Riemer, Radden, Geeraerts)

Although **John Taylor** (1995* [1989]) discusses metonymy and metaphor separately, he is the first (in the cognitive linguistic world) to develop the idea of metonymy-based metaphors. He takes the concept of metonymy in a very broad sense, comprising, as a prototypical member, referential metonymy, either conventionalised cases or else conversationally relevant references such as 'the ordered part' for 'the customer domain' as the whole. But Taylor also links these metonymic cases with pre-metonymic [not his term] phenomena. Pre-metonymic phrases are expressions denoting activities to an object's part by naming the whole object as in *Could you fill, wash,*

vacuum-clean, and service the car? These are instances of conceptual "modulation" (Cruse) or "active zone highlighting" (Langacker). A transitional phase between pre-metonymic and metonymic expressions is constituted by "frame" concepts like *door* or *window*, which also allow frame variation or highlighting, but not combining of the two. One can hardly take a door off its hinges and walk through it. This causes zeugma (see also Warren *118). Conventionalised metonymy differs from modulation or frame variation in that it presupposes polysemy, as in *close the office*, which may mean 'close the door of the office' or 'lock the office.' Here the variation is minimal, i.e. between the container as such and its "closing" component. In more complex conceptual structures such as the metonymy *mother*, each of the many domains associated with a mother 's possible functions becomes a member of a polysemous network, for which the concept as a whole can stand such as the genetic function, the nurturance function, the birth-giving function, the marital function, and the genealogical function. Another source of metonymic polysemy is implicature. In a diachronic perspective, implicatures can become conventionalised and give rise to two or more senses of a word, as in *leave:* from "movement from inside to outside a room," via the implicature "move from the things you had" i.e. "leave behind," to "forget" (unintentional leaving behind). Taylor finally tries to identify very general processes of metonymic extensions, such as the many senses of prepositions. Thus the different senses of *over* derive from the fact that either the whole path it denotes can be highlighted or activated or else any single place on this path, especially the endpoint (*across the hill*), which in fact are whole-part relationships. Whereas other authors tend to see such extensions as metaphoric processes, Taylor clearly takes the metonymic road.

Also in his view on metaphor, Taylor mainly explores an original avenue, i.e. to what extent metonymy forms a basis for metaphor. Johnson (1987) and Lakoff (1987) suggested that most metaphors are based on image schemas such as containment, motion (e.g. a journey), proximity and distance, linkage and separation, front-back orientation, part-whole relations, linear order, up-down orientation, etc. Taylor's thesis is that in many cases there is a metonymic relation

between the notion of verticality and the metaphoric extensions into notions of quantity, evaluation, and power (MORE IS UP, GOOD IS UP, POWER IS UP). As a pile gets higher, the quantity increases, so that the one aspect stands for the other. Purely metaphoric extensions as in *high prices* are an elaboration of this metonymic link, and a *high note* has no link any more with any metonymic base. Taylor therefore wonders to what extent metaphors are based on metonymies more generally. This question was systematically discussed by Goossens.

At the same time that Taylor (1989) developed his view of a strong interaction between metonymy and metaphor, **Louis Goossens** (1990*) built up the aptly named concept *metaphtonymy*, which is entirely based on the conceptual structuring of the domain of communication, or in Goossens' terminology, *linguistic action*. Whereas Reddy (1987) had concentrated on the source domain of "conduit" imagery, Goossens' corpus-based study explored three other source domains: (a) body parts, especially the tongue, the mouth, and the lips, e.g. *bite off one's tongue*, but also other parts, e.g. the legs; (b) sounds produced by humans, animals, natural forces, instruments, etc., e.g. *blow one's own trumpet*; and (c) violent action such as *throw mud at* for "speak badly of." The first two source domains are perfectly natural, because they contain elements contiguous with linguistic action. The third source domain is not astonishing either, given that a great deal of linguistic interaction is of the violent type, aptly summarised in Lakoff & Johnson's (1980) conceptual metaphor ARGUMENT IS WAR.

In the domain of linguistic action, the frequency of metaphtonymy is strikingly high. Goossens' sub-corpus of about 109 linguistic-action expressions using body parts contains 42 purely metonymic and purely metaphoric expressions, and 59 mixed cases, i.e. metaphtonymies, which is more than 50 per cent. This label does not stand for one type of mixture, but is a cover term for four different types, i.e. (i) metaphor from metonymy, as in *"What's so funny," I snapped; (ii)* metonymy within metaphor as in: *I could bite my tongue off*; (iii) metaphor within metonymy, as in *get up on one's hind legs*; and (iv) de-metonymisation, as in *pay lip-service to*.

Metaphor from metonymy is what Taylor (1989*) called a metonymy-based metaphor, which is systematically further explored by Radden*. Goossens discusses the example of *giggling* as in *"Oh dear," she giggled, "I'd quite forgotten,"* but since the interpretation of a mixture of metonymy and metaphor is not accepted by all readers (see Riemer* and Goossens'* reply to it), we have selected Goossens' second expression, i.e. *snap at* 'say or answer in an angry or rude way.' The metonymic basis is the quick closing of the jaws, e.g. a dog biting at your ankles. If this were purely mapped onto the human domain, it would just be a metaphor as is the case with *bark* in *A captain barking orders to his soldiers*. But in the angry answer "*What's so funny?*" *I snapped*, Goossens can undoubtedly claim the actual, quick closing of the speaker' s jaws, so that with human *snap* there is first of all a metonymy for speaking, and, on top of that, it is mapped onto the emotional domain of anger, and thus assumes metaphoric value.

Metonymy within metaphor is not a metonymy developed into a metaphor, but, on the contrary, a metaphoric expression in which there is still some remnant of a metonymy left. This type of metaphtonymy typically refers to body parts such as *tongue (I could bite my tongue off)* and *mouth (Don't shoot your mouth off)*. The hyperboles in both expressions are so strong that no literal interpretation, but only a figurative, metaphoric mapping can be invoked. Still, as organs of speech (or linguistic action), the metonymy of the organ standing for speaking is still present in the contiguous elements of the whole (mouth) or the salient part (tongue).

Metaphor within metonymy is just the opposite of the previous type of metaphtonymy, which means that the expression for linguistic action is basically a metonymy, which also has a metaphoric flavour about it. In the expression *get up on one's hind legs* "stand up in order to say or argue something, esp. in public," the source domain of "getting or standing up" metonymically stands for claiming one's turn in public discussions. But the mixture with the domain of animal physiology of having fore and hind legs opens up a metaphoric (or anthropomorphic) window on this metonymic scene, so that the

whole expression is a mixture of basic metonymic elements with a metaphoric humorous point.

*De-metonymisation inside a metaphor i*s the loss of the transparency of the image used in an expression such as *pay lip service to*, meaning "to support in words, but not in fact." The metonymic basis of this expression is the biblical source domain of "people expressing what they say with their lips (i.e. reciting words), bur not with their hearts (i.e. meaning what you say)." The idea that *lips* in *lip-service* stands for "words" in this expression has faded so that this biblical metaphor-from-metonymy has got lost and only the metaphoric sense prevails in today's English.

Being such a clear corpus-based study, it is more than astonishing that thus far Goossens' approach has not yet been applied to other domains of human experience (but see Geeraerts*).

Nick Riemer concentrates, just like Barcelona, Taylor, Radden, Goossens, and Geeraerts, on the demarcation problem between metaphor and metonymy. Whereas Warren concentrates on the differences between metaphor and metonymy, and Goossens on their intertwining, Riemer is, just like Barcelona*, more interested in the ambiguities, overlappings and uncertainties of metaphor or metonymy status. For this purpose he concentrates on an area of great doubt, i.e. dead metonymies and dead metaphors, or in the terminology he proposes *post-metonymies* and *post-metaphors*. A post-metonymy is found in expressions such as *to kick someone out of his flat*, where the literal action of kicking could, in extreme cases, lead to expulsion. This is a dead metonymy in which it is not a real act of kicking, but (psychologically or juridically) forceful action that causes the effect of expulsion. In spite of this uncertain metonymic status, the notion of metonymy remains valid, since the action stands for the effect.

Even more doubtful is the metaphoric status of expressions such as *to beat one's breast*, meaning "to make a public confession of wrong-doing." Riemer rejects Goossens' analysis since it is based on a metaphor concept which only sees the substitution of one idea (breast-beating) for another idea (public confession of guilt). But in a cross-domain mapping theory of metaphor, there can be no mapping

in such metaphtonymies: the breast-beating and its elements are not mapped on the idea of public confession, also see the definition by Barcelona (*246ff). The only thing that licenses the meaning 'confess publicly' is the original metonymic context of beating the breast while publicly confessing by saying *mea culpa* 'my guilt,'but see Ruiz de Mendoza & Díez (*518–520). This metonymic meaning has been conventionalised outside the original context, so that there is a case of dead metonymy.

Dead metaphors are also found in the use (in some varieties of English) of *knock* in the sense of 'criticise,' e.g. *knock someone about their haircut*. Here the source domain (or the vehicle, a term of Richards' which much better fits the complex case) is no longer salient in its identification with 'criticise' so that in fact there is no longer a metaphor, but only a conventionalised meaning.

Some vague link with an image is still present in expressions such as *knock up and down all over the country* or *knock about all over the Pacific*. The *knocking* can be the hard contact with the road by travellers on foot, on horseback, in carriages or on a ship. So *knock* has assumed the meaning of a motion verb and the sense of motion is metonymically related to the contact and the noise while in motion on a surface. But there is also a metaphoric element about it, i.e. "the area in which the motion takes place is conceptualised as a container against the sides of which the moving body is striking" (*399). Riemer concludes that it certainly is not sameness versus difference of domain that decides on metaphor or metonymy status. In *slap someone to the ground* in the sense of 'knock to the ground' we find a mismatch between the inherent semantics of 'giving a slap with the open hand' and the extension to 'knocking,' which are in the same domain. The explanation may rather be a two-step process. First there is a metonymic extension: the physical contact of *slap* is metonymically extended from its root meanings to the meaning 'make move by slapping'(CAUSE STANDS FOR EFFECT), and then this new meaning is metaphorically applied to a situation in which there is no slapping but which is seen by means of understatement as involving far more force than it really needs. Although the two actions of slapping and knocking down are in the same domain of 'contact through

impact,' the expression cannot be seen as metonymy only, which is traditionally explained as intra-domain meaning extension. Post-metaphor and post-metonymy are thus further mechanisms of meaning extension in addition to pure metaphor and pure metonymy.

Although the total spectrum of the metonymy-metaphor continuum may be much more varied than the one category of metonymy-based metaphor may suggest, **Günter Radden**'s (2000*) special merit is to explore this category in great depth. Radden sees four different types of metonymic basis for metaphor: (i) a common experiential basis, (ii) an implicature basis, (iii) a category structure basis, and (iv) a cultural model basis.

A common experiential basis of the two domains involved can consist of either a correlation between two domains or the complementarity of two counterparts. Correlational metaphors which have a metonymic basis are, for instance, MORE IS UP (as also shown by Taylor*), FUNCTIONAL IS UP, IMPORTANT IS BIG, ACTIVE IS ALIVE, SIMILARITY IS CLOSENESS (*close to the truth*), etc. Complementary elements like *lovers* or *body* and *mind* form a strong unity, which is at the basis of conceptual metaphors such as LOVE IS A UNITY or THE MIND IS A BODY as found in expressions such as *have a strong will* or *handle a situation*.

Implicature, as is well known, accounts for many historical changes and extensions. Thus, the meaning extension of *go* to the sense of futurity as in *It is going to rain* has been shown to involve stages of context-induced reinterpretations arrived at by implicature. Implicature may be based on sequential events as in seeing something and then knowing it, which gives rise to the metaphor KNOWING IS SEEING. Another type of implicature is based on the relation between events and their results, which gives rise to the metaphor HOLDING IS POSSESSION as in *to hold power*. The most common type of implicature may well be the metonymic link between a place and an activity performed at that place as in *to go to church* or *to go to bed*, which gives rise to the metonymy-based metaphor PURPOSES ARE DESTINATIONS.

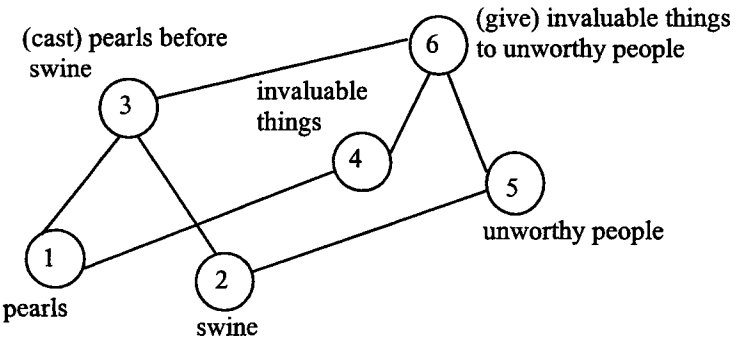
Category structure is the relation between a category and its members. This relationship of inclusion is often exploited in metonymy so that a member of a category may stand for the whole category or vice versa (e.g. *pill* for *birth control pill*). This relationship is further exploited as metaphorisation process as in *to have a say in something*, in which one specific form of communication (*saying*) stands for the communication of one's opinion.

Cultural models are understood as widely shared models of the world and relations in it which influence members of a society in their understanding of the world and their behaviour. These cultural models are manifest, first of all, in physical forms, which are seen as an internal force or impetus in objects. Thus FORCE is metaphorically seen as A SUBSTANCE CONTAINED IN CAUSES, e.g. *His punches carry a lot of force*. The best known instance of a cultural model is perhaps that of communication, which – as Reddy (1993) analysed it – is seen as a conduit metaphor, i.e. the transmission of packages of meaning contents through a channel. Still another culturally modeled area is that of ideas and emotions: the former are seen as bounded objects in the mind container and coded as count nouns; the latter are seen as unbounded substances and coded as mass nouns.

Radden's strength is linking theoretical insights with many rich examples. He hopes that the many examples he added for each type of metonymy-based metaphor will be multiplied in future research so as to reveal the ubiquity of metonymic elements in metaphor.

Dirk Geeraerts concentrates on idioms and compounds, which he subsumes under the label *composite expressions*. His contribution "The interaction of metaphor and metonymy in composite expressions" discusses this topic in terms of paradigmatic and syntagmatic relations. Whereas Dirven*, in the wake of Jakobson's ideas, linked the metaphoric pole to paradigmatic relations and the metonymic pole to syntagmatic ones, Geeraerts analyses both metaphor and metonymy in composite expressions along both their paradigmatic and syntagmatic axes. Geeraerts sees paradigmatic relations not only between the total literal meaning of an idiom e.g. *(cast) pearls before swine* (Matthew 7: 6) and its figurative meaning *(give) valuable*

things to unworthy people, but also between their separate constituent parts, i.e. in the pairs *pearls/valuable things* and *swine/unworthy people*. The syntagmatic relations hold between the two constituent parts and the total expression, both at the literal level and at the figurative level. Given this intricate set of paradigmatic and syntagmatic relations, Geeraerts proposes a prismatic model for composite expressions, consisting of two triangles and the connecting lines between the six angle points.



Composite expressions can, like all linguistic combinations, be interpreted on the basis of the parts they are composed of. Such compositionality is a bottom-up operation. But more often than not, idioms and compounds may have to be interpreted both bottom-up and top-down, which is called isomorphism or syntagmatic transparency, since the constituents in the literal and the figurative interpretations all correspond, as shown for the idiom *cast pearls before swine*. In Dutch, which is the target language of Geeraerts' exploration, the figurative uses of the equivalent for *pearls* and *swine* also exist independently of this idiom and are thus motivated, or in other words, motivation constitutes paradigmatic transparency. In the Dutch expression *parels voor de zwijnen (gooien)* '(cast) pearls before swine' we thus have both isomorphism and motivation. In Dutch, *met spek schieten* 'to shoot with bacon,' i.e. "to tell a tall story, to boast," there is only isomorphism, but no motivation, since here the figurative meaning of *spek* 'bacon' is not transparent. In Du. *met de handen in*

het haar zitten 'to sit with one's hands in one's hair,' i.e. "to be at one's wits' end, to be in trouble," there is no isomorphism, but there is motivation (it is typical behaviour when in trouble). And in Du. d*e kat de bel aanbinden* 'to bell the cat,' "to take the lead in a dangerous action" there is neither isomorphism nor motivation.

The interaction between metaphor and metonymy can occur in three different ways: in consecutive order, in parallel order, or interchangeably. Thus Du. *schapenkop* 'sheep's head,' i.e. "stupid person" can be analysed along each of the three options. In the consecutive interaction option, we can follow a route from 1) *sheep* and 2) *head* to 3) *sheep's head* and from here by metaphor to 4) *human head like that of a sheep*, which in turn by metonymy stands for *stupid person*. The second possibility of metaphor-metonymy interaction is a parallel operation. (Here one must think of a double prisma with three triangles and nine angle points instead of six). The parallelism holds between the metonymic interpretation of the constituent parts (i.e. between 1) *sheep*, 4) *sheep-like*, and 7) *stupid* on one hand, and between 2) *head,* 5) *head* and 8) *person* on the other) and it holds between the metaphoric/metonymic interpretation of the global interpretations of the literal and figurative meanings. (Here the metaphoric path runs from 3) *sheep's head* to 6) *(human) head like a sheep* and via a metonymic path to 9) *stupid person*). The third type of metaphor-metonymy interaction is interchangeability of metaphor and metonymy. Thus Du. *badmuts* 'swimming cap' can be jocularly used for "bald person." Either the object *swimming cap* leads metonymically to a person with a 'swimming cap' and from there by metaphoric similarity to someone who looks as if he is wearing a swimming cap, i.e. "a bald person," or else 'swimming cap' is directly metaphorised as 'a person who looks as if covered by a swimming cap,' i.e. "a bald-headed person." Both reconstructions are valid. Finally, Geeraerts compares his prismatic model to Goossens'* metaphtonymy concept. The main difference is that Goossens sees mainly one path, i.e. from metonymy to metaphor, whereas Geeraerts exploits their interaction in all possible directions. The conclusion is that Goossens' approach, while being fully valid, covers a couple of

possibilities in the much wider array of paradigmatic and syntagmatic possibilities, revealed by the prismatic model.

Section 4: New breakthroughs: Blending and primary metaphors (Turner/Fauconnier, Ruiz de Mendoza/Díez, Grady/Johnson, Nerlich/Clarke)

The originality of **Fauconnier and Turner**'s (1999*) application of mental space theory to the analysis of metaphor and metonymy is their insight that not just two, but many different domains are involved in metaphor understanding. Thus there are two or three input domains or spaces, a generic space, and a blended space or blend. The source domain and the target domain are input spaces whose relevant features are mapped into a generic space containing the common elements of both. This generic space is mapped onto a "blended space," which remains linked to the input spaces, but may contain elements of its own, not present in the source or target domains. Thus the input spaces for the emotion of extreme anger are the source domain of physical events like heat in a container and an orifice through which the steam or smoke can escape; or else the container would explode when it reached boiling point. The target domain is the psychological domain of anger, which is expressed metonymicaly in a third space, the physiological signs of body heat, perspiration, redness, acute shaking, loss of control, etc.. In the expression *He was so mad, I could see the smoke coming out of his ears* the blend contains the element s*moke coming out of his ears,* which is not present in the source domains, nor in the target domain, but it results from the multiple cross-mapping from the various input spaces.

Turner and Fauconnier lean on Lakoff & Kövecses' (1987) analysis, which "underscores the essential role of physiological reaction metonymies in the formation of the metaphoric system for emotions" (*476). Thus physical heat of the fire is not mapped on the physiological body heat and sweat but both are mapped onto one another in the blend such that heat is anger or anger is heat. The image of *smoke*

coming out of his ears is a further elaboration of the mapping of the orifice and the heat into the blend. Turner and Fauconnier suggest a further elaboration in the expression: ...(*I could see smoke coming out of his ears.*) *I thought his hat would catch fire.* The elements of *hat* and *catching fire* are not given in the source or target domains, but just arise from further cross-domain mapping in the blend.(For criticisms, see Barcelona* and Ruiz de Mendoza & Díez*).

In their contribution "Patterns of conceptual interaction," **Ruiz de Mendoza and Díez** (based on Ruiz de Mendoza 1997*) critically look at Lakoff & Johnson's two-domain model and Fauconnier & Turner's* multi-space model. From the two models they retain the well-known insights and analyse metonymy as consisting of a sub-domain and a matrix domain [not to be confounded with Croft's domain matrix], which can both be the source or target, so that we have target-in-source or source-in-target metonymies. In opposition to Croft*, the authors assume that both in metaphor and in metonymy we can have domain highlighting, but domain reduction and domain expansion typically occur in metonymy only. Although critical of the multi-space model, Ruiz de Mendoza and Díez adopt it for their descriptive analyses. What they reject is the view that blends may have structure which is not provided by or which is not compatible with that of the input spaces. According to Fauconnier & Turner (1995), the metaphor *landyacht* for 'a luxury car' does not predict, on the basis of the three input spaces *water vehicle*, *land vehicle* and *cars*, that this type of car is typically used on highways and owned by moderately rich people, but not by rich tycoons such as own yachts. But for Ruiz de Mendoza and Díez such features follow from pragmatic principles, especially the principle of relevance. The integration of the three input spaces into the generic space and the blend show which characteristics of yachts are applicable to cars. The authors assume that, once the fundamental correspondences have been grasped, an extra input space is created allowing further relevant applications, such as the use of these luxury cars on highways and the specific type of owners. This solution circumvents the prob-

lem of accounting for new elements in the blend, but this is certainly not the last word on this issue.

In their view, conceptual projection is a principle-regulated phenomenon which may follow four different routes: (i) interaction based on image-schemata, (ii) interaction between propositional cognitive models, (iii) interaction involving metonymic models such as double metonymy, and (iv) interaction between metaphor and metonymy.

Image-schema-based metaphors invoke schemata of container, path, contact, bodily orientation (front-back, up-down, centre-periphery), etc. Thus in the expression *Plans are now moving ahead*, a path schema is the source input-space for the target business-deal input-space. The generic space contains abstractions from the two input spaces which relate to the structure and logic of such a business deal, i.e. a source, a destination and various phases in the business negotiations one must pass through, and the time it takes. In the projection the plans are seen as travellers and the progress as movement towards the destination.

Interaction between propositional cognitive models links the features (expressed in propositions) of two or more ICMs such as those for judges and machines. Thus in *Judge Griffith is a deciding machine*, which rests upon the conceptual metaphor PEOPLE ARE MACHINES, the features of machines (doing a lot of work, in a non-reflective way) contained in two input spaces (machines and judges) are mapped onto a target space (a certain judge is like a machine in the way he decides cases routinely). So all in all we have five spaces here: two source input spaces, a target input space, a generic space, and the blend.

Double metonymy is a repeated metonymic mapping of the same expression. Whereas in *Wall Street will never lose its prestige* we have a single target-in-source metonymy (PLACE FOR THE INSTITUTION), in *Wall Street is in panic*, we have a double metonymy: A PLACE FOR AN INSTITUTION FOR PEOPLE, which is a metonymic chain, as Bartsch* calls this phenomenon. Here the target domain *people* is reduced to the institution, which itself is reduced to its location. Alongside such domain reductions, metonymic chains

may also undergo domain expansion as in *His sister heads the police unit*, which as a source-in-target metonymy expands the domain HEAD into that of LEADER/AGENT and further into that of ACTION OF LEADING.

Interaction between metaphor and metonymy has as one of its types what Goossens* calls 'metaphor derived from metonymy' as in *to beat one's breast.* Ruiz de Mendoza & Díez analyse this 'metaphtonymy' as a metaphor whose source is a source-in-target metonymy (with the source of 'breast-beating' and the target 'breast-beating to show one's sorrow'); this source is mapped onto the target of 'a person making a show (or pretence-play) of showing sorrow for a situation.' Here the metonymy is part of the metaphor's source domain, but it can also be part of its target domain as in *Peter knitted his brows and started to grumble.* Here the source domain of knitting socks is mapped onto the target 'one's facial expression of anger,' which itself contains a target-in-source metonymy, i.e. the situation of 'frowning because one is angry' is expressed as the facial motion of drawing together the eyebrows.

Whereas Turner and Fauconnier propose extra phases in the elaboration of metaphor and metonymy after the two-domain-mappings, **Joe Grady and Christopher Johnson** (2000*) propose a kind of pre-domain-mapping approach. They argue that rich two-domain mappings such as the one proposed for the conduit metaphor for communication (LINGUISTIC COMMUNICATION IS SENDING PACKAGES) may be overly detailed to account for observed patterns in the metaphoric data and are not clearly enough motivated by experience. They provide evidence that such mappings can be analysed into simpler ones motivated by basic experience types which they call "subscenes" and "primary scenes," much more fundamental units than the more familiar "domain." A subscene can be defined as a simple, irreducible chunk of experience such as seeing something or leaving a container. A primary scene is a still fairly simple, but somewhat more complex chunk of experience in which two or more subscenes are correlated, e.g. the perceptual level of seeing something and the mental level of being aware of what one sees. This primary scene underlies primary

metaphors such as BECOMING ACCESSIBLE TO AWARENESS IS EMERGING FROM A CONTAINER. This is based, on the one hand, on the correlation between "X in container, X not visible" and "X inaccessible to awareness," and, on the other hand, on the correlation between "X' out of container, X' visible" and "X' accessible to awareness." In each pair the perceptual level is correlated to a mental level.

A primary metaphor is consequently a correlation of an experience and an association, and hence a mapping of a perceptual onto a conceptual structure. That is, concepts such as "hidden/visible" are systematically associated with corresponding concepts such as "unknown/known." Such correlations may not only account for the way metaphoric mappings originate, but also for the way that children initially interpret certain linguistic expressions. The correlation between the perceptual level and the mental level of "knowing" can be seen in such ambiguous expressions as *Oh, I see what you wanted.* This may refer to the perceptual level of seeing the physical object, i.e. the toy, but it may also refer to the mental level of understanding (UNDERSTANDING IS SEEING), i.e. what it is that the baby wants. There is evidence that very young children do not distinguish the two senses of this ambiguous construction, whereas adults easily switch between both the perceptual and the "knowing" interpretations of *see*, indicating a clear distinction between literal and metaphoric uses of *see*. For children, the correlation between these interpretations forms a strong basis for learning the metaphoric meaning of *see*, a learning process which ultimately involves the "deconflation" of the perceptual and mental dimensions of the meaning initially assigned to the word. This is also a question of grammar since the two interpretations are matched by two different syntactic constructions. The perceptual sense consists of a reduced relative (*I see <u>what</u> (=the thing that) you want*), while the mental sense of *see* as 'understand' requires an embedded interrogative *(I see what you want (=what it is you want)*.

The strength of the approach in terms of primary scenes and subscenes further resides in the fact that it accounts not only for metaphoric mappings and their acquisition, but also for the non-

metaphoric phenomena involving children's preferred interpretations of adjunct PPs. Grady & Johnson discuss semi-idiomatic constructions of the type *What are you doing with that knife / What are you doing in my room*. In their idiomatic sense, these WXDY-constructions imply the notion of incongruity and may carry the implicature of "reproach." The idiomaticity also appears from the fact that *doing* denotes not an activity, but an abnormal situation, which is criticised by the speaker. The *with*-phrase is moreover not understood in its instrumental sense, but merely in a possessive sense as in *She stood in the doorway with a knife*. Similarly, the *in*-phrase does not denote location of an activity, but location of the subject ("Why are you in my room?"). Now the interpretation of possession of an object and location of a person or thing are the "simple" interpretations and correspond to subscenes. The interpretation of the instrumental and the location of activity are more complex scenes. Children have a preference for attributing simple subscene interpretations to such prepositional phrases. But the ways in which these subscenes fit into the more complex conventional interpretations of locative and instrumental adjuncts can provide the child with special opportunities to linguistically encode these relatively abstract meanings.

Thus this approach in terms of primary scenes and subscenes is a far-reaching refinement of existing insights into metaphor in that it not only accounts for part of the process of metaphoric mapping, but also for the process of metaphor acquisition and for non-metaphoric behaviour exhibited by the language-learning child.

Nerlich and Clarke's (2000*) contribution begins with a brief introduction into the more technical aspects of Turner & Fauconnier's blending theory, but is mainly historical in outlook. It forms the closing chapter since it opens a wider historical perspective in which blending theory and many other CL insights get their ultimate relevance. Blending theory can be seen as one of the summits of non-objectivist and non-reductionist phases in scientific evolution. But most of the ideas also flourished in nineteenth century German non-mainstream linguistics, philosophy and psychology. Still, they were swept away by a positivist wave in structuralism and by reductionism

in most of the twentieth century. It is only in the last quarter of the twentieth century, especially in the last decades (1980-2000), that the mentalist or cognitive wave gained momentum again and will probably be a vigorous factor in the twenty-first century. Nerlich and Clarke's historical guided tour is especially meant as an attempt to "give modern theories [of metaphor and blending] firmer roots, roots that might prevent the next wave of positivism and reductionism" (*585; 2000: 30).

Many of the insights of today's cognitive linguistics paradigm were, in some form or other, already present or pre-figured in inquiries into language, either by linguists, or by psychologists and philosophers in hermeneutics in the eighteenth century through the nineteenth century and up to the first part twentieth century.

Thus the idea of the ubiquity of metaphor or the basic metaphoric nature of our concepts was already recognised by John Locke (1689). Du Marsais (1730) even extended the central function of metaphor into "ordinary" thought and language, even in such terms that a text by Du Marsais can be directly mapped onto one by Lakoff & Turner in *More than Cool Reason*. Also the notion of "fuzzy meaning" is not an invention of the twentieth century, but was part and parcel of the thinking of nineteenth century theoreticians such as Whitney, Gerber, Wegener, Erdmann and Gardiner. Gardiner also comes up with a precursor of a network of family resemblances, of a prototype theory of meaning, and of the mixture or blending in the production and understanding of metaphor.

What up till then appeared as theoretical constructs were for the first time put to the test in the psychology research programme led by Karl Bühler (1907), founder of the Würzburg school of psychology. For Bühler, understanding is based on "integrating new structures into already existent structures of thought" [*577; 2000: 22]. This is a theory of blending, almost 90 years before its later re-invention. Applied to metaphor, one finds an almost identical formulation of blending: "A duality of spheres and ... a transition from one to the other can often be detected in the experience of understanding"[*578; 2000: 23]. This can now be rephrased simply by changing the lexis: "Two different domains and a mapping from the one to the other is

ubiquitous in the experience of (human communication and) understanding."

As Nerlich and Clarke point out, the precursor theories lacked the linguistic, psycholinguistic and neurolinguistic support that today's linguistics can recur to. Still, the roots are firm, and today's trendsetters can only learn from these precursors to avoid future oblivion.

General conclusion

Recent metaphor and metonymy research as reflected in this volume has revealed three major facts.

In spite of early criticism against it, the two-domain theory of metaphor and metonymy now stands firm. This has been realised, not only by the many analyses along Lakovian lines (not reported here), but also by Croft's strong theoretical foundation of the concept of "domain" and "domain matrix," both borrowed from Langacker, and their application to the process of metaphor and metonymy.

The originally envisaged title for this volume was "The Metonymy-Metaphor Continuum." It soon turned out, however, that this ambition was still premature. Hopefully, this Jakobsonian idea may become the research target for a new decade. Although most of the present papers are substantially revised versions of sometimes fairly recent papers, only one third embarked upon research in the area of a continuum between metonymy and metaphor. The papers by Barcelona, Croft, Dirven, Geeraerts, Radden, and Taylor have made inroads into this direction, but we do hope that many more will follow in the future.

What the present volume has abundantly revealed are two things: the ubiquitous presence and role of metonymy and, in a great many cases, its strong links with metaphor. The interaction between metonymy and metaphor has thus become the most salient focus in the research in metaphor and metonymy in the last decade. It is present in all papers, but most explicitly so in the papers in Section 3 by Taylor, Goossens, Riemer, Radden, and Geeraerts, and also in papers in other sections such as those by Barcelona and Ruiz de Mendoza &

Diez. It has become a new theory especially in the multi-space approach by Turner and Fauconnier. They all reveal a potentially new truth: In the beginning was the word, and then came metonymy and metaphor.

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Section 1

The metonymic and the metaphoric

The metaphoric and metonymic poles

Roman Jakobson

Abstract

Roman Jakobson is probably the last *homo universalis* in the human sciences, who both developed a theory of the mind and applied it to a panoply of disciplines. Jakobson sees the metaphoric and the metonymic poles as the two basic modes or ways of thought reflected in general human behaviour and in language. The metaphoric is based upon substitution and similarity, the metonymic upon predication, contexture and contiguity. These two ways of thought are linked, though not in this paper, but in several other papers of his collected works, to the paradigmatic and the syntagmatic axes of linguistic expressions. The metaphoric and the metonymic poles do not only underlie metaphor and metonymy in language, but, in alternative ways, phenomena in all possible fields. such as language impairments, especially aphasia, child language acquisition, literature (similarity in poetry, contiguity in the novel), Freud's psycho-analysis, literary and art schools, the history of painting and art movements, folklore such as folk tales and wedding songs. In fact, Jakobson holds out a research challenge not only to linguistics, but to all areas of semiotics. [R.D.]

Keywords: combination, contexture, contiguity, dichotomy, language impairment, metaphoric pole, metonymic pole, predication, selection, similarity, substitution, synecdoche. [R.D.]

The varieties of aphasia are numerous and diverse, but all of them lie between the two polar types just described [i.e. similarity and contiguity disorders]. Every form of aphasic disturbance consists in some impairment, more or less severe, either of the faculty for substitution or for combination, and, contexture. The former affliction involves a deterioration of metalinguistic operations, while the latter damages

the capacity for maintaining the hierarchy of linguistic units. The relation of similarity is suppressed in the former, the relation of contiguity in the latter type of aphasia. Metaphor is alien to the similarity disorder, and metonymy to the contiguity disorder.

The development of a discourse may take place along two different semantic lines: one topic may lead to another either through their similarity or through their contiguity. The metaphoric way would be the most appropriate term for the first case and the metonymic way for the second, since they find their most condensed expression in metaphor and metonymy respectively. In aphasia one or the other of these two processes is restricted or totally blocked – an effect which makes the study of aphasia particularly illuminating for the linguist. In normal verbal behavior both processes are continually operative, but careful observation will reveal that under the influence of a cultural pattern, personality, and verbal style, preference is given to one of the two processes over the other.

In a well-known psychological test, children are confronted with some noun and told to utter the first verbal response that comes into their heads. In this experiment two opposite linguistic predilections are invariably exhibited: the response is intended either as a substitute for, or as a complement to, the stimulus. In the latter case the stimulus and the response together form a proper syntactic construction, most usually a sentence. These two types of reaction have been labeled SUBSTITUTIVE and PREDICATIVE.

To the stimulus *hut* one response was *burnt out;* another, *is a poor little house.* Both reactions are predicative; but the first creates a purely narrative context, while in the second there is a double connection with the subject *hut:* on the one hand, a positional (namely, syntactic) contiguity, and on the other a semantic similarity.

The same stimulus produced the following substitutive reactions: the tautology *hut;* the synonyms *cabin* and *hovel;* the antonym *palace,* and the metaphors *den* and *burrow.* The capacity of two words to replace one another is an instance of positional similarity, and, in addition, all these responses are linked to the stimulus by semantic similarity (or contrast). Metonymical responses to the same stimulus,

such as *thatch, litter,* or *poverty,* combine and contrast the positional similarity with semantic contiguity.

In manipulating these two kinds of connection (similarity and contiguity) in both their aspects (positional and semantic) – selecting, combining, and ranking them – an individual exhibits his personal style, his verbal predilections and preferences.

In verbal art the interaction of these two elements is especially pronounced. Rich material for the study of this relationship is to be found in verse patterns which require a compulsory PARALLELISM between adjacent lines, for example in Biblical poetry or in the Finnic and, to some extent, the Russian oral traditions. This provides an objective criterion of what in the given speech community acts as a correspondence. Since on any verbal level – morphemic, lexical, syntactic, and phraseological – either of these two relations (similarity and contiguity) can appear – and each in either of two aspects, an impressive range of possible configurations is created. Either of the two gravitational poles may prevail. In Russian lyrical songs, for example, metaphoric constructions predominate, while in the heroic epics the metonymic way is preponderant.

In poetry there are various motives which determine the choice between these alternants. The primacy of the metaphoric process in the literary schools of romanticism and symbolism has been repeatedly acknowledged, but it is still insufficiently realised that it is the predominance of metonymy which underlies and actually predetermines the so-called 'realistic' trend, which belongs to an intermediary stage between the decline of romanticism and the rise of symbolism and is opposed to both. Following the path of contiguous relationships, the realist author metonymically digresses from the plot to the atmosphere and from the characters to the setting in space and time. He is fond of synecdochic details. In the scene of Anna Karenina's suicide Tolstoj's artistic attention is focused on the heroine's handbag; and in *War and Peace* the synecdoches "hair on the upper lip" and "bare shoulders" are used by the same writer to stand for the female characters to whom these features belong.

The alternative predominance of one or the other of these two processes is by no means confined to verbal art. The same oscillation

occurs in sign systems other than language.[1] A salient example from the history of painting is the manifestly metonymical orientation of cubism, where the object is transformed into a set of synecdoches; the surrealist painters responded with a patently metaphorical attitude. Ever since the productions of D. W. Griffith, the art of the cinema, with its highly developed capacity for changing the angle, perspective, and focus of 'shots,' has broken with the tradition of the theater and ranged an unprecedented variety of synecdochic 'close-ups' and metonymic 'set-ups' in general. In such motion pictures as those of Charlie Chaplin and Eisenstein[2], these devices in turn were overlayed by a novel, "metaphoric montage" with its "lap dissolves" – the filmic similes.[3]

The bipolar structure of language (or other semiotic systems) and, in aphasia, the fixation on one of these poles to the exclusion of the other require systematic comparative study. The retention of either of these alternatives in the two types of aphasia must be confronted with the predominance of the same pole in certain styles, personal habits, current fashions, etc. A careful analysis and comparison of these phenomena with the whole syndrome of the corresponding type of aphasia is an imperative task for joint research by experts in psychopathology, psychology, linguistics, poetics, and SEMIOTIC, the general science of signs. The dichotomy discussed here appears to be of primal significance and consequence for all verbal behaviour and for human behaviour in general.[4]

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1. I ventured a few sketchy remarks on the metonymical turn in verbal art ("Pro realizm u mystectvi," *Vaplite,* Kharkov, 1927, No. 2; "Randbemerkungen zur Prosa des Dichters Pasternak" *Slavische Rundschau,* VII, 1935), in painting ("'Futurizm" *Iskusstvo,* Moscow, Aug. 2, 1919), and in motion pictures (Úpadek filmu," *Listy pro umeni a kritiku,* I, Prague, 1933), but the crucial problem of the two polar processes awaits a detailed investigation.
2. Cf. his striking essay "Dickens, Griffith, and We": S. Eisenstein, *Izbrannye stat'i* (Moscow, 1950), 153 ff.
3. Cf. B. Balazs, *Theory of the Film* (London, 1952).
4. For the psychological and sociological aspects of this dichotomy, see Bateson's views on "progressional" and "selective integration" and Parsons' on the "conjunction-disjunction dichotomy" in child development: J. Ruesch and 0. Bateson, *Communication, the Social Matrix of Psychiatry* (New York, 1951),

To indicate the possibilities of the projected comparative research, we choose an example from a Russian folktale which employs parallelism as a comic device: "Thomas is a bachelor; Jeremiah is unmarried" (*Fomá xólost; Erjóma ne Ženát*). Here the predicates in the two parallel clauses are associated by similarity: they are in fact synonymous. The subjects of both clauses are masculine proper names and hence morphologically similar, while on the other hand they denote two contiguous heroes of the same tale, created to perform identical actions and thus to justify the use of synonymous pairs of predicates. A somewhat modified version of the same construction occurs in a familiar wedding song in which each of the wedding guests is addressed in turn by his first name and patronymic: "Gleb is a bachelor; Ivanovič is unmarried." While both predicates here are again synonyms, the relationship between the two subjects is changed: both are proper names denoting the same man and are normally used contiguously as a mode of polite address.

In the quotation from the folktale, the two parallel clauses refer to two separate facts, the marital status of Thomas and the similar status of Jeremiah. In the verse from the wedding song, however, the two clauses are synonymous: they redundantly reiterate the celibacy of the same hero, splitting him into two verbal hypostases.

The Russian novelist Gleb Ivanovič Uspenskij (1840–1902) in the last years of his life suffered from a mental illness involving a speech disorder. His first name and patronymic, *Gleb Ivanovič*, traditionally combined in polite intercourse, for him split into two distinct names designating two separate beings: Gleb was endowed with all his virtues, while Ivanovič, the name relating a son to his father, became the incarnation of all Uspenskij's vices. The linguistic aspect of this split personality is the patient's inability to use two symbols for the same thing, and it is thus a similarity disorder. Since the similarity disorder is bound up with the metonymical bent, an examination of the literary manner Uspenskij had employed as a young writer takes on particular interest. And the study of Anatolij Kamegulov, who analysed

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183ff; T. Parsons and R. F. Bales, *Family, Socialisation and Interaction Process* (Glencoe, 1955), 119f.

Uspenskij's style, bears out our theoretical expectations. He shows that Uspenskij had a particular penchant for metonymy, and especially for synecdoche, and that he carried it so far that "the reader is crushed by the multiplicity of detail unloaded on him in a limited verbal space, and is physically unable to grasp the whole, so that the portrait is often lost." [5]

To be sure, the metonymical style in Uspenskij is obviously prompted by the prevailing literary canon of his time, late nineteenth-century 'realism;' but the personal stamp of Gleb Ivanovič made his pen particularly suitable for this artistic trend in its extreme manifestations and finally left its mark upon the verbal aspect of his mental illness.

A competition between both devices, metonymic and metaphoric, is manifest in any symbolic process, be it intrapersonal or social. Thus in an inquiry into the structure of dreams, the decisive question is whether the symbols and the temporal sequences used are based on contiguity (Freud's metonymic "displacement" and synecdochic "condensation") or on similarity (Freud's "identification and symbolism").[6] The principles underlying magic rites have been resolved by Frazer into two types: charms based on the law of similarity and those founded on association by contiguity. The first of these two great branches of sympathetic magic has been called "homoeopathic" or "imitative," and the second, "contagious magic."[7] This bipartition is indeed illuminating. Nonetheless, for the most part, the question of

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5. A. Kamegulov, *Stil' Gleba Uspenskogo* (Leningrad, 1930), 65, 145. One of such disintegrated portraits cited in the monograph: "From underneath an ancient straw cap, with a black spot on its visor, pecked two braids resembling the tusks of a wild boar; a chin, grown fat and pendulous, had spread definitively over the greasy collar of the calico dicky and lay in a thick layer on the coarse collar of the canvas coat, firmly buttoned at the neck. From underneath this coat to the eyes of the observer protruded massive hands with a ring which had eaten into the fat finger, a cane with a copper top, a significant bulge of the stomach, and the presence of very broad pants, almost of muslin quality, in the wide bottoms of which hid the toes of the boots."
6. S. Freud, *Die Traumdeutung*, 9th ed. (Vienna, 1950).
7. G. Frazer, *The Golden Bough: A Study in Magic and Religion*, Part 1, 3rd ed. (Vienna, 1950), chapter Ill.

the two poles is still neglected, despite its wide scope and importance for the study of any symbolic behaviour, especially verbal, and of its impairments. What is the main reason for this neglect?

Similarity in meaning connects the symbols of a metalanguage with the symbols of the language referred to. Similarity connects a metaphorical term with the term for which it is substituted. Consequently, when constructing a metalanguage to interpret tropes, the researcher possesses more homogeneous means to handle metaphor, whereas metonymy, based on a different principle, easily defies interpretation. Therefore nothing comparable to the rich literature on metaphor[8] can be cited for the theory of metonymy. For the same reason, it is generally realised that romanticism is closely linked with metaphor, whereas the equally intimate ties of realism with metonymy usually remain unnoticed. Not only the tool of the observer but also the object of observation is responsible for the preponderance of metaphor over metonymy in scholarship. Since poetry is focused upon the sign, and pragmatical prose primarily upon the referent, tropes and figures were studied mainly as poetic devices. The principle of similarity underlies poetry; the metrical parallelism of lines, or the phonic equivalence of rhyming words prompts the question of semantic similarity and contrast; there exist, for instance, grammatical and anti-grammatical but never agrammatical rhymes. Prose, on the contrary, is forwarded essentially by contiguity. Thus, for poetry, metaphor, and for prose, metonymy is the line of least resistance and, consequently, the study of poetical tropes is directed chiefly toward metaphor. The actual bipolarity has been artificially replaced in these studies by an amputated, unipolar scheme which, strikingly enough, coincides with one of the two aphasic patterns, namely with the contiguity disorder.

8. C. F. P. Stutterheim, *Het begrip metaphoor* (Amsterdam, 1941).

Generating polysemy: Metaphor and metonymy

Renate Bartsch

Abstract

In this paper I want to show why metaphor and metonymy are, on the one hand, two distinct types of generating new meanings for existing expressions, and why, on the other hand, there are many cases which can either be viewed as metaphor or as metonymy, without the one way of understanding excluding the other. After having given a general characterisation of metaphoric and metonymic concept formation as part of the general method of concept formation, I shall show how two different kinds of perspective change are involved in the metaphoric and in the metonymic process, respectively. Metaphors involve a crossing between perspectives that select similarities (identical features) and differences under each of the perspectives chosen; metonymies involve a crossing between perspectives directed towards contiguous parts of situations and objects.

Keywords: concept formation, contiguity, linguistically expressed concepts, metaphor-metomy switch, perspective, perspective change, polysemic complex, polysemy, quasi-concepts, similarity, stabilisation.

1. The theoretical framework

We will start with concept formation, as it is presented in Bartsch (1998), where metaphors are generated on the experiential level of concept formation, as well as on the theoretical level of linguistically explicated concepts. On the experiential level, linguistically expressed concepts are equivalence classes in stabilising series of growing sets of satisfaction situations for the use of these expressions, which are collected under a given perspective of attention, e.g.

in *John is a wolf* that of 'social behaviour.' The equivalence is determined by the common internal similarity of the sets of situations holding for animals and men, under the relevant perspective. On the theoretical level, linguistically expressed concepts are defined by the characteristic semantic distribution of the expression, i.e. the sentential complements of the expression used as a general term in universally quantified sentences. Thus the conjunction of the predications (e.g. "voracious, grabbing, or fiercely cruel" for *wolf)* that generally hold with respect to the term make up the features characteristic for the concept in a theory, i.e. in a coherent set of general sentences held true. Concepts on this level are theoretical concepts in a broad sense; they are linguistically explicated concepts, i.e. explicated within this coherent set of general sentences in which they are used as general terms. Concepts not yet stabilised are called "quasi-concepts;" a stabilised concept can again become a quasi-concept when it becomes destabilised by massive data, or data enhanced by special importance and great normative impact enacted in the situations of use of the respective expression.

Concept formation consists in the ordering, according to similarity and/or contiguity under perspectives, of growing sets of data, especially satisfaction situations for expressions, into stabilising sequences which are the (quasi-)concepts that form the basic experiential conceptual structure. These two principles, which figure in normal concept formation, also give rise to metaphoric or metonymic language use, which result in new concepts expressed by old (lexical) expressions. The preference of stability within an evolving conceptual structure induces force towards extending these structures by metaphor and metonymy whenever situations are met which do not fit into the concepts already established saving stability. Including cases of metaphoric and metonymic use of an expression into the already established concepts expressed by the expression would, in these cases, destabilise the already existing concepts.

Metaphor and metonymy do not only involve a mapping of a conceptual network from a source domain onto a target domain, as claimed by cognitive approaches, but also involve a shift in perspective which makes possible the mapping from the one domain to the

other by selecting suitable aspects of the source network, and also the source domain, which can be satisfied on the target domain. Concept broadening and concept narrowing, on the other hand, do not involve a shift of perspective; rather they happen under the same perspective, which might at most be made less or more specific.

A perspective provides a selection of those dimensions or similarity spaces in which the aspects of the concepts that fall under the perspective are determined in contrast to other concepts that fall under the same perspective.[1] A perspective can formally be seen as the set of the possible concepts that fall under it. In concept formation, a perspective precedes the several concepts that fall under it. Primarily perspectives, as horizons of understanding situations, are provided by activities, desires, dispositions, and finally groups of activated neuronal fields, especially sensorial and pre-motor fields. Secondarily new perspectives are constructed on the basis of culturally established practices, tasks, and also processes of theory formation based on previously acquired knowledge and concept formation. Perspectives can be opened by implicit or explicit questions. There are, for

1. The relationship between perspective and the concepts that fall under it is not the one of a taxonomy, though a hypernym in a taxonomy can be transformed into a perspective, for example into the one introduced by the question "What animal is it?" Here the perspective of concepts for animals is opened. But the perspectives of size or health or economic situation opened by "How big is John?" or "What about John's health these days?" or "How does John do nowadays?" are not in a taxonomic order. Health is not a hyperonym for "sick" or "not very well." A perspective is a set of properties, namely the set of those that fall under it. It is a second order concept. A hypernym is not a higher order concept with respect to hyponyms, but also of the same order as its hyponyms, here first order: the set of animals is of the same logical order as the set of tigers. The perspective Animal, on the other hand, is not the set of animals but the set of animal concepts. It is a concept that characterises other concepts as being animal-concepts. It is thus a concept of concepts. Also the polysemic complex such as found with *wolf* or *run* (Bartsch 1984) is a set of concepts. Since both are of the same logical type, we can form the intersection between perspectives and polysemic complexes and thus receive in the intersection the selected property P, which is a member of the polysemic complex and also a member of the perspective. The perspective thus selects a concept from a polysemic complex (cf. Bartsch 1987).

example, basic quality perspectives or dimensions for colour, form, and motion concepts, and there are complex conjunctions of perspectives of characterisation for events and individuals, for example those perspectives which are opened up by the questions "What kind of party was it?" or "What kind of instrument is this?" or "What kind of animal is this?." Metaphoric language use, like all language use, always happens under given perspectives. But in non-figurative language use the perspectives for the use of an expression are the default ones, which have been active in the process of previous concept formation. Thus for the expression *lion* the default perspective is the one of natural kind, under which lions contrast with other natural kinds, especially other kinds of animals. For the use of this expression with respect to a human a different perspective is required, for example the perspective of behaviour in adverse or dangerous situations, by which a typical aspect of lion behaviour is selected from such lion situations which is mapped on the human domain, which is characterised on such a type of situation as a lion. It happens both on the experiential level and on the linguistically explicated theoretical level of concept formation.

The application of the perspective-dependent similarity operation occurs on different levels, on the experiential level in sorting out identity and opposition of phenomenal properties and identity and opposition of relationships in creating qualitative, quantitative, relational and ontological kind categories, and on the theoretical level in sorting out identity and opposition of features and relationships which are expressed linguistically in coherent sets of general sentences held true (theories). The role of similarity is not restricted to the identity of internal properties of objects and situations, rather similarity also is due to identity of external contiguity relationships between objects, between situations, and it is due to relationships of objects and situations with emotional attitudes, desires, and behavioural dispositions of people. Thus a cold metal bar can be similar to a cold colour by partly having an identical relationship to the emotional reactions of humans. Both have a same effect in causing a certain emotional reaction. Also causal relationships expressed in theories, and the roles something plays in rules and norms can create a

similarity which we take into account in concept formation. It thus is not a question of similarity or theoretical explication; rather similarity can be due to aspects of appearance, or it can be due to aspects and relationships explicated in theories[2].

Growing contiguity sets of situations, and growing similarity sets of situations form concepts on the experiential level by stabilisation. Growing sets of satisfaction situations for an expression e under perspective **P** stabilise such that they become extensional representations of a concept. With the extensional representations which a learning individual has encountered there correspond neuronal activation patterns, built up and stabilised in the course of learning the concept on the basis of the examples that make up the extension. Stabilisation[3] consists in convergence of the internal similarity measure under the perspective, in opposition or contrast to other concepts under the same perspective. That a set of data stabilises to become the representation of a concept, means that new data do not anymore change the internal similarity measure. Concepts that already exist in this way are the preconditions for the further formation of new concepts and of features, i.e. concepts that figure in the formal analysis of other concepts on the theoretical level of concept formation. Similarity under perspectives also creates the preconditions for recognising repeated contiguity relationships. In this spiral of interaction between the two principles of concept formation, attending to similarity and attending to contiguity, data get understood on different

2. A fairly comprehensive representation of the roles of similarity and theories in concept formation as it is discussed by cognitive psychologists can be found in the thematic issue of *Cognition* 65: 2–3.
3. The notion of stabilisation is fundamentally different from the common linguistic term *conventionalisation* Stabilisation is a cognitive process based on stabilising neuronal patterns which indicate a concept after a process of learning. In terms of concept formation, stabilisation means that the internal similarity of the set of experienced examples converges or stabilises such that with adding new examples the internal similarity of the growing set does not decrease anymore. Conventionalisation of a term is a social process, which means that a term gets generally accepted in a group or speech community. The term *stabilised* expresses the dynamic character of concept formation and also allows the disappearance of a concept in *destabilisation.*

levels in analysis and re-analysis. The primary data are those situations which are encountered and understood as situational experiences according to the perspective-dependent selections made from the conceptual structures established so far at a certain point in development.

The similarity principle applied to data on different levels of concept formation gives rise to general concepts on the respective lower or higher levels, for example on the first level of situational impressions, and later on the higher level of individuals and events. The contiguity principle gives rise to historical concepts, especially particular event concepts and individual concepts. They are partial historical concepts which are understood as such by being seen as embedded or as being imbeddable into larger sets of situations connected by contiguity relationships such that coherence is preserved. This imbeddability of partial concepts into larger similarity and contiguity sets of situations, keeping intact stability and coherence, means taking the partial concepts as representations of realistic or complete concepts in the world, namely of individuals, and of real situations, and further on, of total sets of such entities as property extensions.

After historical concepts, i.e. concepts of particular events and concepts of individuals, have been formed they are used in analysing and understanding situations. Herewith the experienced situations are analysed or re-analysed with respect to our standard ontology of individuals, where individuals are the participants in basic situations, which are characterised by activities, actions, and generally basic events, processes, and states. We now are able to understand situational impressions as realistic situations. Situations and individuals can then be the basis for construing general kind concepts by a new round of application of the similarity principle on this higher level. General kind concepts generalise over individuals in situations and thus contain the possible roles of individuals of a certain kind in situations. General event and action concepts generalise over situations containing the possible kinds of individuals that participate in certain roles within these situations. Such higher level general concepts then function in our understanding of situational impressions as

being real situations. *Understanding* a situation means two things: 1) imbedding it into stabilising sequences of growing similarity sets of data, keeping intact stability, which is classification by general concepts; and 2) imbedding it into contiguity sets of data, keeping intact coherence, which is identification of situations by historical concepts, especially individual concepts of events, objects, and persons.

In this model of *Dynamic Conceptual Semantics,* a theory of concept formation and understanding, metaphor and metonymy are new ways of continuing series of satisfaction situations for an expression on the experiential level, and they are also new selections from available features and contiguity relationships on the theoretical level, according to contextually introduced perspectives. Both ways, the metaphorical and the metonymical, consist in the same cognitive operations as they play a role in all concept formation: similarity relations and contiguity relations are selected under perspectives and are used in structuring the growing sets of data into similarity sets and contiguity sets. Metaphor is based on perspective change and looking for similarity under the new perspective; metonymy is based on perspective change and contiguity relationships, such as relationships of part-whole, cause-effect, means-end, action-result, instrument-action. Important is that the concept from where the transfer of the expression originates, the source concept, is already stabilised to a high degree: Integrating the new use of the expression into the old concept, i.e. into the old data under the previous perspective would destabilise the concept. This means that the new case of use of the expression does not fit into the old concept. Young children, however, have not yet developed conceptual stability and thus cannot experience destabilisation. They therefore would not recognise the new use as metaphoric, but as a normal extension of the use of the expression, whereby they do not consciously realise a perspective change and do not keep apart different perspectives, which rather leads to the formation of complex concepts, as they have been described by Vygotsky (1986), and does not result into polysemic complexes of concepts.

For early developmental stages of concept formation, which we find in small children, there is no distinction between normal lan-

guage use and metaphoric or metonymic use. There is just language use guided by similarity and contiguity under changing perspectives. Only when conceptual stability is almost reached the difference between standard use and creative use of an expression comes about. In metaphoric and metonymic language use the process of concept formation is pushed into a new direction of use of an expression due to the stabilisation principle and by the change of perspective, often from a default or more common perspective, under which the expression has been used before and is used normally, to a context-dependent, locally introduced perspective. On both levels of thinking and understanding, the experiential and the linguistically explicated theoretical level, fairly subjective and local series of experiences and theories can play a role in devising similarity and contiguity relationships, besides experiences that are generally made and theories or stereotypes that are generally adhered to in a speech community. On these locally or globally established experiential and theoretical concepts the new perspectives are applied and provide by selection of recurrent aspects in previous satisfaction situations and contexts of use the experiential basis, or the explicated feature basis, of the metaphor which is further enriched by special situational experiences and features derived from additional knowledge acquired in the new situation of use. Selection and enrichment together create the new concept arising from the metaphoric use of an expression.

I shall first give a recursive definition of polysemy and show how the assumption of truthfulness of the utterance and general principles of concept formation play a role in understanding and designing a new interpretation of an expression. Then I shall discuss the cognitive approach to metaphor, exemplified by the theory proposed by Indurkhya. The goal is to show how both approaches together give a fairly detailed theory about the creation and interpretation of metaphor.

2. Definition and generation of polysemic complexes in interpretation

A **perspective** can be reconstructed as a second order concept of a certain kind, i.e. a concept of concepts. This is a set of concepts that can be discriminated under the selection of information the perspective provides. A perspective can be formulated by a question, or created by an interest or desire. Then the concepts are expressed by the predicates that are possible answers to the question or describe possible satisfaction situations of the interest or desire. For example: What kind of animal is this? What kind of instrument is this? What is its colour? What is its behaviour? What is its function? What about this applicant's health? How does he do economically? To look at something under perspective **P**, for example looking for an activity property, a health property, a behaviour property of someone means to attend to aspects of an individual or a situation which can be a specification of the kind of activity, the state of health, or the behaviour shown in this case. For example, the metonymy *Get me the liver from the second floor* uttered by a physician, when preparing for a medical examination of a patient, involves a change from the perspective provided by the question "Which kind of organ?," under which the expression *liver* is primarily and normally used, to the perspective provided by the question "Which patient?." The contiguity relationship involved is the part-whole relationship. The metaphor *Get this pig into the bath-room* uttered by a desperate father referring to his little son totally under the mud, involves a change in perspectives from "What natural kind?" to "What behaviour-dependent appearance?," under which similarity is imminent between a stereotypical pig and the little boy.

A **polysemic complex** is of the same logical type as second order concepts are; it is a set of first order concepts. But this set is differently structured than a perspective. The internal structure of a perspective is that the concepts under or within the perspective form oppositions to each other, while the internal structure of a polysemic complex is that the concepts within the complex are related by metaphoric and metonymic relationships. The principles of forming these

complexes of concepts are metonymic and metaphoric relationships, which amount to relationships of contiguity and similarity, respectively (cf. Jakobson 1956*), across different perspectives. The relationships of similarity and contiguity are the same as in concept formation generally. The only difference is that they are not applied under a single perspective but in crossing the delimitations of a perspective and entering into another perspective. Such crossing-over perspectives we also find in the use of words by small children, for example the famous example from Igelburger, adopted by Vygotsky (1986) as an example of a complex concept: The word for dog, let us say *dog*, was transferred by the child from dogs to fur coats and to a toothbrush, and it was transferred from dogs to shining round eyes and then to buttons. For the child this is a normal way of doing; but it gets pushed in language training towards keeping perspectives stable for the use of a word, i.e. it learns not to cross borders between perspectives deliberately. When stabilisation of a concept under a perspective, in opposition to other concepts under the same perspective, is achieved, crossing the borders of the perspective in word transfer is possible in order to preserve stability of the primary established concept by *not* integrating into it cases of use of the same word that do not fit keeping intact stability. When that happens the transfer by similarity or contiguity can be called metaphoric or metonymic, respectively. Metaphor and metonymy presuppose an already stabilised concept and a conventionalised use of the word for this concept. Starting from there, new concepts are formed.

On the realistic level of properties and expressions a polysemic complex (abbreviated as POLCOMP below) can be described by a recursive definition. P is a property realised in a set of situations. Any such property designated by P can be the starter of a new polysemic complex of expression *e*, or an extension of such a complex. Another property P', expressed also by *e*, belongs to the same polysemic complex to which P belongs if it fulfils condition 2.

I. Recursive definition of a POLCOMP(*e*):

1. $P \in POLCOMP(e)$

2. If for all situations s in which P' is realised, the expression e is taken to be satisfied by s, and there is a P with P∈ POLCOMP(*e*) such that metonymic(P',P) or metaphoric(P',P), then P'∈ POLCOMP(*e*).

The expression *e* used under perspective **P** then expresses the property P' in the intersection of perspective **P** with the polysemic complex POLCOMP(*e*):

$$\mathbf{P} \cap \text{POLCOMP}(e) = \{P'\}$$

This ordering on the realistic level of properties finds a corresponding ordering on the experiential level of concept formation. Let P be a quasi-concept in the process of stabilisation or be a concept already stabilised. From there the polysemic complex of concepts is built one step further by adding a newly created concept P' under condition 2 specified in the definition as follows:

2'. If for all situations s which fall under concept P' under perspective $\mathbf{P}^i$, the expression *e* is taken to be satisfied by s, and there is a concept P with P ∈ POLCOMP(*e*) such that metonymic(P',P) or metaphoric(P',P), then P'∈ POLCOMP(*e*).

Of course, there is a starter concept, the first established concept P expressed by *e*. To it the second concept P' is added if it conforms to condition 2'. Then more can be added, by originating either from the first or the second.

II. Generating polysemy on the experiential level:

Assumptions

1. Expression *e* is used with respect to situation s truthfully, i.e. s is referred to as a satisfaction situation of *e*.
2. *e* is used under perspective $\mathbf{P}^i$.
3. The concept that has to be assigned as being expressed by *e* under $\mathbf{P}^i$ with respect to s has to be eligible as a potential member of the polysemic complex of *e*.

Goal: Find a concept P' with P' $\in$ $\mathbf{P}^i$ and P' being realised in s such that it fulfills the condition for being a member of the polysemic complex of *e*.

Procedure of concept construction

I. Take the set of previous satisfaction situations for *e*.

II. Delineate within this set a (new) similarity set for e under $\mathbf{P}^i$, named: $S_{e,i}$. Choose $S_{e,i}$ such that s is similar to s', $s =_i s'$, for all $s' \in S_{e,i}$.

III. Extend that set with the new satisfaction situation s of e such that

   1. this extension obeys $\mathbf{P}^i$-harmony and opposition to other $\mathbf{P}^i$-concepts, and that
   2. we can construe a sequence of growing subsets up to $S_{e,i} \cup \{s\}$ with a converging decline, i.e. a stabilisation, of the internal similarity degree, keeping intact opposition under $\mathbf{P}^i$. If that is not possible for $S_{e,i}$, then delineate another similarity set for *e* under $\mathbf{P}^i$ that satisfies these conditions, and name it $S_{e,i}$.

Result

The quasi-concept $S_{e,i} \cup \{s\}$, by further use of *e* in the same way, approximates a concept, which is a reconstruction of a property realised in s.

In this way we can single out properties we have not realised before; they have been constructed as concepts by this very process of metaphoric or metonymic concept generation.

An example on the experiential level of concept formation would be that a child had a series of previous experiences of pig situations, which built up his pig concept by contiguity and similarity ordering. In these situations the pigs got themselves often quite dirty by roaming around in the mud. Now his mother scolds the child when coming home dirty by exclaiming *What a pig you are!* The perspective under which the mother sees the child, which also is the one under which the child has to understand his or her mother's exclamation, is

the perspective of appearance and possibly also the perspective of behaviour applying to the situation that caused this appearance. These perspectives select the typical behavioural aspects and the related appearance aspects in the experiential concept constituted by pig situations. They are typical in contrast with the behaviour and appearance properties of horses, dogs, and cats with which the child also has become acquainted in his surroundings. The child will understand his mother's exclamation by seeing his own behaviour and appearance as upsetting to his mother, and hereby as negatively valued, and he will understand it cognitively by embedding his situation of behaviour and his situation of appearance into a series of pig situations he has experienced previously. But now he will do this under the perspectives of behaviour and appearance, and not under the perspective of natural kind. Under the two relevant perspectives he can continue a selection of pig behaviour and pig appearance situations by adding to these, while keeping intact stabilisation, the experienced situations in which he himself shows the behaviour and the appearance that fits as a continuation of the respective experiences of pig situations. In this way he creates the new concept of being a pig, which is situated under the perspectives of behaviour and appearance, contrasting to other behaviour and appearance concepts. This concept can be truly predicated not only about pigs in the appropriate situations but also about the child himself, and possibly about other people. The primary, or standard perspective under which the word *pig* is used is the natural kind perspective; the secondary perspectives under which the metaphoric use is created are the perspective of behaviour and the perspective of appearance after roaming through a muddy field.

On the theoretical level of concept formation a concept expressed by a term is explicated linguistically in the semantically characteristic syntagmatic field of the expression. This characteristic field consists of the set of general sentences held true in which the expression appears as a general term. The sentential contexts of this generalised expression in this set of general sentences form the semantically characteristic distribution of the term. It consists of the semantically characteristic predicates, and also conjunctions of these. They form

the features of the concept, as far as they are linguistically expressed. A concept so explicated is called a linguistically explicated concept. The characteristic distribution of a term can be restricted to a subset of the general sentences held true which by internal coherence forms a theory. Then the concept is a theoretical concept with respect to that theory. Within a theory those features or predicates can be selected which constitute the semantic difference of this term to other terms in the theory. These form the specific semantic characteristic distribution, which distinguishes the concept expressed by this term from the concepts that stand in opposition to this term. For example, there are specific features that distinguish a fox from a wolf under the perspective of natural kind, under the perspective of behaviour, and under the perspective of appearance, especially under the perspective of colour of the fur. In transferring the word *wolf* from the natural kind perspective to the behaviour perspective in the metaphoric use in *John is wolf* or *This dog is a real wolf*, or even in *This wolf is a real wolf*, when predicated of a very fiercely acting dog or wolf, the perspective of behaviour which is at issue in these examples selects the behaviour features of our wolf concept (within a certain theory) from which the specific ones that distinguish wolf behaviour from the behaviour of other comparable animals are selected as being at issue in the metaphorical predication. The behavioural concept of a wolf is further on enriched by behavioural characteristics we find in the new situations to which the term is applied metaphorically. In the example *Look at this fox* while pointing to a man with red hair, the perspective of appearance, especially the perspective of hair colour, selects the fox-specific features which are at issue here.

The examples above serve to illustrate briefly how metaphor works in creating new concepts as part of polysemic complexes on the experiential and on the theoretical level of concept formation. Important is the role perspectives play. They are constituted by contextually or situationally available information about focus of attention, desires, interests.

I shall now discuss briefly Indurkhya's theory of metaphors, which is currently amongst the best and most elaborated treatments of metaphor among the cognitive approaches. I shall show that this

approach has to be supplemented by taking into account selection through perspectives. The notions of cognitive schema or conceptual network used in cognitive approaches are equivalent to the notion of concept as it is used above. A cognitive schema is an abstraction from a series of examples; it is a representation of what they have in common. Because we are hardly able to fully express what a schema is of, for example, a dog, I prefer the extensional representation of a concept by a maximal similarity set of a stabilising sequence of similarity sets of examples. A linguistically explicit representation of a cognitive schema or conceptual network is a set of general sentences held true, where the concept-expressing term is used under generalising quantification. Such a linguistically explicit representation is more exact than a graphically represented conceptual network because the linguistic representation not only makes explicit all the relationships between the concepts in the network, but also says whether the concepts are to be read under universal or existential quantification, or under a stereotypical generalisation. The notion of a theoretical concept in the broad sense used above is a precise representation of a conceptual network. Keeping this in mind, the cognitive approaches to metaphor fit into the framework presented above, though they model some aspects in more detail, mostly by way of example, and let other aspects remain in the dark, namely the role of perspectives and context dependence in general.

3. Indurkhya's theory of metaphors

Cognitive theories on metaphor, such as the proposals of Nelson Goodman[4] (1968), George Lakoff and Mark Johnson (1980, 1999),

4. Although Goodman takes a nominalist stance, his proposal for treating metaphors formally is the same as the cognitivist positions. His using labels instead of concepts has the disadvantage that in the conceptual network structure of the metaphor he can use only what is expressed in language. Hereby he misses aspects and relationships of the referents of the labels that are part of (general) experience, but are not expressed linguistically. He of course also misses the

or Bipin Indurkhya (1992), typically use the notions 'conceptual scheme' or 'conceptual network.' They understand metaphor as a mapping of a conceptual network or scheme from one domain, its primary domain, onto another secondary domain with quite a different ontology than the one of the first domain. This mapping projects a structure on the target domain, whereby properties and relationships already explicitly or implicitly known to hold there get highlighted as the ones that fit with the mapped conceptual network from the source domain, or they are even projected onto the target domain such that they can be newly discovered as existing there. The one who has produced the metaphor, of course, has already seen a similarity between the primary and the secondary domain, which induces the mapping of the conceptual network from the one to the other. How that is possible in an acceptable way usually remains in the dark. There is no direction given as to which part of the conceptual network is to be projected; there is no point of view introduced that has made the producer of the metaphor attend to a certain similarity and not to another possible one; and there is no means mentioned that can help the interpreter to find the right aspects from the conceptual network that the metaphor does convey. Here, I think, the notion of a contextually introduced perspective would be helpful. How can, for example, the local preposition *in* be transferred onto a so-called abstract domain? 'To be in war with another state,' or 'to live in poverty,' or 'to be in mourning' do not express local inclusion. Rather they express inclusion in a situation or a constellation of situations which we call 'war,' or inclusion in constellations of situations which we call 'poverty' or 'mourning.' Here the preposition *in* is used less abstract as one might think in the first place. The situations of war, poverty, or mourning are quite concrete in space and time, and inside such concrete constellations the situations are placed which make up part of the life history of the individual which is said to be in war, in poverty, or in mourning. What happens is that the perspective of local ordering, in which the preposition *in* is primarily used, is replaced

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cognitively relevant notion of similarity, which he tries to refute, but which is essential to all experiential concept formation and understanding.

by new perspectives, namely the constellational orderings in which situations of a life history are placed in space, time, and causal contiguity with situations that make up a war, poverty, or mourning. These perspectives can be expressed by questions such as 'In what kind of political constellation does this state perform?,' 'In what social-economical condition does this person live?,' 'In what kind of emotionally relevant situation does this individual live?.' These questions already contain the word *in*, which is here specified by the perspective introduced by the respective question. In the answers in which the above phrases are used, the preposition *in* is used under these contextually introduced or just assumed perspectives. The perspectives select the specifics for the inclusion at issue, namely here the inclusion of situations of a life history of an individual within a constellation of situations, which in our examples is characterised as war, poverty, or mourning.

Indurkhya, in his cognitive theory of metaphor, distinguishes the source domain with its corresponding source network from the target domain with its target network. The network is a semantic network, also called conceptual network, which structures its domain and especially determines the ontology in which the domain is understood. Primarily, independently of a specific conceptual network, the domain is just a sensory-motor data set.[5] The idea is that the sensory-

5. This view is comparable to that of Lakoff/Johnson, who claim that lots of metaphors are based on (pre-)conceptual image schemata, which by the process of metaphorisation are applied to other than spatial domains. However, the term "image schema" is generally not as clear as it can be for spatial schemata. In *Dynamic Conceptual Semantics* I therefore stick to growing and stabilising sets or sequences of examples. A new example has to fit into this set, which means that it can be added to it without diminishing the internal similarity of the set. Understanding a new item as a new example means fitting it into the previous set of examples under preservation of the internal similarity degree. The equivalence class of such stabilised sets of examples for the use of an expression *e* forms a concept. The sets are equivalent in that they can be thrown together, i.e. united, while preserving stability, i.e. without diminishing the internal similarity. Correspondingly there is in the brain a stabilisation going on of the activation patterns caused by the previous experiences of examples provided in the learning process. The stabilised activation pattern is an indicator of

motor data set gets interpreted by making use of a suitable conceptual network. I want to stress that we are not really consciously aware of the sensory-motor data-set itself, rather what we consciously perceive is already structured by the network at issue. According to Indurkhya, the network is projected onto the respective domain. A metaphoric transfer of a term from one domain to another, i.e. from the source domain to the target domain, involves a mapping of the corresponding source network from the source domain onto the target domain. He distinguishes similarity-based metaphors from similarity-creating metaphors. In similarity-based metaphors part of the source network is identical with part of the target network. This identity constitutes the similarity and via this identical partial structure the application of the source network to the target domain is mediated. The similarity-based metaphor involves a comparative: one thing is as the other as far as the identity goes. Within this class of similarity-based metaphors he distinguishes syntactic metaphors from suggestive metaphors.

The syntactic metaphor (an example would be to understand an electric current by comparison with a stream of water) is closed: the similarity is completely determining what is predicated in the meta-

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the examples of the corresponding concept. In the brain we thus have concept indicators. Concepts or conceptual networks are not in the brain, though there are networks of conceptual indicators. We are not conscious of concepts, though we are of their examples. I do not really see a place for an image schema, except that we can design one on paper, or imagine spatial schemata. Such a schema is in fact not more than an example, which can be understood as a schema by imagining forms, distances and sizes variable, and only keeping the relationship, for example "in" or "under," constant. This means that in understanding the picture as a schema we activate the process of constructing more examples in imagination. A schema is thus an example without inessential details, which has to be understood as giving rise to variations while keeping intact a certain internal similarity of the set of examples. In this way we can entertain spatial schemata. But the schema of a wolf, for example, is not ready at hand. Luckily we experience examples and get to know a lot about wolves by stories told and theories constructed. The set of the general sentences about wolves in a certain everyday or scientific theory form the "theoretical" concept of a wolf as far as this or that theory is concerned. It provides a conceptual network for the term *wolf*.

phoric sentence. Only the identical part of the two networks is predicated. The syntactic metaphor gives an easier cognitive access to the target realm if the source network is more familiar; it highlights certain aspects and plays down others, and by this it furthermore makes a new abstraction possible of the parts that are highlighted.

The suggestive metaphor as in *John is a wolf* is open-ended.[6] There is an initial correspondence or similarity between source network and target network, but the source network adds more features and relationships to the target realm, which have not yet been expressed in the target network. Suggestive metaphors have played a stimulating role for the growth of science.

In similarity-creating metaphors (or projective metaphors) the source network is projected onto the target domain, although there is no similarity between the source network and the target network to begin with. Though the target realm is primarily referred to by means of the target network, the structuring of the target domain by the target network is then disregarded and the source network is directly projected onto the target domain, reorganising its ontology. A new description of the target domain is provided, based on the metaphor. Examples are revolutionary metaphors in the history of science by which a traditional description of the target domain gets discarded and a new one established. As an example he gives the replacement of Newtonian mechanics by Einstein's relativity theory. Other examples are poetic metaphors, for which Indurkhya gives as example a poem by E. Boland, in which, among other metaphors, a hillside covered with white flowering bushes of hawthorn is presented as an "ivory, downhill rush," "All I wanted then was to fill my arms with sharp flowers, to seem from a distance, to be a part of the ivory, downhill rush." The poet had always known that one should not touch hawthorn, that it might be dangerous and cause some illness, and he concludes with "So I left it stirring on those hills with a fluency only water has, And, like water, able to redefine land." Indurk-

6. Collins English Dictionary indeed gives as a further, informal use of *wolf*: the sense of "a man who habitually tries to seduce women."

hya assumes that we hardly ever have thought of these white flowers as water, haven't seen the similarity before it was created by the poet.

4. Criticism and extension of Indurkhya's theory

I want to make three points:

1. In similarity-based metaphors perspectives are necessary to single out the relevant similarities. Even for such a simple metaphor as *John is a wolf* we find as identical parts of the two conceptual networks that John, a human, and a wolf have both two ears, have both two eyes, have a mouth, have teeth, etc. However, all these identities are not meant to be predicated of John in the metaphor. We need the perspective of behaviour, and may be more specific the perspective of behaviour in conflicts and fights to select the right aspects that make up the similarity which is relevant here.
2. Not only network comparison or network projection makes metaphors, which means that metaphor is not only achieved on the level of linguistically explicated, i.e. theoretical concept formation. Rather also direct comparison of the target realm with the source realm is possible, by which, without the explicitness of a conceptual network, the target item can be placed together with the source items under a perspective which directs us to realise a similarity under the perspective. The target domain is directly seen in the light of the source domain. Hereby the focus of attention is directed by a perspective or context, under which certain aspects of both domains become conspicuous. This has been illustrated above where I sketched how metaphor works on the level of experiential concepts, which are not explicated in linguistically expressed semantic network structures.
3. The similarity-creating metaphors create a similarity for someone who has not yet seen directly, in experience, the target realm as being reflected in certain aspects of the source realm,

> if seen under a certain perspective or seen in a certain context. For the poet they are not similarity-creating. He must have experienced the similarity in perception and imagination. Thus he has found an existing similarity on the experiential level for which he uses the explication by means of the available source network. In the poem only the somewhat global perspective given by a wider distance from the hawthorn could make it similar to the ivory rush of water into which the poet would have leapt for a bath if he were not taking into account the dangers of the hawthorn. He can take this into account by switching from that more global perspective to the local one. He keeps in fact the target network intact and confronts it with the source network, even so far that he realises that the closer reality of the hawthorn makes him leave the imaginary world of the splashing water that is only for anglers and wanderers astray in "the unmarked lights of a May dusk," where the fluency of water is "the only language spoken in those parts." Against Indurhkya's claim that in creative metaphors the target network is typically discarded, we may observe that the target network is not discarded in this poem, rather it is made repeatedly use of in the course of the poem as a contrast to the source network, and it finally subjects the source network under it. The decision to avoid close contact with the hawthorn is made against the attraction introduced by the water metaphor. Here again reality wins from the beautiful dream, which is merely an appearance in 'the unmarked lights of a May dusk.'

In a trivial sense all metaphors are similarity-creating, namely for those that have not yet thought of the similarity at issue. It is a matter of degree how probable this situation is for different persons. Strictly speaking, we have to admit that there is no creation of similarity. A similarity that is not there, cannot be created. Rather it comes into focus within the direction and selection which a context or a perspective provides. Therefore similarity under a perspective is a precondition for the creation of metaphor and a metaphor is not a precondition for the creation of similarity.

Selection and specification of relevant features by means of perspectives is quite different from canceling features that are not compatible with the new domain, though one might think that selection and canceling are just the converse formulations of the same process. If we call the man John a wolf we just predicate of him a selection of wolf features under the perspective of social behaviour. According to canceling, we would predicate of John, in saying that he is wolf, also that he has a liver, kidneys, a heart, two eyes, etc. All this is not cancelled, because man and wolf both have all these features in common. Certainly we don't mean all that when we metaphorically transfer the term *wolf* from the animal to the human. On the other hand a perspective, by directing attention to certain aspects of the target domain, can also add features that are relevant in the metaphorically construed concept, as we have seen in the examples of the use of the preposition *in* above. The notion 'perspective' is essential for describing how metaphor works and it is essential for understanding the whole process of concept formation, of which metaphor is just a part. In fact metaphor is just a normal part of concept formation, which involves for the new cases of use of the linguistic expression a change in perspective. The change of perspective gives rise to a new concept if the use of the expression is continued under the new perspective.

5. Perspective change in metonymic transfer and the metaphor-metonymy switch

In metonymic transfer of an expression, the perspective changes along contiguity within a situation. For example, a typical part of a whole such as the liver is the source from where the expression is transferred on the whole as the target, i.e. the patient. The transfer here goes along the contiguity relationship "part-whole." The change of perspective proceeds along different contiguity relationships, whereby we can formulate the perspectives in a double question pertaining to both parts of the relationship, whereby answering the first part also answers the second, for example:

- Which typical part of which object? Example: *Bring me the liver from floor 3.* Or *A sail is approaching the harbour.*
- Which typical material of which instrument? *The iron includes a steam device.*
- Which typical instrument is used in which activity? *The shirt will be ironed in a minute.*
- Which typical activity is the object engaged in? *The guard is on duty.*

There are cases of transfer of expressions in which it is not clear whether we should classify them as metaphors or as metonymies. For example the use of temperature words for characterising colours, or for characterising people. Thus we speak of a cold colour or of a cold person. There is a metonymic relationship involved from cause to effect, namely from feeling a cold temperature to the emotional state that goes with that, i.e. feeling emotionally cold and stiff[7]. A cold colour (containing violet, blue or green) now is supposed to cause that same kind of emotional feeling. Still, here we can say that a metonymic relationship from effect to cause transfers the term *cold* from feeling emotionally cold, stiff, and somewhat distanced to the colour that causes it. On the other hand, we also can understand the transfer of *cold* from temperature to colours as a metaphoric transfer by means of similarity, defined here in terms of a relational identity; temperature and colour are called *cold* because of the same relationship holding between the physical temperature or the colour patch as a cause to this emotional feeling cold, stiff, and distanced as the ef-

7. It may be important to realise that every bodily feeling is psychological in as far as it is conscious and dependent on the psychological state one is in. Proprioception, like perception, is on the psychological level of conscious phenomena, and very much connected regularily with associated emotional states. Feeling a cold temperature is related to the emotional state that goes with that, namely getting rigid in one's reactions, feeling stiff, feeling distanced, in short "feeling emotionally cold." The word "cold" is transferred from its cause in the surrounding, via the bodily feeling, to the associated "emotionally feeling cold" as its effect. Generally, many bodily feelings are causally associated with emotional feelings. In proprioception bodily and emotional feelings are closely related.

fect. Likewise the shift of the term *cold* from feelings to persons can be explained by metonymic transfer: persons are called *cold* because they seem to be emotionally cold, stiff and distanced, and/or behave in a way which causes in us an emotional feeling of coldness and distance. In the first case we would have a metonymic transfer from the emotional state of the person to the person as a whole, i.e. a part-whole transfer. In the second case the transfer goes from our emotional feeling of coldness and distance as an effect to the behaviour of the person as the corresponding cause, and the perspective, furthermore, changes from the behaviour to the person producing it, which can be seen as a part-whole transfer, or as an effect-cause transfer. However, also an explanation by metaphoric transfer is possible via a similarity between the relationship "cold physical surroundings: feeling emotionally cold, stiff, and distanced" and the relationship "social surrounding: feeling cold, stiff, and distanced." This similarity is due to an identity of the causal effect from cold surroundings to feeling cold and stiff bodily, and the associated emotional feeling of coldness, stiffness and distance, including the disposition towards protecting oneself, and the causal effect from this kind of persons and social surrounding to the same kind of emotional feeling and associated behavioural disposition. The partial identity, which makes for the similarity, consists in the special causal effect on our emotions.

In the construction of the transfer from A to C via metonymy we have a chain of metonymic transfer via the relation R and its converse: Transfer from a to c: From a by R to b, and then from b by CONVERSE-R to c.

In the construction via metaphor we have: Transfer from a to c via the identity of the property of being in the relation R to b. The similarity is constituted by the identity of this relational property [R b]. Of course, both ways of construction are equivalent[8].

A similar example is the use of the term *noise*, which is transferred from the auditory domain to the visual, and generally to all kinds of realms of information, which can be muddled by interfering

8. Every similarity between a and c is due to a partial identity; here the identity is provided by the special kind of causal relationship to b.

signals, the noise, in the medium and channel in which the information is encoded. Also here we can construct a metaphor by similarity via an identical relationship between intervening acoustic signals that impair the recognisability of an intended acoustic signal, to the same kind of relationship in other media and channels. We can also use the relationship as a path for metonymic transfer; the acoustic noise causes a muddled acoustic signal, also being called *noise*, this signal being similar in its chaotic structure to signals in other media, which then also can be called *noise*, and from there, the cause for these kinds of signals can be called *noise* in the respective media. The perspective shifts involved here are from cause to effect, from effect to cause, and from one medium to another.

Another example is that a father can be called *a real mother* to his child; the term *mother* is transferred metonymically from the mother to the typical behaviour of a mother, being mothering. If a father shows the same kind of behaviour, the metonymic relationship of transfer is reciprocal from the behaviour to the person, such that the father is called a mother. We can also say that the transfer of the term *mother* from a typical mother to a father of similar behaviour is metaphorical by similarity between the mother and the father on the basis of the relational identity to the mothering behaviour.

Generally, we can say that where similarity across perspectives is due to a relational identity we can speak of a metaphor based on that identical relationship; and we can likewise speak of a chain of metonymic transfers along this relationship in both directions, following in the first step the relationship in one direction, and then following the reciprocal converse relationship in the other direction.

The conclusion is that there is a meaningful difference between metaphor and metonymy as two ways of construing new concepts from old concepts, being based on similarity, i.e. on identity of one or more aspects between objects or situations, or being based on contiguity following specific kinds of contiguity relationships in the perspective change. If the identical aspect is a relational one, i.e. involves a contiguity relationship within an object or situation, the construction of the new concept to which the term is transferred can be

viewed as either a metaphor or as a chain of metonymies along the relationship and its converse.

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Metonymy and metaphor: Different mental strategies of conceptualisation*

René Dirven

Abstract

The paper examines the similar and different conceptual processes underlying the use of metonymy and metaphor. Somewhat surprisingly, this subject was already considered by Jakobson in 1956, more than half a century ago and further explored by the French structuralists, who received relatively little attention in Anglo-Saxon linguistics.

Jakobson's views of the metonymic and the metaphoric poles can be linked to the syntagmatic and paradigmatic potential of language. We will approach metonymy and metaphor from this angle in order to achieve a deeper understanding of their conceptualising powers. Still, we cannot blindly accept Jakobson's views, but will only take his distinctions as a starting-point. We will also concentrate more on metonymy, since this pole has traditionally been neglected. The principles underlying metonymy and metaphor, especially those of the two-domain theory, will be completed by Jakobson's and the French structuralists' views of conceptual distance and closeness. In this way the partial overlapping of the figurative potential in both metonymy and metaphor can be explained more adequately. Thus it may also become possible to probe systematically into the functions proper of metonymy and metaphor.

Keywords: conceptual closeness, conceptual distance, conjunctive syntagm, continuum, frame variation, inclusive syntagm, linear syntagm, metonymic chain, modulation, paradigmatic, proximity, referential mass, syntagmatic.

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* This paper is a heavily revised version of "Metonymy and Metaphor: Different mental strategies of conceptualization." *Leuvense Bijdragen* 82: 1–28. Most of the views expressed then still seem valid today.

1. Looking back in surprise

In the latest very rich literature on metaphor or on metonymy one finds very few[1] references to the epoch–making short paper by Roman Jakobson, 'The Metaphoric and Metonymic Poles' (1971* [1956]). This is all the more astonishing as Jakobson's views triggered virtually a whole structuralist school of its own in French literary criticism and in anthropology, especially in the writings of Roland Barthes, Claude Lévi-Strauss and many others.[2]

Jakobson sees metaphor and metonymy, – or rather the underlying, more general principles, viz. the metaphoric and the metonymic poles, – as the two fundamental possibilities of structuring human 'behaviour' (to use his own terms *42; 1971: 90), which we, 55 years later, would now tend to replace by 'conceptualisation.' This 'twofold character of language' applies to any linguistic sign, which can therefore involve two 'modes of arrangement' (Jakobson 1971: 74), viz.

a) selection, i.e. the possibility of substituting one for the other, equivalent to the former in one respect and different from it in others;
b) combination, i.e. each sign consists of smaller and simpler units and finds its own context in a more complex linguistic unit so that combination and contexture are two faces of the same operation.

These operation principles coincide with two basic structuring principles of Saussurean structuralism: the metaphoric pole can be linked to the paradigmatic structuring principle and the metonymic pole to the syntagmatic one.

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1. A brief inspection shows that no references occur in Gerhart & Russell (1994), Johnson (1987), Kittay (1987), Lakoff & Johnson (1980), Mac Cormac (1998), Taylor (1989) and a brief footnote refers to it in Honeck & Hoffman (1980).
2. It is not unlikely that the language barrier has played and still plays a very large part in this cleavage of two academic worlds. Lévi-Strauss's *La Pensée Sauvage* (1962) already appeared in English in 1966 as *The Savage Mind.*

These two operations are summarised and applied to metaphor and metonymy in Figure 1.

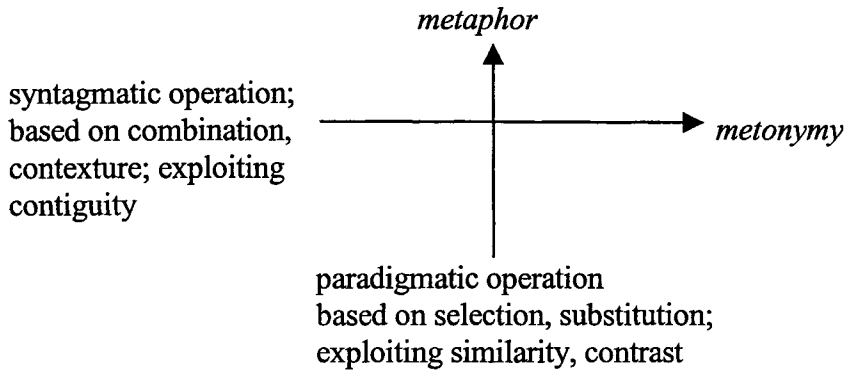

Figure1. Metaphor and metonymy along paradigmatic and syntagmatic axes

Jakobson complains that in literary analysis, and more generally in the humanities, only one of the two poles was focused upon: so that "nothing comparable to the rich literature on metaphor can be cited for the theory of metonymy" (*47; 1971: 95).

As stated above, Jakobson was to have an enormous impact on French structuralism, especially through Claude Lévi-Strauss, who like Jakobson was a Jewish exile in the U.S. during World War II. This scholar applied the distinction between the metaphoric and the metonymic to anthropological issues such as totemism, myth and related questions. For Lévi-Strauss, totemic systems always embody metaphoric systems: that is, people imagine another world inhabited by supernatural beings which are represented by a society of birds, or fishes, or wild animals or even beings like men. But these beings are sufficiently different from the society they form to be able to be mapped onto the tribe's society (see Leach 1970: 48). However, this attitude of mapping the human world onto a different world is not new; according to Lévi-Strauss (1976: 204) it is of all times and it is also basically still with us today in our differentiated categorising of animals:

> Birds are given human Christian names in accordance with the species to which they belong more easily than are other zoological classes, because they can be permitted to resemble men for the very reason that they are so different. As a result of this fact, they form a community which is independent of our own, but precisely because of this independence, appears to us like another society, homologous to that in which we live: birds love freedom, they build themselves a home in which they live a family life and nurture their young; they often engage in social relations with other members of their species; and they communicate with them by acoustic means recalling articulated language (1976: 204).

Against this picture of a bird world in which "everything conspires to make us think of it as a metaphorical human society," there is the metonymic world of farm animals and pets such as dogs. As domestic animals they are part of human society, but at such a low level that dogs tend not to get Christian names, but rather special names such as Sultan, Fido[3], etc. All this leads to a double set of transformations of the metaphoric into the metonymic and vice versa:

> When the relation between (human and animal) species is socially conceived as metaphorical, the relation between the respective systems of naming takes on a metonymical character; and when the relation between species is conceived as metonymical, the system of naming assumes a metaphorical character (1976: 205).

What we witness then, in this brief retrospective survey, is a very wide application of Jakobson's insight into the deeper possibilities for metaphor and metonymy, and of the transformational links between them. In this paper we will look intensively at the basic definitions and questions surrounding metaphor and metonymy, bearing in mind the natural equations between the metaphoric and the paradigmatic, on the one hand, and between the metonymic and the syntagmatic, on the other. The questions to be discussed first, are: a) can

3. Lévi-Strauss makes an absolute statement on this issue. Several people commenting on this paper have pointed out examples of dogs being given Christian names, though John Newman wonders why some names seem to be unacceptable for dogs (Margaret, John, Brian, Cynthia), whereas others seem all right (Cindy, Karla, Karl, Rex, Felix, Otto) (the last four for dogs such as German shepherd dogs) or Mimi, Brigitte (for French poodles).

the syntagmatic principle really be said to determine the proper character of metonymy, and b) can the paradigmatic principle be said to apply to and account for the nature of metaphor and its differences from metonymy?

2. Types of syntagm and metonymy

In the current literature on metonymy, usually only one type of metonymy is discussed. Looking at a small corpus of examples from the same story *Wild Goose Chase*,[4] we will see that there is not just one type of syntagm, but in fact three different ones, and accordingly three types of metonymy.

The first type of syntagm is the traditional linguistic syntagm, which is purely linear in nature as in a phrase or sentence. Thus the isolated phrase *different parts of the country* is not by itself metonymic, but it can only receive a metonymic interpretation in the running context of a sentence:

(1) *Different parts of the country* don't necessarily mean the same thing when they use the same word. (84)

Given the linear structure of any sentence, we can call this type of metonymy a 'linear metonymy.' What is meant in (1) are regiolects, not idiolects or sociolects. In contrast to what is often claimed about metonymies as substitutes for other expressions (see e.g. Warren*), here is a challenging example in which the metonymy *different parts of the country* cannot be replaced by a non-metonymic expression such as *people in different parts of the country* without creating ambiguity or even contradiction. Still this is a very common metonymy, in fact an instance of a locality standing for its inhabitants, and part of a large number of linear metonymic relationships, others being

4. Most examples are taken from a textbook by René Dirven and D. van Abbé, *Wild Goose Chase. A Course in Advanced English*. Deume/Antwerp: Plantyn. The figures after most examples quoted refer to the pages in this book.

relations such as locality for institution, institution for people, container for contained, producer for product, ordered item for customer, impaired body part for patient, and many more. They are all specific realisations of whole-part or part-whole (or synecdochic) types of metonymy. A possible cognitive definition of such linear metonymies could be the following: a linear metonymy is a type of language use where the intended referent is named by a conceptual category that has a different, but closely related, referential mass than the common expression(s) used for the intended referent. The primacy of the intended referent also accounts for the clash between the inanimate subject *parts of a country* and the requirement of an animate subject with the verbs *mean* and *use* in (1). Metonymy, therefore, is a cognitive process reflecting the speaker's intentions, not the violation of so-called selection restrictions claimed in an autonomous linguistic view of language. It is part of our cognitive/conceptual ability to link two related sets of entities so that the one can – or as in (1) must - stand for the other in the appropriate context. The sentence in (1) also reveals that linear metonymy, in contrast to other types of metonymy and to metaphor, does not involve a shift in meaning: the phrase *different parts of the country* may have different referents in metonymic and in non-metonymic use, but it has not changed its meaning. Just as in any other syntagm, the total meaning is the result of the combination of the meanings-in-context of the constituent parts. This is not the case with metaphor, because there we always have to do with a new meaning, that is, a meaning which transcends the syntagmatic combination of the meanings of the separate constituents.

A second type of metonymy, however, while keeping the original meaning of an expression, entails a necessary and systematic extension of this original meaning. This is, for instance, the case with *tea* in the following example, which continues the text in (1):

(2) *Tea* was a large meal for the Wicksteeds. (84)

The systematic character of this change of meaning from tea as 'drink' to tea as 'meal' is recorded in the dictionary. Thus Collins Dictionary (1979: 1490) lists six meanings of *tea*:

(3) **tea**

i. an evergreen shrub or smaller tree,
ii. a. the dried shredded leaves, used to make a beverage by infusion in boiling water
b. such a beverage served hot or iced
iii. a. any of various plants that are similar or that are used to make a tealike beverage
b. any such beverage
iv. Also called **afternoon tea** *Chiefly* Brit. a light meal eaten in the afternoon, usually consisting of tea and cakes, biscuits or sandwiches
v. Also called **high tea** *Brit. and Austr.* the main evening meal
vi. U.S. a slang word for **marijuana**

What we see here is that metonymies like *tea* have gradually and systematically extended their use from denoting a plant (i) to the product, i.e., the leaves (iia-iiia), and from here to their use in making a drink (iib-iiib), and further to the 'ritual' occasion or time when the drink is consumed (iv), and finally to the more elaborate meal that has become associated with it (v). In such cases as *tea*, we also need a new interpretation of the term *syntagmatic* itself. This cannot be restricted to the combination of elements in a linear order such as a linguistic unit, but rather in cases such as *tea* it denotes the combination of different elements or referents into a functionally ordered set as we find them in an agricultural and/or sociocultural context. In the case of *tea* such a set includes the growing of the tea plants and the picking of tea leaves, the use of dried and crushed tea leaves in preparing a type of drink, the ritualisation of tea drinking, and the gradual extension of the drinking occasion into a meal. This is a sociocultural syntagm, which finds its linguistic reflection in the gradual semantic widening of the item *tea*. Ever more elements are joined to the ritual of tea–drinking such as the special social occasion for

inviting guests, the eating of biscuits or scones, and finally all the elements of a whole evening meal. All these elements are juxtaposed to each other and together they constitute a 'conjunctive syntagm.' It is also in the sense of juxtaposition, i.e. of a conjunctive syntagm that Roland Barthes (see Leach 1974: 47) employs the term *syntagm* for non-verbal systems, e.g. for a garment system consisting of a skirt, blouse and jacket, for a food system consisting of the various dishes chosen during a meal, or also for the furniture system in a bedroom with a bed, a wardrobe and a table, or for an architecture system with the various rooms in a building.

Note also that none of these instances of conjunctive syntagms nor the sentence in (2) allow any figurative interpretation. This means that even when the conjunctive syntagm has caused a permanent change (namely a broadening) of meaning at the linguistic level, this is to be seen independently of the use of figurative language. Metonymy, therefore, probably because of its syntagmatic basis, can associate all kinds of elements which have a 'natural' link with each other without any figurative process taking place. However, in contrast to metonymy, in the case of metaphor we always meet with a shift to figurative meaning. Thus *tea* in the slang meaning of 'marijuana' (3vi) does not relate to the tea plant or leaves any longer, but to a completely different plant or leaves (hemp) and different functions (use as a narcotic). Only the similarity in form or social context (dry leaves and flowers; ritual togetherness) between the tea plant and the hemp plant seems to be the common link to carry the contrast between these two worlds of consumer goods. In metaphoric uses of expressions such as *tea,* we always have available a paradigmatic set of possibilities such as various items which can be substituted for each other: *marijuana* for the leaves or flowers of the hemp plant, *cannabis* for the tops of the flowers, and *tea* as a euphemistic metaphor for both. In the case of the metonymic senses of *tea*, we remain within a cluster of contiguous domains so that no figurative meaning seems to be even thinkable. But here too, things are more complex than they look at first sight, as will be shown in section 4.

This leads to the discussion of a third type of metonymy. Alongside the first type, which is based on a linear syntagm and does not

involve semantic change, and the second type, which is based on a conjunctive syntagm and which is characterised by a systematic semantic change, we have a third type, which always receives a figurative interpretation. A more fundamental aspect of the question, therefore, is: how do metonymy and figurative meaning go together or when and why is metonymy figurative and when and why is it not? We will come back to these questions later, but will first consider an example of the third type of syntagm and metonymy, i.e. the inclusive type:

(4) a. He's got *a good head* on him. (67)
b. *He's got a round head on him.

The interpretation of *have a good head on him* is "be intelligent." It is necessarily figurative, as the unacceptable literal expression in (4b) shows. This figurative interpretation is also the one that Collins Dictionary (1979: 675) gives as one of the many meanings of *head.*

(5) **head**, aptitude, intelligence, and emotions (esp. in the phrases **above** or **over one's head, have a head for, keep one's head, lose one's head** etc.): *she has a good head for figures, a wise old head.*

The story-teller in (4) uses a slightly different form of the expression *have a good head on him*; by means of the adjunct of place *on him* the original physical aspect of the expression is more strongly pictured. An even more physical ring is present in another variant: *He has a good head on his shoulders.* Still, whereas the wording of these phrases captures the physical aspects, the reference is to the non-physical, i.e. mental aspects. In contrast to the non-figurative linear and conjunctive metonymies in (1) *Different parts of the country don't mean the same thing* and (2) *Tea was a large meal,* we now have in (4) a physical entity which figuratively stands for a mental entity. The distance between the physical sense of *head* and the reference to a mental reality is so great that we can no longer speak of juxtaposition, but we may say that there is a conceptual 'leap' from a concrete, physical domain to an abstract mental domain, a wording

which is very often used for the definition of metaphor. Here it is however only meant as a definition of "figurative language." This is, of course, not yet a full definition of the notion *figurative*, but it can suffice as a first approximation. But now the question is: what operation is involved in the broadening of the word *head* from 'upper or front part of the body' to 'intelligence'? We will call this third type of syntagmatic combination a relationship of inclusion, which at first sight seems to be similar to the relationship of a 'whole for a part': intelligence as a property of the mind is metaphorically reified as a concrete object and metonymically situated in the brain, which itself is situated in the head. The difference between a linear part-whole relationship, such as *hair* and *head* and an "inclusive syntagm," such as *brains* and *head* is real. In a linear syntagm the one can often stand in place of the other, compare Dutch *Hij kamde zijn krulhaar* '*He combed his curly hair*' and Dutch *Hij kamde zijn krullekop* '*He combed his curly head.*' An inclusive syntagm is a more complex type of relationship: we can say *His brains worked slowly,* but not **His head worked slowly.* This difference is due to the fact that in the case of the simple, linear part-whole relationship we deal with elements (*head, hair*) within the same physical domain "body," but in the inclusive syntagm of *brains* vs. *head* we are dealing with two different subdomains (a neurological/mental one and a physical one) of the domain "human being." Another difference between a linear part-whole relationship and an inclusive syntagm is that in the latter case we may often see the relationships as a 'metonymic chain,' which in the case of 'head' includes the elements *head, brains, grey cells/grey matter, thinking* or *thought processes, the mind, thoughts* and *intelligence.* Note that this syntagmatic relation of inclusion is also significantly different from the syntagmatic relationship of juxtaposition found in the systems of garments, food, furniture and buildings, where the one does not include the other, but where together they form a static whole.

In the syntagmatic chain of inclusion, each of the various elements can also be used on its own, but often with a different degree of figurativity. Thus in the following examples we witness a gradual rise in figurativity:

(6) a. Their brains[5] work about *half as fast* as ours. (100)
b. Jake was even *slower-thinking* than most. (101)
c. They have *a slow mind.* (Collins)
d. He's got *a good head* on him. (67)
e. They're *dead slow.* (100).

Whereas *brains* in (6a) is metonymic for 'thinking or thought processes' (6b) and is slightly figurative, the use of *slow mind* (6c) can only be given a fully figurative interpretation since 'mind' does not evoke any neurological associations as 'brains' in (6a) does. Similarly, *head* in (6d) can only, in spite of the physical emphasis in the adverbial phrase *on him,* be understood figuratively as 'mind.' In (6e) the phrase *dead slow* can be seen either as metonymy or as metaphor. It is metonymy, if *they* is seen to stand for their minds or their thinking (whole for part). But it is metaphor if their 'physical slowness' is seen to be mapped onto their mind so as to denote 'mental slowness.'

Summarising the previous discussion, we can say that the notion *syntagmatic* is to be understood in three different ways and that the combinations are either of a linguistic syntagmatic nature, which is therefore called a linear syntagm, or a non-linguistic syntagmatic nature, i.e. either a conjunctive syntagm, based on a juxtaposition, or an inclusive syntagm, based on (a chain of) inclusion.

We have thus made an important modification to the equation of the metonymic pole with the syntagmatic principle. There is not just one type of syntagm, but at least three, and each of these may be associated with a different type of metonymy. Metonymies also differ from one another and from metaphor in the degree of *ad hoc* or permanent shift in meaning and in their non-figurative or figurative character. All this can only partially be accounted for by the two

5. Obviously, the story-teller Van Abbé (see fn. 2) does not make a distinction between the singular and plural as dictionaries do now. Thus Longman Dictionary of Contemporary English defines *brain* as "the organ inside your head that controls how you think, feel and move" and both *brain/brains* as "the ability to think clearly and learn quickly." The plural thus seems to be a conventionalised metonymy already.

principles adduced thus far, i.e. the syntagmatic vs. paradigmatic axes, so that we must look for deeper explanations.

Before doing so, it may be useful to point out the difference between an 'inclusive syntagm' and a 'paradigmatic relation' briefly. Linguistically, each element of a set based on inclusion as, for example, the metonymic chain *head*, *brain*, *thinking*, *mind*, *thoughts*, *intelligence* requires its own different, verbal context. But in a paradigm, the context can remain the same and the substitution can take place freely, e.g. in *dead slow* we can substitute *dead* by means of each member of the paradigm, e.g., *very*, *extremely*, *terribly*, etc.

After this first analysis of the syntagmatic-paradigmatic dichotomy failing to account for the differences in figurativity, we will now look into Jakobson's dichotomy of contiguity vs. similarity (or contrast), which can be said to underlie the syntagmatic and the paradigmatic axes.

3. The contiguity vs. similarity (or contrast) dichotomy

There is a relatively large difference between the two sets of dichotomies under discussion: on the one hand, the syntagmatic – paradigmatic dichotomy, and on the other, the contiguity – similarity (or contrast) dichotomy. Whereas the former set stems from twentieth century scientific theorising in linguistics, anthropology, ethnology and the history of science, the second set contains more traditional notions which are in need of a scientific definition.

A second, even more important, difference is this: the opposition between the syntagmatic (at least the 'linear' type) and the paradigmatic is located at the more formal or syntactic level, and the opposition between contiguity vs. similarity (or contrast) at the semantic or conceptual level. But, as we have already shown in section 2, this formal – conceptual distinction is not fully correct: all of the syntagmatic relations involve conceptual processes, even the first, linear type of syntagmatic relation is the expression of a conceptual process.

Third, the contiguity-similarity dichotomy was not first seen or formulated by Jakobson or other structuralists, but it has a long tradition going back a very long way in the history of philosophy, rhetoric, and linguistics. It cannot be our purpose here to survey the many discussions about the 'similarity theory' in connection with metaphor.[6] We will rather concentrate on the different principles underlying either metaphor or metonymy.

On the whole, Jakobson himself is not very clear on the link between the two sets of oppositions; nowhere does he say how one could see a possible link between the syntagmatic vs. paradigmatic dichotomy and the contiguity vs. similarity (or contrast) dichotomy.

Since metonymy tended to be very much neglected anyway and metaphor received all the attention, the notion of contiguity was to a large extent left unexplored (but see Nunberg 1978 and Norrick 1981) and it was only similarity that seemed to count.

A new attempt to define the old dichotomy between contiguity and similarity (or contrast) was made by Lakoff & Johnson (1980) and Lakoff (1987: 114), whose metaphor approach is known as the two-domain approach, which claims that in metaphor two different domains are involved but in metonymy only one:

> Metaphor mapping involves a source domain and a target domain... The mapping is typically partial. It maps the structure in the source domain onto a corresponding structure in the target domain. A metonymic mapping occurs within a single conceptual domain, which is structured by an ICM [= idealised cognitive model]

Still, although this way of stating the problem applies in many single instances, it is not unproblematical. The mere use of the term 'domain' does not solve the problem, but it is this term itself which needs clarification. Thanks to Croft's (1993*) epoch-making paper we now have a sound theoretical foundation for the two-domain approach to metaphor and the one-domain basis of metonymy. As al-

6. See M. Black (1962) or Searle (1979). Since this paper concentrates not on metaphor as such, but on the different potential of metaphor and metonymy, their metaphor theories will not be a major issue here.

ready alluded to in the distinction between the simple, linear syntagm in the pair *curly hair/curly head*, and the more complex inclusive syntagm *slow mind/ (not have) a good head*, the latter is related to several subdomains. According to Croft*, these subdomains constitute one domain matrix, because they are all subsumed under that domain matrix. But how does this work in practice? What is seen as one domain or as two domains does not just follow from relationships in 'objective reality,' but rather it is the result of a construal by a culturally-conditioned language user. This can be illustrated by two examples already touched upon before.

The first example is provided by the conceptual domains of drinking and eating. These can be seen either as two different domains, e.g. in the case of *aperitif* and *lunch*, or else as two subdomains of one domain matrix, as in the example *tea* in (5e). In an attempt to arrive at a more sophisticated interpretation of Croft's* distinction, we can start from the following components of "eating" and "drinking."

A. *eating*	B. *drinking*
- taking solids (and/or a liquid) into the the mouth and swallowing them	- taking a liquid into the mouth and swallowing it
- using cutlery	- from a vessel
- for the purpose of nourishing	- for the purpose of quenching thirst; together with food; or as social occasion

Figure 2. Features of *eating* and *drinking*

In the metonymic extension of the expression *tea* as 'a large evening meal' the three basic components of eating and drinking in Figure 2 are all present and, as shown in the analysis in section 2, they are juxtaposed. Juxtaposition is a very clear instance of contiguity, and hence of a domain matrix. Thinking of some of Roland Barthes' examples of systems of juxtaposed elements (discussed in section 1), all of them constitute domain matrices: the bedroom furniture system may include such conceptual subdomains as sex and marriage life

associated with 'bed,' garments associated with 'wardrobe' and breakfast, writing letters, or even the display of jewels associated with 'bedroom table.' Similarly, the system of architecture and house-building may as a domain matrix contain as many subdomains as there are rooms in a house: domains associated with a bedroom, a bathroom, a study, a kitchen, a living room (or the two predecessors known as the sitting room and the lounge). All these examples show that we can perspectivise these experiential areas as one domain, e.g. the bedroom as a typical domain of sleeping and changing clothes, or as a domain matrix according to the activities in focus.

In metonymy we perspectivise the given experiential area as one domain matrix and thus *tea* is extended by incorporating ever more new elements, even food, so that we can say things like (7):

(7) In Birmingham, tea is a large meal.

In metaphor we map one domain onto another, but the source domain is not mapped in its entirely onto the target domain; usually the mapping only selects one or more features, not necessarily the most basic ones, often even a rather subsidiary one. Thus, speaking of the Belgian fruit beer *Kriek-Lambik* 'Cherry Lambik beer,' which is a type of beer brewed by means of spontaneous or natural fermentation and the addition of cherry juice at a given stage, one can say:

(8) Kriek-Lambik is not just drinking, it is eating and drinking together.

In this metaphoric expression, two different domains are present just as in the metonymic use of *tea*. But drinking and eating are not juxtaposed or added up, so as to form a new domain matrix as in the case of *tea*. On the contrary, the drinking remains drinking only, but the nutritious qualities of food and its nourishing effects prototypically caused by eating (see Fig. 2) are mapped onto the drinking of Kriek Lambik beer.

Thus, whereas in the metonymic expression *tea* (as a large meal) eating and drinking are both taken literally and kept intact, but con-

strued as one domain matrix, in the metaphoric expression *Kriek-Lambik is eating and drinking together*, the expression *eating* is taken figuratively, in that some feature of this domain has been mapped onto that of drinking. To put it in short formulas: tea_v = *drinking* + *eating*; but in the drinking of Kriek: *drinking* = *eating*, whereby *eating* as such no longer obtains. So far, so good.

But as shown before, not only metaphor can be figurative; this is equally possible in metonymy. Let us take an element from another domain that can be used in a figurative sense both as metonymy and metaphor and contrast them:

(9) a. Their brains work about half as fast as ours. (=5b)
b. More brains!

As stated above, *brains* in (9a) is part of a metonymic chain; as such it stands for 'thinking or thought processes' and it is slightly figurative. In the metaphor *More brains!* it is not a larger quantity of brains which is being demanded, but more creative ideas. In both instances there are clearly two domains, viz. the neurological domain of the brains and the mental domain of thinking. Linking the various examples to the contiguity – similarity dichotomy, we can see a very clear difference between the metonymic cases *(tea, brains working slower)* and the metaphoric cases *(Kriek is eating and drinking together, More brains)*. In the metonymic cases, there is indeed contiguity between the elements of what is construed as one domain: in the case of *tea* as a 'large meal' the drinking is made contiguous with the eating, first of some biscuits and, then, gradually in some regions, of a whole meal. The factual juxtaposition of the two different ingredients combines them into one unit or domain matrix as a meal. In the case of *brains working slowly* the two domains are also made contiguous: the thinking or thought processes are seen to occur in the brains and this relationship of the inclusion of the one into the other makes them into one composite whole, but of the inclusive type. As said before, such a composition into one domain matrix is the result of human construal and contiguity cannot in all cases be based on a form of objective or 'natural' contiguity. This has the implication

that contiguity must be taken to mean 'conceptual contiguity' and that we can also have contiguity in those cases where we just 'see' contiguity between domains.

The two metaphoric cases *(Kriek is eating and drinking together* and *More brains!*) are different from the metonymic uses in that the two domains in each expression are reduced to one, or as Warren* puts it: the source domain is merely "hypothetical." In the case of drinking the beer Kriek-Lambik the source domain *eating* is mapped onto the target domain *drinking* and some features of the eating domain are transferred to the drinking process; nevertheless there is no real eating, so the most essential feature is not mapped on the drinking domain. In the case of *More brains,* too, the neurological reality is suspended so that instead of the demand for literal *quantity* there is a demand for mental *quality*, i. e. higher creativity. In other words, in metonymy the two subdomains both remain intact, but they are seen to be in an increasingly figurative chain (*brains working slowly, slow-thinking, a slow mind, they are dead slow* (see (6)), whereas in metaphor only one domain, viz. the target domain, is kept and the other domain viz. the source domain disappears, so to speak. The metaphorical mapping process is just that: by mapping, some elements of the (structure of the) source domain are attributed to the target domain, whereby the source domain itself ceases to exist. We conclude, however, that in spite of these fundamental differences between metonymy and metaphor, and the contiguity – similarity dichotomy underlying them, we have as yet no explanation for the fact that both types of mapping processes, however different they may be, can lead to new figurative meanings. So there must also be a common principle that can account for this figurative use of language in both.

In the next section we will discuss a principle that has been proposed for both metonymy and metaphor in the literature. Whereas the traditional discussion concentrated mainly on the question of similarity between two domains, Jakobson and especially the French structuralist school that followed him were highly original in that they stressed the aspect of contrast equally strongly, and, in the example of the bird world, saw this strong contrast at a higher level

even as a condition for the construal of a number of lower-level similarities between the two worlds of birds and men.

In fact, this principle of contrast may be essential in the metaphoric use of most expressions. Let us look again at the example of *tea*[vi] for 'marijuana.' The two worlds of tea plants and of hemp plants are in all respects opposed to each other, since the 'tea' domain is associated with a respectable, social world of gathering, exchanging news, etc., whereas the 'marijuana' domain is associated with the subculture of narcotics, loss of social or individual control etc. But, once these contrasts have been overcome, there are a number of lower-level similarities such as the outer appearance of the dry tea or hemp leaves, the atmosphere of social togetherness while drinking tea or while passing the marijuana cigarettes round in the circle of participants, the deeper contact that is assumed to come about, etc.

The proposal that we want to make in the next section is to extend the principle of contrast from metaphor to metonymy. Although they are entirely different processes, metaphor and metonymy may be two different realisations of one common underlying principle, that of conceptual contrast, or perhaps, to be more specific, the interplay of conceptual distance and closeness, or vice versa.

4. Conceptual closeness and conceptual distance

Thus far we have established (or re-stated) three basic facts regarding metonymy and metaphor:

(i) One difference is related to the distinct nature of syntagmatic and paradigmatic relationships, while within the syntagmatic axis there are gradations: linear, conjunctive, and inclusive metonymies.

(ii) A second difference which keeps the various forms of syntagmatic relationship together as against metaphor is the distinction between contiguous and non-contiguous domains; in metonymy, two related domains or subdomains are construed as one domain matrix. In metaphor one domain is effaced in the mapping operation.

(iii) In spite of these clear distinctions, the distinction between non-figurative and figurative meaning cuts right across the two above distinctions.

Consequently, it may be more logical to see the various instances of metonymy and metaphor as points on a continuum, with non-figurativeness at one end and complex figurativeness at the other, as represented in Figure 3:

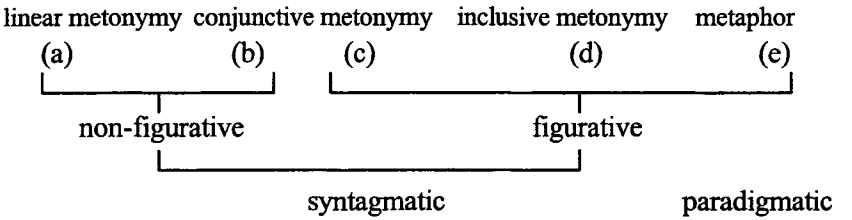

Figure 3. The metonomy–metaphor continuum

These five cases were exemplified before and are repeated here or extended (10c) for the sake of clarity:

(10) a. *Different parts of the country* do not mean the same (= 1)
b. *Tea* was a large meal for the Wicksteeds. (= 2)
c. *The Crown* has not withheld its assent. (= 12 below)
d. He has *a good head* on him. (= 4)
e. Kriek-Lambik is *eating* and drinking together. (= 8)

Just as there are different degrees in metaphoricity, which has often been discussed in the literature, there are different degrees in metonymicity. The lowest degree of metonymicity is linear metonymy (10a), since it is always non-figurative and non-polysemous. The next higher degree is conjunctive metonymy of the type *tea* for a 'large meal,' which is non-figurative, but polysemous as in (10b). The third type is conjunctive metonymy as in *the Crown* for the (British) Monarch or Queen (10c), which is both figurative and polysemous. This also holds for inclusive metonymy as in *(have) a good head* for 'intelligence' in (10d), which, just like metaphor in (10e)

can only be figurative. The difference between the inclusive metonymy in (10d) and the metaphor DRINKING IS EATING in (10e) is that metaphor need not, but can and often does, lead to polysemy.

We can now look into the relationships between the various types of metonymy and metaphor in terms of the notions of conceptual closeness and distance.

In linear metonymy such as *different parts of the country* in (10a) there is still very little or no complexity in the process of conceptual shift: we only move from the standard referential mass of a term to a closely related, though different, referential mass to find the intended referent. In conjunctive metonymies, especially with nouns denoting both a building and an institution such as *school, church, hospital. prison, club* etc. things are already more complex. Such institutions are relatively complex organisations containing several constitutive elements. Thus a school contains teachers (a head and staff), pupils, activities such as classes, games, contests, and rooms, buildings and, in Britain, sports grounds. Various of these aspects are referred to by means of *school* as a *totum pro parte* metonymy in (11):

(11) a. They would have to wait until *the school broke up.* (102)
b. He would not *stay away from school* any longer. (102)
c. Robin was told to *give the report to the school.* (83)
d. Not that *the school would worry* too much. (83)

In (11a) the school year cycle is referred to and in (11b) the daily (occurrence of) lessons; or in both of these examples a temporal aspect is involved, which also allows us to say *after* or *during school.* In (11c) and (11d) the teaching staff or a department or a single teacher can be meant and by means of (11d) one could even refer to the headmaster. These relative distances in meaning between, for example, the temporal and human aspects in the complex notion 'school' certainly justify calling this both a metonymy and an instance of polysemy.[7]

7. Cruse (1986: 52f) and following him Taylor (1995: 124) hold that items such as *car* and *door* are instances of "conceptual modulation" and "frame (variation),"

It is moreover a conjunctive metonymy, since it is all those components together that constitute the institution *school.* Furthermore, the metonymies in the examples of (11) are of the *totum pro parte* type, viz. the term for the whole *(school)* stands for one of the components. On the other hand, all these components are so much part and parcel of the wider concept 'school' that they are conceptually very close to each other, even though the intended referents of *school* can both *break up* or *worry* or *be very strict and severe.* Still, no one would want to claim figurativity in any of the examples in (11).

But, things are quite different in conjunctive metonymies based on more conceptual distance such as *the Crown* that always have a figurative meaning.

(12) The Crown has not withheld its assent to a Bill since 1707. (Kittay 1987: 67)

In this metonymy one element of the royal regalia system, which consists of crown, sceptre, robe, etc., is singled out to denote the whole institution, viz. the monarch. In this conjunctive metonymy the whole royal attire, the function of the monarch and the person are all part of a political institution.[8]

The conceptual distance between one part of the regalia (crown) and the institution *Crown* is much greater than in the case of the institution *school,* as Figure 4 may show. Even if we try to 'construct' the same intermediary levels for both concepts, the differences remain strikingly great:

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respectively. Taylor also takes *door* to be a case of metonymy. I consider them as "pre-metonymic," that is close to, but nor yet metonymies. This issue is taken up in the Conclusion.

8. See e.g. The *Encyclopedia Britannica*'s definition: "the crown is the formal legal institution; in it and through it all the prerogatives are exercised; it is an essential part of parliament; it is the executive (her majesty's ministers, etc.)."

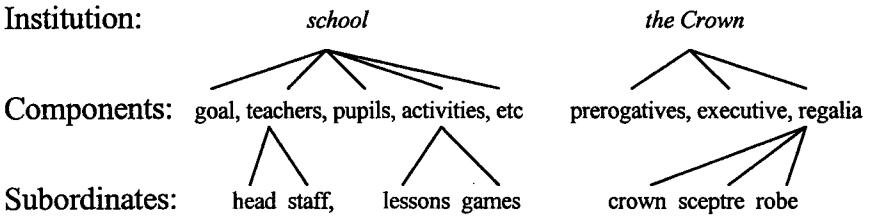

Figure 4. Two conjunctive syntagms: *school* and *Crown*.

All the elements named under the institution *school* are necessary ones and they do not differ in saliency. The different levels introduced under the concept *school* may even look artificial: thus the components *head(master)* and *staff* could equally well be placed at the same level as *pupils*; and similarly, there is not a different level of abstraction between *activities* and *lessons*. In contrast with this, the conceptual distance between the abstract components of the concept "monarch" and the concrete objects at the subordinate level is very great. In the institution *the Crown*, the prerogatives and the executive are far more important than the regalia and it is not the regalia as such but one subordinate concrete object that becomes metonymic and stands for the monarch as an institution. Moreover, this is a *pars pro toto* or synecdochic bottom-up relation (from the subordinate *pars* to the superordinate *totum),* whereas in the *school* example we have a top-down (from the *totum* to the *pars*) metonymic relationship. All these differences clearly show that in the *school* example there is a much greater conceptual closeness than in the *Crown* example. Figurative meaning only arises – or at least is stimulated to arise - if the conceptual distance between the two (sub)domains or things referred to is large enough. In the *school* example the elements such as *headmaster*, *staff*, *lessons*, etc. are sufficiently different to cause a conceptual shift in the form of polysemy, but they are so closely connected with the concept "school" that they cannot trigger a figurative shift. In contrast to *school*, the crown as part of the regalia is, comparatively speaking, much further away from the institution *monarchy*, which is, moreover, an abstract institution represented by a person, which is in turn metonymically designated by one

of the symbols associated with the function, viz. a crown, so that the conceptual distance is very great and the shift or transfer in denotation and reference very substantial. As stated before, figurativity is a matter of gradual increase along a continuum. A conjunctive metonymy such as *the Crown* for 'monarchy' is the use of a concrete symbol for a more abstract institution.

This is also the case with inclusive metonymy as in *(have) a good head,* which denotes 'intelligence.' Especially through the stressing of the physical aspects by means of the adverbial phrase in (4) *He's got a good head on him,* the distance between the concrete physical level and the abstract mental level is even further stretched. Because of this strong physical emphasis the metonymy *have a good head* cannot be combined with any of the verbs that are possible with the other items in the metonymic chain *head – brains – thinking – mind – intelligence.* Brains can be said to work fast, because *brains* is halfway between *head* and *mind* in the physical – mental dichotomy.

If we concentrate for a moment on the expression *mind, we* see that *mind* itself can have the following collocating verbs or other contexts:

(13) a. Father's particulars were *neatly arranged in his mind.* (65)
b. Jack too was well *documented in his mind.* (66)
c. It is *uppermost in his mind.*
d. Jeremy still *had a problem on his mind.* (7)
e. It was difficult to guess the way his *mind was working* (7)
f. *His mind* at once *leapt* to the conclusion. (9)
g. We are in a position to help you *make up your mind.* (7)

Thanks to the container metaphor *in* (13a,b,c), the metonymy *mind* can easily be substituted by *head,* whereas the contact metaphor *on* (14d) cannot be combined with head, but requires more interior body parts such as *on his liver* in English or the equivalent of *on his stomach* in Dutch. The abstract nature of the entities to be kept in or on the mind are sufficiently distant from the concrete images of containers or surfaces to allow both a more abstract container/contact place (*mind*) and a concrete one (*head, liver, stomach*). These are not pos-

sible as substitutes for *mind* in any of the other contexts (13e,f,g), which shows that the conceptual distance between *head* and *mind is* relatively great. But *mind* in (13e) can correctly be replaced by the conceptually closer, though still relatively distant concept *brain(s)* Thus, although in a chain of inclusive metonymies the more concrete classes may, in that order, comprise the other, less concrete or abstract ones, there is a clear hierarchy: *head>brain>thinking>mind> intelligence.* Only the three adjacent concepts *brain>thinking>mind* can be combined with the predicates *are working* or *slow* (for the latter see (6a,b,c). *Head* can have the same referents as the next three elements in the metonymic chain, but because of the great conceptual distance it cannot replace them, as the following survey may show:

(14)	(i) *mind*	(ii) *brains*	(iii) *head*
a.	be documented in his mind	be documented in his brains	be documented in his head
b.	have a problem on his mind	*have a problem on his brains	*have a problem on his head
c.	the way his mind was working	the way his brains were working	*the way his head was working
d.	his mind leapt to the conclusion	*his brains leapt to the conclusion	*his head leapt to the conclusion
e.	make up your mind	*make up your brains	*make up your head

Finally, the notion of conceptual distance may also capture some important aspects of the difference between metonymy and metaphor and the different degrees of figurativity associated with them. Let's look at the metonymic and metaphoric use of the expression *on (our) hand(s):*

(15) a. Arie got a bullet in his lungs and *died on our hands.* (86)
b. Of course he never did or else we shouldn't have been *left with this problem on our hands.* (25)
c. *I'll be on hand* to help you. (Collins Dictionary).

The metonymic character of *on our hands* in (15a) appears from the fact that the expression cannot be taken in the mere physical sense of 'support,' but in the figurative sense of 'in our presence.' In fact, (15a) is ambiguous and can also be metaphorically interpreted in the sense that they were left with a very embarrassing and painful situation: e.g. in a detective story context where physical proximity is not even required, one could say: *The inspector was left with three killers on his hands. Fortunately, they were all in prison.* There is a very clear difference in conceptual distance between the two interpretations. This far greater distance is also given in the abstract context of *be left with a problem on our hands* in (15b) Here the metaphoric interpretation of *on our hands* follows from the contrast between the non-concrete nature of *problem* and the concrete image of *on our hands*. Given this incompatibility, *on our hands* must be interpreted here in the abstract sense that one has to deal with this problem. A similar, but purely abstract context occurs in (13e) *Jeremy still had a problem on his mind.* This expression is a metonymy combined with the metaphorical support image *on*, whereas *a problem on our hands* maps a concrete source domain (*hands*) on an abstract target domain (*problem*) and constitutes a large conceptual distance. Still, one may wonder what the subtle difference in meaning might be between the metonymy *a problem on your mind* and the metaphor *a problem on your hands.* Experiences with our hands tend to be more concrete, more tangible, and more urgent, whereas experiences in the mind evoke more theoretical and less urgent action in the sense of 'thinking about.'

In the expression *to be on hand* in (15c) the conceptual distance between two human beings is small enough to be interpreted metonymically, as also suggested by the paraphrase in Collins Dictionary as 'close by; present.'

Summarising, we can say that the distinction between conceptual closeness and conceptual distance seems to be powerful enough to account both for the different levels of figurativity within metonymy, and for those between metonymy and metaphor.

5. Metonymy and metaphor as different mental strategies

In metonymy two elements are brought together[9], they are mapped on one another, but keep their existence and are construed as forming a contiguous system. As a result the conceptual function of metonymy must differ fundamentally from that of metaphor, at least in the prototypical cases.

In metaphor, too, two elements are brought together, but the source domain looses its existence when mapped onto the target domain. Although the source domain itself is wiped out, some aspects of its own nature or structure are transferred to that of the target domain. The contrast between the two elements or domains is often so great that this disparity[10] can only lead to full substitution of one domain by the other.

Both processes result from different thought processes and serve different functions in communication. We shall especially focus - as we have done with other aspects of the metonymy – metaphor dichotomy - on the specific function(s) of metonymy and contrast this occasionally with the specific function of metaphor. For this purpose, the six types already discussed above will be taken up again, i.e. linear metonymy, conjunctive metonymy (both non-figurative and figurative), inclusive metonymy, and metaphor.

The linear metonymy in (1) *Different parts of the country don't necessarily mean the same thing when they use the same word* combines the meanings of *different parts of the country* as a geographical area and the speech community living there, based on the pattern COUNTRY FOR INHABITANTS. This pattern keeps the separate

9. It is interesting to note that some authors who have a very interesting view of metaphor such as Kittay (1987) become very contradictory when dealing with metonymy. At one point, Kittay (1987: 291) says that metonymy only deals with one domain, but at another point she (1987: 297) implies that in metonymy too, two domains can be involved.
10. The term *disparity* stems from Lacan (1970) and is a synonym of *dissimilarity*. So instead of speaking of similarity and similarity theory, one might refer to the basis of metaphor as 'dissimilarity' and hence prefer to speak of the 'dissimilarity theory.'

existence of the two elements in metonymy intact, but it does not allow the two elements to replace each other. If we used *inhabitants* in sentence (1), we would get a very different or at least a very ambiguous sentence, as if the semantic variable was not regional, but rather social or even individual. Also the alternative possibility *In different parts of the country people don't necessarily mean the same thing* is ambiguous with respect to regional and individual variation. What we see, then, in the use of this metonymy is an unambiguous reference to regional varieties of a language, which cannot be achieved by a non-metonymic expression. Consequently, the metonymy that at first sight may seem to be a vaguer and less precise expression for the act of reference turns out to be the only unambiguous expression available. Thus reference is clearly at the basis of the use of linear metonymy.

Also conjunctive metonymies, such as *the school* and *the Crown,* may be motivated by referential needs. In the case of *the school* in (9) it is more economic, that is, easier and less cumbersome, to refer to the institution as such than to one of its components, be it the school year, the lessons, the staff, the department or the headmaster. In a number of cases many speakers even lack the more specific information as to which subgroup might be meant. In some contexts such more specific reference may be required, but in many other contexts this is not the case; on the contrary, it would need the introduction of many more referents in the preceding discourse before we could make a cohesive reference to them. Consequently, metonymy is used here as an instrument to avoid overspecification of referents. Another important aspect of metonymy is that it tends to go hand in hand with metaphoric interpretations of other constituents. If we take the phrase *The school broke up* (part of 11a) in isolation, it might be ambiguous with respect to a reference to either the building falling to pieces (though this would be used as pun) or the school year finishing, but in the full context of (11a) with its temporal reference (They would have to *wait until),* the referent in *school broke up* is likely to have a temporal interpretation as 'the school year.' This observation also shows that there is one aspect of conjunctive systems such as *school, church, hospital* that does not enter the metonymic syntagm, i.e. the

building itself. Since metonymy requires the combination of two elements, the first element, i. e., the sense of 'building' cannot itself become the target of the metonymy. Even in an expression such as (11b) *He would not any longer stay away from school* it is not the building that is meant, but rather the lessons. Thus it does not astonish that one can say both *to cut lessons* and *to cut school.*

The motivation for the figurative conjunctive metonymy *the Crown* may, to a significant extent, also be referential: by using the metonymy instead of the nouns *the monarch, the king, the queen* one again avoids a possible ambiguity between the person and the institution; such difficulty is impossible with the expression *the Crown.* Note that in the example in (12) and in the quotation from the *Encyclopaedia Britannica* (see fn. 8, 95) even the neutral possessive and personal pronouns are used as anaphora (withhold *its* assent, in *it* and through *it* all prerogatives are exercised). This underlines the fact that the person has completely disappeared into the background and only the institution is meant as the intended referent. Also the temporary character inherent in the notion of an individual monarch reigning at speech time is avoided by the use of the metonymy *the Crown.* By means of metonymy it thus becomes possible to refer unambiguously to institutions or geographical units rather than to all the specific persons involved in them. These three examples (*parts of the country, school, crown*) therefore sufficiently show that metonymy is not just to be defined in the traditional way as "an attribute or cause (which) is substituted for the whole" (Hoffmann & Honeck, 1980: 4) or as "the substitution of a word referring to an attribute for the thing that is meant as for example the use of *the crown* to refer to a monarch" (*Collins Dictionary*). This type of definition overlooks the fact that in many cases such as (1) the substitution test is impossible. Therefore, it looks as if the definition of metonymy should not be given in terms of a formal, linguistic test such as a substitution test but rather that it has to be formulated in terms of enabling unambiguous reference, or on the contrary, of exploiting vagueness or ambiguity.

A second motivation for the *Crown* type of metonymy is its figurative potential: given the conceptual distance between this element in the regalia system and the institution 'monarch' (see Fig. 3), the

image of the crown becomes an almost predestined candidate for figurativisation as a symbol of this institution. Of course, the sceptre is also a symbol of the monarch, and even the robe may be used as a symbol as in a nineteenth century request to Queen Victoria: "*May Lesotho be a flea in your majesty's robe?*" But only *the Crown* becomes a conventional metonymic symbol: what it has in addition to the two other regalia is that it does not just symbolise one aspect of the institution, e.g. the power or the dignity, but that it symbolises both the timelessness and its hierarchic structure as head and personification of the nation.

Things are not so very different with the inclusive metonymic chain, illustrated in (6a-d), here repeated as (16):

(16) < *brains working half as fast* < *slow-thinking* < *having a slow mind* < *(not) having a good head*[11]

Whereas in a conjunctive metonymy each of the juxtaposed elements can (theoretically) refer to the whole or vice versa, in an inclusive metonymic chain such as (16), the members refer to smaller or larger segments of the whole. Thus we can say that thinking occurs in the brains, or in the mind, or in the head. If we follow the traditional folk theory that thinking occurs in the mind, then *brains* and *head* are the larger units including the *mind.* This folk theory seems to be confirmed by the many expressions with *mind* as illustrated in the sentences of (13). In other words, each of the items can be used with a partial overlap of meaning and can refer to the same aspects of the mental world. But this referential potential is not matched by substitutability, as was shown in the analysis of the sentences in (14). The difference between inclusive metonymy and the two other types of metonymy *(different parts of the country, school, Crown),* however, is that in the inclusive metonymic chain in (16) there is no ambiguity involved. Still, *brains* and *head* clearly differ in figurative potential: *brains working half as fast* is less figurative than *(not) have a good head.* As with *Crown,* the factor of figurative potential is an impor-

11. For the sake of near synonymy the last element is given in the negated form.

tant option in the preference for some items from a conjunctive or inclusive set of metonymies. But, on the whole, it is fair to say that the referential potential is the most central motivation for metonymy. This is even the case in the *brains/head* dichotomy: *brains* may be a reference to both the neurological and the mental worlds, but in that order; *head*, on the contrary, may rather be a reference to the mental world (*a good head for*), though not detached from the physical world. The notion of a purely mental entity is covered by the term *mind*, which is related to forms that in old Germanic, e.g. Gothic, meant "memory."

Whereas metonymy can thus primarily be seen as an instrument for reference, the function of metaphor is to be situated in a completely different field. This difference appears by contrasting the same abstract term, e.g. *problem,* in a number of metaphorical contexts. Each different context may evoke a different experience of problems or problematical situations. Thus we can see, as already suggested before, for the first expressions in (17) a gradual increase of the abstract nature of problem experience:

(17) a. He had a problem *on his hands.*
b. He had a problem *on his mind.*
c. The problem was *uppermost in his mind.*
d. He *was faced* with a problem.

The abstract meaning of *problem* is – as stated above – interpreted slightly differently in each sentence. In (17a) it is implied that the *problem* is of a somewhat more concrete nature which may require the use of practical, manual skills to solve it. In (17b), *problem* has the implication of a burden weighing emotionally on a person, for which Dutch has the equivalent of *sit with a problem in one's stomach* 'to worry about an indigestible problem.' In (17c) the problem is seen as something of a more intellectual nature that demands and gets most of a person's attention, and in (17d) the problem is seen as an opponent challenging its experiencer. We can thus make the generalisation that metaphor's function in these almost dead metaphors is to express experiential nuances or shades, feelings, emotions, certain

states of the mind, and ways of personalising abstract conceptual experiences in a more direct and tangible way. We can refer to this specific function of metaphor as its expressive function.[12]

We have, then, hit upon two of Karl Bühler's three main functions of the linguistic sign in communication, viz. the representational or referential function, typically associated with metonymy and the expressive function typically associated with metaphor. The question that may arise immediately is: but what about Bühler's third function, the conative function? In fact, this is not so totally different from the *expressive* function: together, the expressive and the conative functions form a dichotomy with the *representational function,* which is why Halliday (1973) combined the two into one function, viz. his interpersonal function. But we prefer to stick to Bühler's characterisation as *expressive function,* because it forms a clearer contrast to the *representational function* and because it also characterises the function of metaphor as a conceptualisation instrument and force.

The association of the metonymic pole with the representational function of language and that of the metaphoric pole with the expressive function may also be applicable to Jakobson's distinction between different preferences for either of these poles in schools of art:

metonymic pole:	*metaphoric pole*:
representational function in	expressive function in
realism	romanticism
cubism	symbolism
	surrealism.

Figure 5. Functions of the metonymic and metaphoric in schools of art

12. This view may be the same as the one proposed by Kittay (1987:171), who sees the function of metaphor primarily as the 'reconceptualisation' of domains already familiar to us. It is not, therefore, the only or even most important function of our conventionalised metaphors, to which this corpus is limited, to express 'new experiences in terms of already familiar experiences' as is often believed.

But such far-reaching characterisations have to be tested in detailed analyses.

6. Conclusions: A conceptual continuum

Although the facts discussed in this paper were presented almost ten years ago, the proposed solution for the problem raised has not really been heeded. Cognitive linguistics and, in fact, all scholars of metaphor and metonymy, must face the challenge offered by the fact that both metonymy and metaphor can constitute figurative language. The distinction invoked by Croft between a domain matrix for metonymy and two independent domains for metaphor does in itself not offer a solution to the question how to explain the figurative character of many types of metonymy. Another question is how metonymic figurativity relates to and differs from metaphoric figurativity. This question is even part of a more encompassing one: is it possible to see a continuum between literal and non-literal language, and in the latter between non-figurative and figurative language? These various questions have been given a first partial answer in Fig. 3, which is now extended to represent the whole complex of questions in Fig. 6.

Figure 6 suggests that the area of literalness, exemplified by *car in a garage* (1) is matched by a large area of non-literalness, which itself comprises non-figurative and figurative categories. What Fig. 6 may especially make clear is a certain parallelism between the figurative cases (6–9) and the non-figurative ones (1–4): just like some types of metonymy side with metaphor, since both are figurative, the linear type of metonymy (4) *Different parts of the country use 'tea' differently* sides with pre-metonymic phenomena, such as modulation (as discussed by Cruse; see fn. 7; 95) and frame variation (discussed by Taylor, also see fn. 7). The latter three categories have in common that, though non-figurative, they are not literal either, hence our use of the compound *non-literal*. If I fill the car (modulation), I do not fill the car itself, but the fuel tank. If I walk through the door (frame variation), I do not literally walk through the (thin) wooden

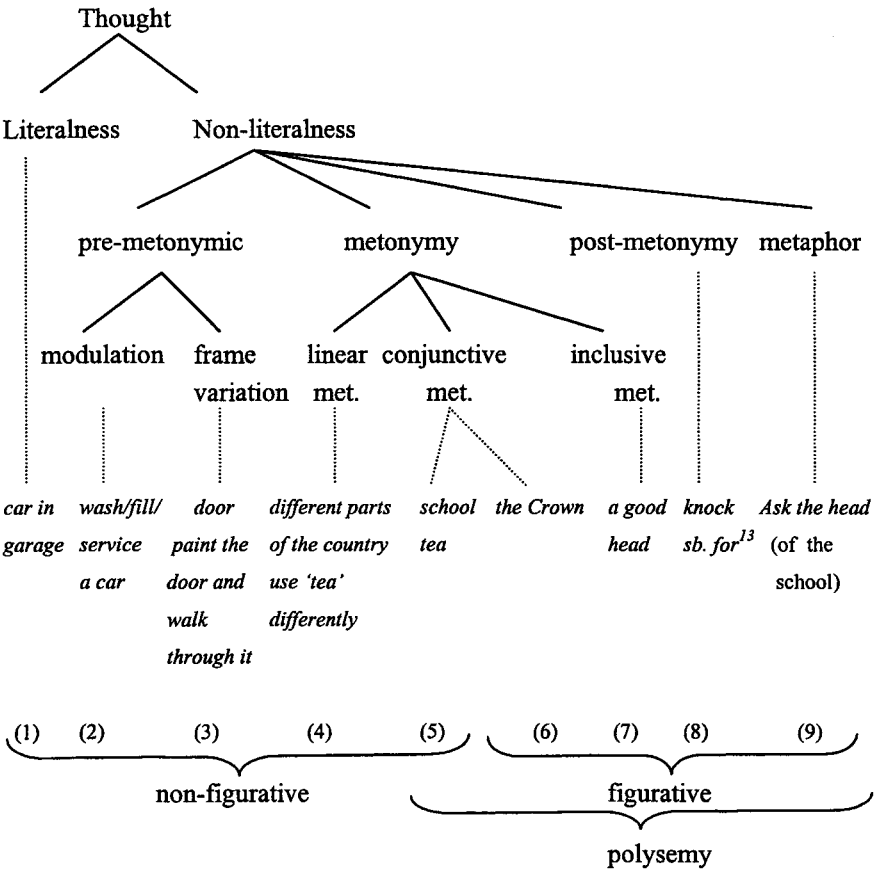

Figure 6. The literal-figurative continuum

panel, but through the door opening. And if I say that different parts in the country use the word *tea* with different meanings, I do not mean the parts of the country, but the group of inhabitants living there. Clearly, they are all non-literal, but they are also non-figurative. There is moreover a clear gradation within these three categories. Modulation and frame variation differ from one another

13. My British informant does not accept Riemer's* example *knock somebody about something he did*, and therefore the expression *nock somebody for* has been chosen. This does not affect his argument, of course.

by combinability, or lack of it. We can combine *He filled the car and then washed it*, and also *He painted the door and then walked through it*, but with zeugma. Although both modulation and frame variation are instances of active zone highlighting, we highlight different elements: in the former we highlight parts of a material object, in the latter we highlight either the material appearance of an object or else its function. Outer form and function of objects are sufficiently different not to allow combining them. In the linear metonymy the two elements (parts of a country and inhabitants) do not physically or functionally coincide as various elements do in *car* and *door*: the different parts of a country do not coincide with the people who live there. In all these cases, there is a difference between what is 'named' (*car, door, parts of country*) and what is 'intended' (*fuel tank, door opening, inhabitants*). What we see in these three non-literal cases (2–4) is comparable to what we see in the metonymy – metaphor continuum (6–9): within the non-figurative cases there is a conceptual distance between the 'named' and the 'intended' element in each of the three instances. It is far more minute than in the figurative metonymy – metaphor continuum of (6–9), but it is also undeniably present. It is smallest in modulation (2), where all the parts of a car are in close proximity and conceptualised at the same concrete level. It is somewhat greater in frame variation (3), since, in spite of the close proximity of the form and function in the case of a door, the level of conceptualisation is remarkably different, i.e. the level of concrete material objects vs. that of a function of an object. In linear metonymy as in (4), there is not necessarily proximity, since regional accents or semantic variations hold even when the speakers have left the region in which they were born and raised. But here it is especially the distance between the material, geographical level and the abstract level of semiotic systems that marks an important break. Still the distance is far from being sufficiently large to allow figurativity. Thus in fact there are two ways of looking at the nine instances in Fig. 6. First, we can make two groups, non-figurative and figurative, with category 5 (school) as a transitional member: it is non-figurative, but polysemous like all the figurative instances. This is the way of looking followed all through this paper.

Secondly, in Fig. 3 we could alternatively make three groups of three members (1–3, 4–7, 8–10). The first group (1–3) (literal meaning, modulation, frame variation) denotes the real things that are named, albeit in different highlighting. The second group (4–6) contains the two simple metonymies (non-figurative) and the simpler type of figurative metonymy: they all denote a referent that is different from the one named, but one that is visibly given since it is closely connected to the named entity. Even though in the case of *the Crown* (figurative conjunctive metonymy) the conceptual distance between the object *Crown* and the type of institution is very great, both are linked by the image of the person of a monarch wearing a crown. One could even say that this image of a crowned monarch is both a symbol and a concrete incarnation of the institution. The third group (8–10) are the fully figurative cases. The metonymy *a good head* indicates by means of the adjective *good* that we are no longer in the physical domain of *head*, but in its included mental world of the mind and of intelligence. The non-transparent metaphor in *knock somebody for (being a Beatles fan)* in the sense of 'criticise' lost the link with *knock*'s original image of 'make contact with a hard surface' and was, according to Riemer*, at one time a metaphor based upon a metonymy. Since this link is lost now, it is what Riemer calls a post-metonymy, which however still has a figurative meaning in spite of its lack of transparency (also see Geeraerts*). Metaphor, finally, constitutes a "complete" distance from the image domain so that *the head* (in the school context) is a result from mapping the structure of the human body onto that of an institution.

The 2 x 4 or 3 x 3 approaches to the conceptual continuum of Fig. 6 are both valid and complement one another. The continuum reflects a very gradual process and demarcation points can be made at different points in conceptual transition zones.

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An alternative account of the interpretation of referential metonymy and metaphor*

Beatrice Warren

Abstract

A theory which aims at explaining differences between metaphor and metonymy will be presented. This theory is briefly as follows: metonymic expressions are partially implicit modifier-head constructions which do not involve substitution of source referent with target referent, but in which the explicit modifier (source) and the implicit head (target) together pick out the intended referent. Interpreting a metonymy therefore involves retrieving and retaining **source** as well as **target** referents (besides working out how they are related). In metaphor, the source expression does not serve as a restrictive complement but invites the interpreter to extract at least one property of the source referent and transfer this to the target. Interpreting metaphors therefore involves retrieving and **transferring properties**, depriving the source expression of potential reference.

Keywords: hypothetical, implicit head, implicit relations, modifier-head construction, potential referent, property-transferring, propositional metonymy, referent, referential metonymy, source referent, substitution, target referent.

1. Introduction

Most modern linguists agree that metaphor and metonymy are two distinct constructions arising from two distinct cognitive operations,

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although they are alike in that they both involve an explicit source expression (that which is mentioned) which suggests an implicit target (intended item of communication). The most common description of the fundamental difference between metaphor and metonymy is that the association which takes us from source to target is analogy and similarity between otherwise dissimilar phenomena in the case of metaphor and concomitance in the case of metonymy. The prevalent account in cognitive linguistics parallels this explanation, i.e. in the case of metaphor, there is mapping across knowledge structures (i.e. domains or ICMs); in the case of metonymy there is mapping within the same domain or domain matrix (Lakoff & Turner 1989, Croft 1993*, and Kövecses & Radden 1998).

The aims of the present contribution are, first, to demonstrate that it is difficult to see how this traditional theory and the cognitivist version of it account for important syntactic, semantic and functional differences between metaphoric and metonymic expressions and, secondly, to suggest an alternative to this theory which would better account for these differences. This alternative presupposes a distinction between propositional and referential metonymy. This distinction will therefore be introduced first. Next will follow a list of differences between metaphor and metonymy which need to be accounted for. In the fourth section, finally, the alternative approach addressing these differences will be presented.

2. Propositional and referential metonymy

Consider the following examples representing propositional (1 – 2) and referential metonymy (3 – 4). (The metonymic expression is in italics, the intended interpretation in square brackets.)

(1) A: How did you get to the airport?
B*: I waved down a taxi.* [A taxi took me there]
(Gibbs 1994: 327)

(2) It won't happen while I still *breathe.* [live]
(Halliday 1994: 340)

(3) She married *money*. [rich person]
(4) Give me a hand [help] with this.

One difference between (1)–(2) and (3)–(4) is that in the former the source expressions do not bring about violation of truth conditions, whereas in the latter they do. Another difference, reflected in the paraphrases which disclose probable implicit connections between the source and target in these examples, is that in (1)–(2) two propositions are connected, whereas in (3)–(4) two entities (or at least reified notions) are related. That is, in the case of propositional metonymy the paraphrase is that of antecedent to consequent since contiguity between propositions is naturally verbalised in this way: if one breathes, then one lives; if one waves down a taxi and one's goal is an airport, then this taxi probably takes one to the airport in question. The validity of the consequent (the target) follows from the validity of the antecedent (the source). Consequently propositional metonymy does not give rise to statements which are literally not true.[1] In the case of referential metonymy, the paraphrase yields a modifier-head construction: *money*: someone who has money; *hand*: that which the hand produces. In these it is invariably the head that is the implicit target. This means that the predication of the sentence containing the metonym apparently applies to the item of the construction with a modifying, non-referring status, giving rise to superficially non-literal statements.

The great majority of examples of metonymy given in the literature up to 2000 represent referential metonymy. That is, they give rise to (superficial) violations of truth conditions and they allow

1. Riemer* introduces the term *post-metonymy* for cases when the validity of the antecedent/source, although originally crucial, has ceased to be necessary, because the meaning it suggests (i.e. the consequent/target) has become conventionalised. His example is the Arrente word for "hit," which may mean "kill," although no hitting has taken place. There are many examples of "dead" propositional metonyms in the literature. See Stern (1965: 377ff), possibly the first to describe this type of meaning shift, and Warren (1992: 51–63). However, terminology is confusing here: in Stern the phenomenon is referred to as *permutation* and in Warren as *implication*.

paraphrasing in the manner demonstrated above. In fact, I will consider these features as criterial for referential metonymy and I will consider referential metonymy as prototypical metonymy and in the following restrict myself to this type. Judging by current trends in the metonymy literature, a number of linguists will consider such an approach too reductionistic, threatening to obscure different manifestations of one and the same cognitive process. What we will possibly gain in precision, we will lose in comprehensiveness. Whether this is indeed the case will be discussed after a proper presentation of the approach. Our immediate concern will instead be differences between metaphor and metonymy.

2.1. Some important differences between metaphor and metonymy

There are six differences between metaphor and metonymy of particular importance. These will be listed below. As already pointed out, they are semantic, syntactic and functional in nature.

(i) Metaphor involves seeing something in terms of something else. This is a point made very clear in Lakoff & Johnson (1980) (but it has been made before, e.g. by Stöcklein (1898: 55)).[2] That is to say, metaphor is hypothetical in nature. Life is thought of *as if it were* a journey. Metonymy, on the other hand, is non-hypothetical. There is nothing hypothetical about *the kettle* in *the kettle is boiling*, for instance. It is for this reason that I make the point that non-literalness in the case of metonymy is superficial.

(ii) Metaphor will serve as a rhetorical device or as a device for extending the lexicon (Dirven 1985: 85–119, Lipka 1994: 1–15). The same is true of metonymy, but in contrast to metaphor, it need not have either of these functions. Consider the following example from

2. As a matter of fact, a number of the central tenets in current theories of metaphor and metonymy are not new but have been proposed previously. For a survey, see Jäkel (1999: 9–27) and above all Nerlich & Clarke (2000*).

Nunberg *Bill's shoes were neatly tied* [laces] (Nunberg 1996: 123) or Dirven's example *different parts of the country* [inhabitants] (1993*).

(iii) Whereas (referential) metonymy does not occur above phrase-level, metaphor can, as the following example illustrates *You scratch my back and I will scratch yours* [If you help me with what I cannot manage myself but which you can easily do for me, I will return such a service] (Warren 1998), see also Dirven (1985: 92).

(iv) In the case of metaphors there are often simultaneously more than one connector (i.e. shared properties) between source and target. This makes it a potentially very suggestive and powerful, yet economic meaning-creating device. In the case of metonymy, there is never more than one relation connecting source and target (Warren 1992: 65ff and 78–79). (It is, however, possible to find metonyms within metonyms. Consider, for instance, the Swedish word *krona* (crown), which denotes a particular coin. Although to most Swedes, it would now probably be a dead metonym, originally its interpretation would have been: "that which *has* that which *represents* a crown on it." This type of construction is also referred to as serial metonymy (Nerlich & Clarke 2001) or inclusive metonymy (Dirven *82–83).

(v) Metaphors can form themes which can be sustained with variations through large sections of texts. In an article about the extra-length session of Prime Minister's Questions introduced by Tony Blair in 1997, we find the following example of such a thematic metaphor, i.e. MPs ARE WELL-TRAINED POODLES. This metaphor is then varied as indicated in the fragment on page 179. Such thematic metaphors can be conventionalised forming so-called conceptual metaphors, for instance LIFE IS A JOURNEY (Lakoff & Johnson 1980). Although there are metonymic patterns such as CONTAINER for CONTENTS, LOCATION for INHABITANTS, metonymy never gives rise to themes of the kind exemplified by conceptual metaphors.

(vi) Without causing zeugma *Caedmon* in *Caedmon is a poet and difficult to read* has a non-metonymic reading (when it is the subject

of *is a poet)* as well as a metonymic reading (when it is the subject of *difficult to read*).[3] If one and the same expression has a literal as well as metaphorical reading, this would cause zeugma: **The mouse is a favourite food of cats and a cursor controller.*

With the possible exception of the difference mentioned first (under point (i)), the theory that metaphor involves seeing similarity between dissimilar phenomena or mapping across domain structures whereas metonymy is based on contiguity or involves mapping within a domain structure does not predict or explain the differences enumerated above.

3. An alternative approach

The approach which I think would better explain these differences is simply the following: Metaphor is basically a property-transferring semantic operation, whereas metonymy is basically a syntagmatic construction, more precisely a modifier-head combination in which the head is implicit. This latter point is demonstrated in Table 1. That is to say, we hear *the kettle is boiling,* but we interpret the noun phrase in this example as "that which is in the kettle, i.e. the water;" we hear *Cædmon is difficult to read,* but we interpret *Caedmon* as "that which is by Caedmon, i.e. his poetry;" we hear *the shoes are neatly tied,* but we interpret *shoes* as "that which is part of the shoes, i.e. the laces."

Table 1. Seeing metonyms as modifier-head constructions

Target		**Source**
implicit head and	**link**	**explicit part of modifier**
(that which is	in)	the kettle
(that which is	by)	Cædmon
(that which is part	of)	the shoes

3. The example is inspired by Croft's discussion of one of Nunberg's examples. See example (73) in Croft *196.

TONY REWARDS HIS HOUSE-TRAINED POODLES

Boring. That was the verdict after the new, improved, extra-length, super-constructive Prime Minister's Questions, unveiled amidst much excitement yesterday. Within days, Tony Blair has experienced a sensation it took Margaret Thatcher years to organise: *scores of little wet backbench tongues caressing the prime ministerial boot: a sea of moist, adoring eyes around him: the sound of orchestrated panting from those desirous of office.*

Reporters' pencils dropped onto empty notepads. Tories stared at the rafters. Even Labour backbenchers yawned. One Liberal Democrat left almost before his leader had finished speaking ....

In short, Tony Blair's reform was a complete success for him. Interest leaked away from the session as fast as water from Thames Water's pipes.

The new Prime Minister managed his first 30-minute interrogation with ease. Mr Blair was not so much grilled as gently burnished over a warm flame, as with marshmallow. Claims that the reforms to PM's Questions will offer an opportunity for holding the premier to account, came to nothing. *Instead, a troupe of backbench poodles came prancing in, on cue, with an array of patsy questions, choreographed by whips.*

Labour poodles are not the same as Tory poodles. Tories would ask their Prime Minister to remind us how dreadful the Opposition were. Labour backbenchers ask Mr Blair to remind us how wonderful he is. Thus yesterday Jean Corston (Lab, Bristol) asked the Prime Minister to tell us of his determination to prevent crime. Stephen Twigg (Lab, Enfield Southgate)... Lorna Fitzimons (Lab, Rochdale)... *All were rewarded with a biscuit.*

Eric Illsley (Barnsley Central) requested (and — abracadabra! — received) .....

By now Mr Blair's boot had been licked until soggy. But Maria Fyfe (Lab, Glasgow Maryhill) was anxious for a lick, too. ....

And still the extended tongues dangled, hopeful. ....

John Major did his best to rattle him, receiving no answer to a claim (twice repeated) that ..... The PM is less than convincing under pressure. *But with Labour tongues ready only to lick*, and *Tory teeth sunk firmly* into each other's bottoms, it is hard to see where pressure will come from. ....

The Times (May, 1997)

Seeing metonyms as modifier-head constructions, we also see clearly that the standard dictionary definition of metonymy, i.e.: "the use of the name of one thing for that of another" *(Hamlyn's Encyclopedic World Dictionary)* is misleading. There is no substitution involved. The target referent does not replace the source referent. *Cædmon is difficult to read*, e.g. is not interpreted as "poetry is difficult to read," but "the poetry by Caedmon is difficult." So, interpreting metonyms involves combining source and target to form a referring unit. (Therefore, when we use the term *target* in connection with metonymic expressions, it, strictly speaking, frequently represents the intended referent only partially.)

As already pointed out we have now also an explanation for the non-literal reading of metonyms: the predication apparently applies to the modifier of the construction: *the kettle* in *the kettle is boiling, Caedmon* in *Caedmon is difficult,* whereas in actual fact it applies to the implicit head: (the water in) *the kettle,* (the poetry by) *Caedmon.*

This theory also reveals why metonymic expressions are non-hypothetical. They are based on actual, normally well-established relations between source and target referents. We do not look upon water as if it were a kettle. We do not look upon laces as if they were shoes.

Moreover, if we accept that (referential) metonyms are basically abbreviated noun phrases, it follows that they are restricted to phrase level and that they can be formed without necessarily having a naming or rhetorical function. They do, however, appear to have an information-structure type of function. Consider and compare:

(5) The laces of the shoes were neatly tied.
(6) The laces were neatly tied. (of the shoes)
(7) The shoes were neatly tied. [the laces]

Provided (7) is metonymically interpreted, these three sentences describe the same state of affairs and have the same truth conditions, but they focus on different referents. In (5) and particularly in (6), the focus is on the laces. In (7) it is on the shoes, bringing about an implication that because the laces were neatly tied, the shoes as a whole

were neat. It seems that spontaneous metonymic constructions frequently occur because the speaker is focussing on the modifier rather than on the head. Both are, however, mentally present for the speaker and retrieved by the interpreter.

In this connection it should be pointed out that Nunberg has a different explanation of why we interpret the sentence *the shoes were neatly tied* the way we do (Nunberg 1995). According to Nunberg, in this example there is no transfer of reference but instead predicate transfer. That is to say, the referent of *the shoes* is shoes not laces, but the predicate is roughly paraphraseable as 'having the property of having neatly tied laces.' In my view, both shoes and laces are accessed as parts of the metonymic noun phrase and the predicate applies to the laces (the implicit head), which brings about the non-literalness of the example. The proposition of the sentence, however, is of relevance to the shoes in question and could be said to be about these. It appears then that in metonymy modifiers can anomalously be made topics. In my view it is this "linguistic twist" that makes metonymic constructions interesting and more than simply abbreviated noun phrases. Often they seem so natural and normal and yet – on closer inspection – there is something wrong about them. It should be added here that this explanation agrees partially with Langacker's view of the function of metonymy which is that "a well-chosen metonymic expression lets us mention one entity that is salient and easily coded, and thereby evoke – essentially automatically – a target that is either of lesser interest or harder to name"(1993: 30).

In order to explain the difference mentioned under point (iv), let us briefly consider what is involved in interpreting metaphors by means of the example in (8).

(8) This book is *a gold mine.*

The interpretation is probably something along the following lines: "This book contains much valuable information." We arrive at this interpretation by extracting features of gold mines that would be applicable to books. That is, we are invited to look upon a particular book as if it were a gold mine *in some respect or respects.* The task

of the interpreter is to determine in what respect or respects, i.e. to choose among the features of the source referent some relevant one or ones and attribute this or these to the target. This explains why there may be several connectors between source and target in metaphors and may also serve as an explanation of why metaphors can introduce a theme or generate a family of metaphors, i.e.: the same source expression may offer different properties of the same target in different contexts.

This example also demonstrates the very different roles that the source expression plays in the interpretation of metaphors and metonyms. In metonymy it is a restrictive complement which together with the implicit target, its head, forms a referring unit. The source and the target are connected by means of a relation and we now see why it is natural that there should be one relation only. This relation is typically one of location in time or space, possession, causation or constituency giving rise to metonymic patterns, which so many linguists have noticed and described (see, e.g., Nerlich et al. 1999, Leisi 1985, Lipka 1988). In fact, there is fairly strong evidence that the same array of relations are activated as in other modifier-head constructions such as noun-noun compounds, adjective-noun combinations and genitive constructions (Warren 1992: 66–67 and 1999: 124–127) and that it therefore is possible to posit a set of default relations between source and target.

In metaphor, the source expression is a holder of properties, some of which represent economically and efficiently attributes of the target. In some cases the properties that we wish to express are so elusive that they cannot be expressed in any other way than by metaphors, which probably accounts for the strong tendency of concrete-to-abstract directionality in metaphor. The reverse direction (abstract-to-concrete) is rare. There is, not surprisingly, no such directionality in metonymy.

In the view presented here, then, that which connects the source and the target in metaphorical expressions is a property, often several properties, whereas that which connects source and implicit target in metonymy is a relation. The matching process involved in retrieving applicable properties in the formation and interpretation of metaphors

is a cognitive activity which is commonly referred to as seeing analogies. Therefore, I naturally concede that metaphor is based on analogy and resemblance. My point is that it is only when we have singled out some particular property or properties that we feel that we have succeeded in interpreting a metaphor. Consequently, I would consider *her mother's eyes* in *Anne has her mother's eyes* a metonym, not a metaphor, although the connector is a resemblance relation, maintaining that it is possible to interpret this phrase without envisaging in what way Anne's eyes are like those of her mother. The essence of metaphor is property transferral, the essence of metonymy is highlighting.

Let me finally attempt to explain why *Caedmon is a poet and difficult to read* is non-zeugmatic, whereas **The mouse is a favourite food of cats and a practical cursor controller* is zeugmatic. When *Caedmon* is combined with the predicate *is a poet*, we mentally access a particular person as its referent; when *Caedmon* is combined with the predicate *difficult to read* what has already been accessed is retained but with an implicit addition coerced by the predicate, viz. that which this person has produced. The referent of *Caedmon* is the same in its metonymic and non-metonymic reading. As has already been suggested above, it can also be assigned topic status in both readings.[4] In metaphorical extensions, the source expression has never been assigned a contextual referent and can therefore not act as an argument that the predicate can combine with.

4. Concluding discusssion

It has been suggested above that referential metonymy is basically a modifier-head construction in which the head is implicit, bringing about full focus on the modifier, i.e. the explicit source expression. There is no substitution involved since both the explicit modifier and the implicit head form necessary parts of the intended interpretation.

4. See also Panther & Radden (1999: 9–12) for a discussion of this issue in connection with anaphorical reference.

The association between source and target in metonymy is a relation. Although the metonymic source expression is syntactically a modifier, from a textual point of view it can assume topic status.

Whereas metonymy is seen as describable in syntactic terms, metaphor is seen as basically a semantic operation in which at least one property, often a selection of properties, of the source is transferred to the target. These properties constitute the link between source and target as well as important parts of the new sense which is created. Whereas in metonymy the nature of the association between target and source is to a certain extent predictable (frequently involving possession, location, causation, constituency, but also resemblance), the connecting association between source and target in metaphor is unpredictable. Any property of the source referent that in some way is reminiscent of a property of the target is in principle possible.

The above sums up the alternative approach advocated in this paper. We may now ask in what way or ways it differs from other approaches.

One difference is that my definition of metonymy is stricter than that of most linguists in that I insist that (referential) metonymy must (i) be non-literal and (ii) allow a paraphrase that has the structure of a noun phrase in which the head is implicit. Other linguists see metonymy as pervasive in language with a number of semantic repercussions (see Taylor 1995* and Radden 2000*). Note, however, that I do not maintain that the associations commonly involved in metonymy are restricted to metonymy. On the contrary, I have repeatedly pointed out that there is a set of relations that tend to be implicit and which form important parts of the semantics of compounds, adjectives and genitive constructions (and which tend to be represented as cases: locatives, ergatives, possessives, essives, etc.) In other words, I agree that an important aspect of metonymy is pervasive in language, but I do not think that whenever there is an implicit part-whole or producer-product or inhabitant-place relation, or some other relation that could be classed as contiguous, this necessarily gives rise to something we could call metonymy. *Honey bee, bullet hole, ecstasy* (the drug), *hand* [aid], *healthy* as in *healthy air* and *calve* as in *the*

cow calved all involve an implicit causal link, but they are not all metonyms. True, by calling some of these examples compounds, some adjectives, some metonyms and some denominal verbs, this particular similarity is blurred, but the claim that they are all metonymic or based in metonymy blurs their differences. To avoid confusion, a fairly rigid definition seems warranted.

Taking a broader perspective on the approach suggested here and comparing it to other approaches, it is possible to maintain that it is a further development of Jakobson's view that metonymy is syntagmatic involving combination, whereas metaphor is paradigmatic involving selection (Jakobson 1956*). In producing utterances we work simultaneously along these two axes: we combine, creating syntactic structures and we select, creating meaning. This agrees with my position that metonymy is basically a syntactic construction on a par with compounding, genitive constructions and adjective-noun combinations, whereas metaphor is a semantic operation. This does not mean, however, that metonymy cannot be used for semantic purposes. Like metaphor, metonymy constitutes partially implicit descriptions of what it denotes. This implicitness may vary as to degree. We have the type described by Dirven (1993, *79) as linear metonymy, which is quite straightforward: [those living in] ***the town*** *rejoiced at the news, I like* [that which is produced by] ***Mozart,*** [that which represents] ***the cloud*** *in the picture is well done, she has* ***her mother's eyes.*** There are, however, also metonymic expressions which serve to create both new names and new senses and which may involve implicitness to a considerably higher degree. Consider, for example, *egghead*: "the kind of person who tends to have an egg-shaped head." Although this paraphrase could be said to reveal the motivation of the construction, it would not amount to its definition. The meaning of this metonym can only be formed provided the interpreter has determined the features which render the intended referent a member of the particular set that *egghead* labels. Having an egg-shaped head is not prominent among these. Metonymy may also have great rhetorical force: *the pen is mightier than the sword* is doubtless much more expressive than *persuasive words are superior to vio-*

lence. (Moreover, this particular example competes with metaphor as to figurative force, a point I will return to presently.)

It is also possible to maintain that the approach presented here is a further development of the traditional view that metonymy involves contiguity, whereas metaphor involves seeing similarity in dissimilarity. The association taking us from source to target in metonymy has normally a different experiential basis than the association taking us from source to target in metaphor (but not invariably). The former type of association is dependent on us having experienced source and target more or less simultaneously, which is reflected in the types of mappings we find in metonymy: X is part of Y or vice versa; X and Y co-occur in space and/or time; X consists of Y or vice versa; X causes Y or vice versa. The latter type of association depends on perceiving partial similarity – basically the same cognitive ability underlying categorisation – and does not necessitate that X and Y have been experienced simultaneously. My point is, however, that it is not the type of relation that determines whether there is metonymy or metaphor, since resemblance relations are not restricted to metaphor. Instead the crucial difference is the function of the source expression. In metaphor it makes a set of properties available from which some have to be selected and transferred, in metonymy it forms together with the connector a predication restricting the reference of the target.[5]

Finally, it is perhaps possible to see some similarity also between theories of domain mapping and the present approach. That is to say, since metonymic sources and targets have normally been experienced simultaneously, according to the cognitivist definition of *domain*, they will naturally be mentally represented in the same domain. However, although the links between source and target in metaphor need not be readymade, it is difficult to accept that they never are or can be. Generally the theory of domains is difficult to apply since domain boundaries are not observable, nor intuitively self-evident

5. In order to avoid any misunderstanding, I feel it should be pointed out here that the fact that referential metonymy has reference does not mean that it cannot have predicative uses. Consider: *That girl is a* ***heartthrob*** [something that causes a heartthrob, i.e. a very attractive girl].

and therefore, as pointed out by Dirven*, Riemer*, Ruiz de Mendoza Ibánez (1997), and Ruiz de Mendoza & Díez*, methodically and theoretically problematic. Possibly what gives the impression of across-domain mapping in metaphor is the fact that the denotata of source and target cannot be collapsed, but must belong to separate categories. For instance, if we were to include cursor controllers in the same category as rodents, we would have a category comprising practically all concrete entities. Furthermore, whereas the term *mapping* appears appropriate in the case of metaphorisation (we map features of one type of phenomenon onto some other phenomenon), it seems less so in the case of metonymy. The term must in that case at least be understood differently.

Throughout this paper I have emphasised differences between metaphor and metonymy. Admittedly there are also similarities: both violate truth conditions[6], both are commonly involved in semantic change, both can achieve true figure-of-speech status. Consider again [that which is achieved by] *the **pen** is mightier than* [that which is achieved by] *the **sword***, which conveys the proposition that rational argument will in the long run prevail over brute force, through conjuring up a scene in which the pen and the sword are engaged in combat, simultaneously making them representatives of two opposing sides of human nature. Or, consider *the hand* [of the person] *that rocks the cradle will rule the land*, which combines the image of the gentle hand of a loving mother with the firm grip of a strong-willed, ambitious person and which simultaneously communicates the proposition that the mother of a ruler will – through her past motherly care – be in a position to decisively influence the ruling of a country. These expressions could be claimed to be as symbolic and as many-faceted as the most powerful metaphor. But, I maintain, the similarity resides in effect and does not necessarily imply that the processes that produce metaphor and metonymy are occasionally blurred.

Finally, it is perhaps possible to see some similarity also between theories of domain mapping and the present approach. That is to say,

6. At least if we restrict our attention to referential metonymy.

since metonymic sources and targets have normally been experienced simultaneously, according to the cognitivist definition of *domain*, they will naturally be mentally represented in the same domain. However, although the links between source and target in metaphor need not be readymade, it is difficult to accept that they never are or can be. Generally the theory of domains is difficult to apply since domain boundaries are not observable, nor intuitively self-evident and therefore, as pointed out by Ruiz de Mendoza & Díez*, methodically and theoretically problematic.

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Section 2

The two-domain approach

Language and emotion: The interplay of conceptualisation with physiology and culture*

Zoltán Kövecses, Gary B. Palmer, and René Dirven

Abstract

The paper discusses two approaches to research in emotions: a metaphorical, universalist, and experientialist one and a non-metaphorical, non-universalist, and social constructionist one, and attempts to reconcile both. Recent research affirms the universality of certain basic emotions: happiness, sadness, anger, fear, love, disgust (D'Andrade 1995). A large body of other research has shown that emotion terms and expressions are more than registers of physiological experience; they also have conceptual structure (Kövecses 2000). If it is the case that certain emotions are universal, due to innate psychological and physiological processes, but also have conceptual structures that are cultural in origin, then there is a problem in understanding the semantics of emotion language. This paper explores the tension between universals and cultural constructions in theories of emotion language and attempts a synthesis. Topics discussed include Words and Emotion, Meaning Theories and Emotion, Some General Issues (including the universality of emotion prototypes, the role of metaphor and metonymy, and lay conceptions *versus* scientific theories), Synthesising Experientialist and Social Constructionist Accounts, and Implications for Consciousness Studies.

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Keywords: basic emotion categories, basic level, basic-level category, emotion concept, emotion metonymies, emotion prototypes, experientialist, meaning theories, physiological process, social constructionist, universalist.

1. Introduction

In the Biblical *Genesis*, Adam and Eve eat the forbidden fruit, a physical action, which we interpret as a metaphor for acquiring consciousness. It is a striking feature of the story that the first experience to accompany consciousness is a metonymically expressed emotion – the emotion of shame, resulting from the physical experience of nakedness. (See Kövecses 2000: 48–49) Thus, the narrators of the Old Testament must have regarded consciousness as a precondition for the emotions, or perhaps just for those with moral consequences. Language places further structure on emotional consciousness, and this is the structure that we are trying to discover and explicate. This structure is revealed through the analysis of metaphor, metonymy, and other qualities of emotion language. In this paper we discuss kinds of expressions and terms in the domain of emotion and we examine theories of meaning in emotion terms. In order to gain a wider perspective, we offer a synthesis of two major, strongly opposed trends in emotionology, i.e., the experientialist approach and the social constructionist approach

In the history of the anthropological study of emotions and emotion language, it is particularly interesting to read Radcliffe-Brown's ethnography, *The Andaman Islanders*, published in 1922. In this book, Radcliffe-Brown introduced the term *sentiment,* which he defined as "an organized system of emotional tendencies centered about some object" (Radcliffe-Brown 1922: 234). He asserted that "a society depends for its existence on the presence in the minds of its members of a certain system of sentiments by which the conduct of the individual is regulated in conformity with the needs of the society" (Radcliffe-Brown 1922: 233–234). In his view, these emotional dispositions permeated the social system, which transmitted them from one generation to the next by means of collective expressions in

ceremonials. Significantly, he asserted that "in human society the sentiments in question are not innate but are developed in the individual by the action of the society upon him" (Radcliffe-Brown 1922: 234).

The validity of Radcliffe-Brown's theory will not be at issue in this paper, but it does provide useful historical points of reference as we examine contemporary theories of emotion language. We find in Radcliffe-Brown significant points of reference in common with the contemporary and popular social constructionist approach to emotion language. Catherine Lutz (1988), for example, argued that it is wrong to "essentialise" human emotions by holding that there are a few basic innate or universal emotions that are primarily psychological in origin.[1] As we seek a theory of the language of emotions, we will consider the main opposing approaches and propose a synthesis that merges social constructionist and experientialist approaches. Essentially, this synthesis involves acknowledging that some emotion language is universal and metonymically related to experience of the physiological functioning of the body. Once the universal emotion language is isolated, the numerous and important remaining differences in emotional linguistic expression can be explained by differences in cultural knowledge and pragmatic discourse functions that work according to divergent culturally defined rules or scenarios. This approach also allows us to see points of tension where cultural interests might contradict, suppress, or distort innate tendencies of expression. Thus, we need not be forever aligned in opposing camps pitting innatists against social constructionists. The two approaches should be regarded as complementary. Emotion concepts must frequently blend universal experiences of physiological functions with culturally specific models and interpretations, and emotion language must reflect this blend.

The remainder of this paper is divided into four sections: (2) Words and emotion, (3) Meaning theories and emotion, (4) Some

1. See especially Lutz (1988: 4–5, 9, 65–66).

general issues (including the universality of emotion prototypes and the role of metaphor and metonymy), (5) Synthesising experientialist and social constructionist accounts.

2. Words and emotion

In this section, we will briefly discuss the most general functions and organisation of emotion-related vocabulary, and then focus attention on a large but neglected group of emotion terms.

2.1. Expression and description

We can distinguish between expressive and descriptive emotion terms, which may be words or longer expressions. Some emotion words can express emotions.[2] That is, they predicate speaker's emotional experience at the time of speaking. Examples include *shit!* when angry, *wow!* when enthusiastic or impressed, *yuk!* when disgusted, and many more. It is an open question whether all emotions can be expressed in this direct way, and which are the ones that cannot and why. Other emotion words describe (or name) the emotions that they signify: nouns and adjectives like *anger* and *angry*, *overjoyed* and *happy*, *sadness* and *depressed*

Within the category of descriptive emotion words, the terms can be seen as "more or less basic." Speakers of a given language appear to feel that some of the emotion words are more basic than others. More basic ones include in English *anger, sadness, fear, happiness* and *love*. Less basic ones include *annoyance, wrath, rage, hatred, indignation, fright,* and *horror*.

2. The term *express* is used here as a synonym for *predicate*. We realise that the metaphor of *expression* is a bit misleading in that it connotes a folk model of language in which words and meaning are driven under force from the inside to the outside of a container and thence make their way via a conduit to the listener, but we think that many readers will accept it more readily than the alternative. In this paper, nothing hinges on the choice of terms.

Basicness can mean two things (at least, loosely speaking). One is that these words (or more precisely, the concepts corresponding to them) occupy a middle level in a vertical hierarchy of concepts. In this sense, say, *anger* is more basic than, for example, *annoyance*. *Anger* is a "basic-level" emotion category because it lies between the superordinate-level category of *emotion* and the subordinate-level category of *annoyance*. The other sense of "basicness" is that a particular emotion category can be judged to be a better example of an emotion than another at the same level. For example, *anger* is more basic in this sense than, say, *hope* or *pride*, which are on the same horizontal basic level.

2.2. Figurative language: Metaphor and metonymy

In addition to expressive and descriptive emotion-terms, there is another kind of emotion-related expression: the figurative. The group of figurative expressions may be larger than the other two combined. Here the terms do not "name" particular emotions, and the issue is not how basic or prototypical the word or expression is. The words and expressions that belong in this group denote various aspects of emotion concepts, such as intensity, cause, and control. They are metaphorical and metonymical. The metaphorical expressions are manifestations of conceptual metaphors whose source domains are usually physical or physiological (see Lakoff and Johnson, 1980). For example, *boiling with anger* is a linguistic example of the very productive conceptual metaphor ANGER IS A HOT FLUID (cf. Lakoff and Kövecses 1987; Lakoff 1987; Kövecses 1986, 1990, 1995); similarly the physical image in *burning with love* is an instance of LOVE IS FIRE (cf. Kövecses 1988), and *to be on cloud nine* is an example of HAPPINESS IS UP, which has an imaginary location domain on the verticality axis (cf. Kövecses 1991). All three examples indicate the intensity aspect of the emotions concerned.

Linguistic expressions that belong in this large group can also be metonymical, that is, based on pragmatic functions from term to tar

get (Fauconnier 1997, Turner/Fauconnier*). Examples include *upset* for anger and *have cold feet* for fear. The first is an instance of the conceptual metonymy PHYSIOLOGICAL AGITATION STANDS FOR ANGER, while the second is an example of the conceptual metonymy DROP IN BODY TEMPERATURE STANDS FOR FEAR (see Kövecses 1990). A special case of emotion metonymies involves a situation in which an emotion concept, e.g friendship is part of another emotion concept, i.e. love (see, for example, Kövecses 1986, 1990, 1991a, b). This can explain why, for instance the word *girlfriend* can be used of one's partner in a love relationship. Since love, at least ideally, involves or assumes friendship between the two lovers, the word *friend* (modified with *girl*) can be used in place of the basic emotion term.

Of the three groups identified above, the group of figurative expressions is by far the largest, and yet it has received the least attention in the study of emotion language. Figurative expressions are deemed completely uninteresting and irrelevant by most researchers, who tend to see them as epiphenomena, fancier ways of saying some things that could be said in literal, simple ways. Further, the expressive and descriptive expressions in section 2.1 are usually considered to be literal. Given this bias in perception, we can better understand why the figurative expressions receive scant attention. If one holds the view that only literal expressions can be the bearers of truth and that figurative expressions have nothing to do with how our (emotional) reality is constituted, there is no need to study "mere" figurative language. But, if one holds the view that emotion language is governed by cognitive models, including conceptual metaphors and metonymies, then figurative language becomes important, if not central to the semantic study of emotion language. This may explain much of the growing interest in the figurative language of emotions (see, for example, Baxter 1992; Duck 1994; Holland & Kipner 1995; Niemeier & Dirven, eds. 1997; Athanasiadou & Tabakowska, eds. 1998; Kövecses 1990, 2000).

3. Some meaning theories and emotion

Scholars have offered several distinct views in an attempt to characterise emotional meaning. Here, we discuss mainly two of these: the *prototype view* and the *social constructionist view*.

3.1. The "prototype" view

In Section 2 on "Words and emotion," we have mentioned that some emotion words are more basic or prototypical than others. There, the question was: What are the best examples of the category of emotion? As we saw, the best examples of the category in English include *anger*, *fear*, *sadness*, *happiness*, and *love*. We can also ask: What are the best examples, or cases, of *anger*, *fear*, and *love*, respectively? Obviously, there are many different kinds of each. When we try to specify the structure and content of the best example of any of these lower-level categories, we are working within the "prototype" view of emotional meaning as it relates to basic-level categories.

The structure of emotion concepts is seen by many researchers as a script, scenario, or model (e.g. Fehr & Russell 1984; Shaver et al. 1987; Rimé et al. 1990; Wierzbicka 1990, 1992b, 1999; Heider 1991; Lakoff & Kövecses 1987; Kövecses 1986, 1988, 1990; etc.; Rosaldo 1984; Lutz 1988; Ortony, Clore & Collins 1988; Palmer & Brown 1998). For example, Lakoff & Kövecses (1987) described anger as a sequence of stages of events: (1) cause of anger, (2) anger exists, (3) attempt at controlling anger, (4) loss of control over anger, (5) retribution. That is, anger is conceptualised by speakers of English as a five-stage scenario. Similarly, Fehr & Russell (1984: 482) characterised fear predominantly in its physiological manifestations:

> A dangerous situation occurs suddenly. You are startled, and you scream. You try to focus all your attention on the danger, try to figure a way out, but you feel your heart pounding and your limbs trembling. Thoughts race through your mind. Your palms feel cold and wet. There are butterflies in your stomach. You turn and flee.

In other words, we have the unfolding of a variety of events that are temporally and causally related in certain specifiable ways. The sequence of events makes up the structure of the prototypical concept of any given emotion, like fear, while the particular events that participate in the sequence make up the content of the concepts.

Sometimes the prototype approach is combined with some other view of emotional meaning. For example, Wierzbicka (1990: 361) combined the prototype approach with the propositional approach when she stated:

> ... the definition of an emotion concept takes the form of a prototypical scenario describing not so much an external, physiological situation as a highly abstract cognitive structure: roughly, to feel emotion E means to feel as a person does who has certain (specifiable) thoughts, characteristic of that particular situation.

She defines the English emotion word *anger* in the following way:

(a) X thinks something like this:
(b) this person (Y) did something bad
(c) I don't want this
(d) I would want to do something bad to this person
(e) because of this, X feels something bad
(f) because of this, X wants to do something

(Wierzbicka 1992c: 147)

This definition makes use of a small number of universal semantic primitives, such as THINK, WANT, BAD, CAUSE, DO, FEEL, etc. Wierzbicka regards it as a mistake to think of emotion words in particular languages, such as English, as universal in the sense that they have close correspondents in every language (e.g. Wierzbicka 1986, 1992a, 1995, 1997). Thus, for example, the English word *emotion* is anything but universal; it does not seem to exist even in closely related languages. This warning must be taken very seriously. However, the semantic primitives claimed by Wierzbicka do not contain any terms for the physiological manifestations described by Fehr and Russell. It might even be extremely cumbersome, if not unfeasible, to

paraphrase them in terms of primitives. We thus see here two extreme alternatives to the two main theories in focus here: on the one hand, Wierzbicka's almost exclusively abstract representation of emotion terms; on the other, Fehr and Russell's almost exclusively external, physiological description.

More generally, in the "prototype" approach, two kinds of views can be distinguished: the literal and the non-literal conceptions of emotion. For example, Shaver et al. (1987) and Wierzbicka (1990) apparently do not think that metaphorical and metonymical understanding plays a role in the way emotion concepts are understood and constituted. Others, however, believe that metaphorical and metonymical understanding does play a role. Although some of these researchers disagree about the exact nature of this role (see, for example, Holland 1982, Quinn 1991, and Geeraerts & Grondelaers 1995), many nevertheless believe that metaphors are important. Authors, from a variety of disciplines discuss the role and possible contribution of conceptual metaphors and metonymies to the conceptualisation of emotional experience. These include Averill (1974, 1990), Averill & Kövecses (1990), Baxter (1992), Duck (1994), Holland (1982), Holland & Kipner, (1995), Quinn (1987, 1991), Wellman (In press), Lakoff & Kövecses (1987), Lakoff (1987), Kövecses (e.g., 1991 a, b, 1993 a, b, 1994, 1995a, b, 2000), Niemeier & Dirven, eds. (1997) and Athanasiadou & Tabakowska, eds. (1998).

Finally, in a variety of publications Kövecses (1986, 1988, 1990, 1991a, b) suggested that many emotions, such as love, fear, and happiness, have not just one, but multiple prototypes. That is, the proposal is that several members (or cases) can acquire the status of "best example" within an emotion category. This is because, given a category with several members, one member can be typical, another can be salient, a third can be ideal, and so on.[3]

3. On metonymic models such as these, see Lakoff (1987).

3.2. The "social constructionist" view

Several scholars take emotion concepts to be social constructions. For example, Lutz (1988) gives the following account of *song* (roughly corresponding to anger) in Ifaluk:

(1) There is a rule or value violation.
(2) It is pointed out by someone.
(3) This person simultaneously condemns the act.
(4) The perpetrator reacts in fear to that anger.
(5) The perpetrator amends his or her ways.

This model differs considerably from the one associated with the English word *anger*. For example, while the view linked with the English word *anger* emphasises properties of anger that relate to individuals, the view linked with *song* highlights the essentially social nature of this emotion concept. To account for the difference, Lutz claimed that this model of Ifaluk *song* is a socio-cultural construction whose properties depend on particular aspects of Ifaluk society and culture. Giving us more than a faint echo of Radcliffe-Brown, Lutz subtitled her book on emotions in Ifaluk *Everyday Sentiments on a Micronesian Atoll*. However, where Radcliffe-Brown emphasised the function of ceremonial in the social construction of emotions, Lutz followed the contemporary pragmatic emphasis in linguistic anthropology by characterising discourse as pragmatic action that constitutes social sentiments and the meaning of emotion terms.[4]

The social constructionist view of emotion concepts is also based, at least in the work of its leading proponents like Lutz and Averill, on the notion of prototype. The structure of most emotion concepts is seen as a highly conventionalised script from which deviations are recognised and linguistically marked in any given culture. Where the explicitly social constructionist views differ from other prototype-

4. The pragmatic approach in linguistic anthropology is most clearly stated in Duranti (1997).

based but nonconstructionist approaches is in their account of the content of emotion concepts.

Lutz's account of Ifaluk *song* can be seen as diametrically opposed to that of anger as discussed by Lakoff & Kövecses (1987). Taking the ANGER IS A HOT FLUID metaphor as an example, Lakoff and Kövecses claimed that, to the degree that the metaphors (especially the ANGER IS A HOT FLUID metaphor) that constitute anger are motivated by physiological functioning (e.g. increased body heat), the concept is motivated by the human body, rather than being a completely arbitrary socio-cultural product. Since human bodies have obvious universal properties and functions, the approach of Lakoff & Kövecses predicts universalities in emotion concepts and emotion language. Lutz seems more concerned with denying universalities. Her disparaging view of "essentialism" seems to imply that the search for universalities is an error of Western psychology.

It is necessary to transcend this extreme opposition between the view that the concept of anger is simply motivated by human physiology and the view that it is simply a social construction. We suggest that it is both motivated by the human body *and* produced by a particular social and cultural environment. Emotion concepts represent a blend of experiences originating in both these spheres. If we attempt to reconcile the two apparently contradictory views, social constructions must acquire bodily substance, that is, they must have some basis in universal bodily experiences, and bodily motivations must acquire specific social-cultural content and interpretation.

4. Some general issues

Several important general issues emerge from the foregoing discussion. These include especially the universality of emotion prototypes and the role of metaphor and metonymy.

4.1. The universality of emotion prototypes: Are there focal emotions?

As several anthropologists and psychologists have argued (especially Berlin & Kay 1969, and Rosch 1975), focal colours appear to be universal. Is this also the case for the emotions? That is, is there something like focal emotions and a focal or prototypical or central member for emotion E in language L? And is this prototype of emotion E in one language also a central member in other languages as well? Currently available evidence and the examples discussed here seem to indicate that it is not. The constructionists (e.g., Harré and Lutz) argue that the absence of focal emotions, correlating to focal colours is only natural, while others (e.g., Russell 1991) argue that prototypical scenarios or scripts, or at least large portions of them, are the same across languages and cultures. As shown above, Wierzbicka (1992c, 1995) maintains, with the constructionists, that emotion prototypes vary cross-culturally, but the semantic primitives, used to describe and compare them cross-linguistically, are universal concepts.

It has also been suggested that what is universal are some general structures within the emotion domain, corresponding, as Frijda (1995) puts it, to an "unspecified positive emotion" (the happiness/joy range), an "unspecified negative emotion" (the sadness range), "an emotion of strong affection" (the love range), "an emotion of threat" (the fear range), and an anger-like range. However, the prototypical or focal members of the basic emotion categories (or ranges) in different languages may differ, as the comparison between Ifaluk *song* and English *anger* amply shows.

This situation seems to be unlike the situation for colour. In colour, the focal members of particular colours are exactly the same across cultures and they correspond to measurable points on the spectrum of visible light. In emotion, despite the fact that the same general basic emotion categories may exist in all languages and cultures, there is still no physiological substrate on which each emotion can be precisely located (Heider 1991), there is no universal cluster of features for any emotion, and there is no invariant conceptual

content for any emotion. Thus, for Heider there are no universal prototypes of basic emotions.

In cognitive linguistics, basic image schemas emerging from fundamental bodily experiences can be expected to be universals. Kövecses (2000) compared emotion metaphors in English, Chinese, Japanese, and Hungarian, finding that they share a general conceptual metaphor that THE ANGRY PERSON IS A PRESSURISED CONTAINER. This position finds support in Ning Yu's (1998) study of Chinese metaphors for anger. One of the conceptual metaphors for anger in English is the image schema of containment: ANGER IS A HOT FLUID IN A CONTAINER. Chinese appears to have two metaphors: ANGER IS PRESSURISED GAS (*QI*) IN A CONTAINER and ANGER IS FIRE IN A BODILY ORGAN. Although Ning Yu (1998) points out differences between English and Chinese metaphors, his general approach is to emphasise the overall similarities between English and Chinese and to treat differences as isolated phenomena (Dirven 1999). Thus, he does not point out that the fire of anger in Chinese is most of all linked to one of the internal container organs, such as the equivalents of *fire-head, liver-fire, heart-fire, belly-fire* (Ning Yu 1998: 53–4). The metaphorical gas is likewise linked to the container holding it: *spleen-gas, heart-gas, liver-gas, belly-gas* (Ning Yu 1998: 55).

Central, then, to the Chinese conceptualisation are the internal organs, which are the location for both the fire and the gases. At this point there is no linguistic evidence that the two metaphors are linked, that is, that the gas (*qi*) is hot because it has been heated by a fire. This view of the human body is in line with the highly specialised mastering of the structure of pressures in the body structure as found in acupuncture and in Chinese medical practice in general. Thus, even though Chinese medical tradition may have strongly shaped the specific linguistic metaphors, these nevertheless go back to the same universal conceptual metaphors as those found in English. These findings of Ning Yu's strengthen the general experiential claim of Lakoff (1987) and Johnson (1987) and the more specific claim of Kövecses (2000) regarding emotion language, since a different medical "ideology" and philosophy have not exerted any fundamental influence on the *general* conceptual metaphor of anger as a

liquid in a pressurised container. The effect of cultural background is seen at a more specific level: the gas, *qi,* is not said to be hot (Kövecses 2000: 151).

4.2. The role of metaphor

Lakoff & Johnson (1980) argued that many everyday metaphors are not just linguistic, but conceptual in nature and can actually create social, cultural, and psychological realities for us. What is the role of conceptual metaphor in emotion concepts in a given culture? The more specific issue is this: Do conceptual metaphors constitute the cultural models associated with emotions, or do they simply reflect them, as proposed by Quinn (1991)? Examining the language that American couples used to talk about marriage, Quinn (1991: 66) found eight metaphor clusters; these contain metaphors for *sharedness* ("A marriage was just a lasting partnership"), *lastingness* ("We're stuck together"), *mutual benefit* ("That was really something that we got out of the marriage"), *compatibility* ("The best thing about Bill is that he fits me so well"), *difficulty* ("The first year we were married was really a trial"), *effort* ("She works harder at our marriage than I do"), *success or failure* ("The marriage may be "doomed"), and *risk* ("The marriage was in trouble"). She proposed that this particular constellation of expectations was structured by the American cultural conception of love:

> Because people want to be with the person they love, they want and expect marriage to be shared; because they want to fulfill the loved person's needs and have their own needs fulfilled by that person, they want and expect marriage to be beneficial to both spouses in the sense of mutually fulfilling; and because they do not want to lose the person they love, but want that person to go on loving them forever, people want and expect their marriages to be lasting (Quinn 1991: 67).

Quinn argued that this cultural model of love and marriage exists independently of the metaphors that Americans use to talk about

marriage. Instead, speakers' choices of metaphor are governed by the cultural model.

Here again, we will take the opposite tack and argue, on the basis of the prevalent "container" metaphor for *anger*, that conceptual metaphors, together with other factors, can contribute to how an emotion concept, like *anger*, is constituted. However, as several authors have suggested (Gibbs 1994: 206; Dorothy Holland, p.c.; Palmer 1996: 107), this "either/or" view of the role of metaphor might not be the best way of looking at the issue. Moreover, it seems closer to the truth to believe that some metaphors have the capacity to create reality, in the sense of affording a cognitive model that governs thinking about an issue or situation, while others do not. Which ones do and which don't can only be decided on the basis of detailed future research.

5. Synthesising experientialist and social constructionist accounts

To some degree the difference between experientialist and social constructionist approaches may be simply a matter of emphasis. The experientialist approach describes its target phenomena at a more basic level, closer to the level of psychobiological constraints while the social constructionist approach describes its target phenomena at a more socially embedded and specific level. The experientialist approach tends to include more psychological and physiological states in its definitions of emotions, but it occasionally includes social description as well. For example, Kövecses's (1988: 58–59) prototypical scenario of romantic love, which strongly differs from Americans' model of love in marriage (Quinn 1987), includes such explicitly social content as *I view myself and the other as forming a unity*, *I experience the relationship as a state of perfect harmony*, *I see love as something that guarantees the stability of the relationship*, and *Love is mutual.*

The social constructionist approach, on the other hand, may include only social scenarios in its definitions and disregard psycho-

logical and physiological states. It also retains the notion that emotion concepts may occur as prototypes and variants, but these are regarded as primarily social in content and origin. In comparison with these two approaches, the Wierzbicka approach almost exclusively concentrates on mental states, has an eye for social aspects, but disregards physiological states. But here, again, the boundaries between the various approaches are fuzzy. Lutz (1988: 84) recognised the importance of studying emotion metaphors, regarding them as "important entrées into an understanding of ethnopsychological conceptualizations." Although Lutz cited Lakoff & Johnson (1980) to justify this position, she did not seem to realise the universalist implications of their experientialist approach. Nevertheless, she recorded various physiological Ifaluk expressions such as "'My insides are bad' (*Ye ngaw niferai*)," which suggests the universal metaphor of the body as a container for the physiological experience of emotions (Lutz 1988: 92). She observed that "'Thoughts/emotions' (*nunuwan*) are often spoken of as 'coming out' or 'coming up' from 'our insides'" (Lutz 1988: 92) and that thoughts or emotions may be said to be "followed by others," implying that thoughts/emotions follow paths (Lutz 1988: 95). Using metonymy, when an Ifaluk is upset s/he may say "Food does not taste sweet," or when grieving, "my gut is ripping" (Lutz 1988: 99).

Kövecses (1990: 23) has pointed out that both the experientialist and social constructionist approaches view emotions as having similar elements:

> ... both approaches view emotions as having a *causal aspect* (the "social events" in the terminology above and "causes" in the terminology I will use); as having a *purposive aspect* ("goals" vs. "desire," or "purposive aspect"); and as having an *actional aspect* ("intended reactions" vs. "behavioural reactions").

In spite of these important points of convergence, the differences between the experientialist and the social constructionist accounts are major. In the experientialist account, emotions are seen to be emergent from physiological experience. Nevertheless, for the most part, they are evoked by social events rather than physiological ones.

Since they arise out of social experiences, their experiencers must associate psychological states with conventional social events. To deny this is to ask the experiencer to forget or compartmentalise the social content of emotional experience. People who did that consistently would be unlikely to function adaptively in societies because they would be unable to reliably avoid damaging experiences and repeat efficacious ones. On the other hand, people who experienced no reliable physiological responses to emotionally evocative events would be unable to prepare their bodies and minds to respond adaptively to physiological and social challenges. Therefore, emergent emotion concepts must blend and integrate psychobiological and socio-cultural experience.

It is not necessary that we brand either approach as entirely right or wrong. Both have strengths and weaknesses. The strength of the universalist approach is that it enables us to discover what is universal, thereby seeing more clearly what is relative and culturally determined. The strength of the social constructionist approach is that it is capable of showing how emotional meaning emerges in particular cultural contexts and pragmatic discourses and it attempts to capture the entire sociocultural system of emotional meaning, in contrast to the meaning of particular emotion words and expressions (Kövecses 1990: 24).

To be complete, as one would write a complete grammar, it is necessary, where emotional complexes exist as stable socio-cultural/ psychobiological entities, to describe them in all their specificity, insofar as practical constraints permit. Otherwise, one's theory may predict emotional states and language that never actually occur in real cultures. The complete description of culturally specific social scenarios in emotion concepts does not preclude one from seeking cross-cultural commonalties or universals in either the psychobiological or the social content of emotion concepts. (But see Dirven's reservations on this point in his review of Palmer and Occhi, eds., 1999 in Dirven 2001).

Let us now state this synthesis point by point:

1. Emotions are experienced as psychological states evoked by social and/or physiological events, or by psychological events, but perhaps most typically by social events. It would be tempting to find a direct causal sequence from social event to physiological event to emotion (James 1890/1950: 450, cited in Kövecses 2000: 131), but to do so would overlook the point that emotional states may be brought on by the anticipation of events or reflection on past events. In prototypical cases of prototypical emotions we may have the sequence of *situation* → *physiology* → *emotion*, but in a number of other cases this does not happen, e.g. when the anticipation of an event produces an emotion. In characterising ongoing emotions, it is perhaps enough to say that emotions are situated in a complex physiological, psychological, and social milieu. In the long term view, emotion language is constrained by bodily processes that arise partly in response to our interpretations of social events.
2. An emotion concept typically integrates content pertaining to all spheres of experience: social, cognitive, and physiological. It also invokes imagery pertaining to language and discourse (Kövecses 2000: 189–190). This complex content is organised as a more or less stable configuration. The richness of content makes it difficult to accumulate comparable data on diverse languages and cultures because different researchers tend to select different kinds of data as representative. The scenario of ideal romantic love described by Kövecses (1988) includes information pertaining to social action, cognition, and physiology. The account of *song* in Ifaluk, presented on page 142, pertains predominantly to social events in phases (1–3), and (5) (Lutz 1988: 157). Only phase 4 mentions the possible reaction of "fear," hinting at the possible inclusion of cognitive and physiological information in the Ifaluk conceptualisation of *song*.
3. The content of emotion concepts can best be described as scenarios. These vary widely on the dimensions of abstraction and complexity of phasing. The scenario of ideal romantic love de-

scribed by Kövecses (1988) is relatively abstract. It covers the whole process of falling and being in love, but it has only three phases. The account of *song* in Ifaluk, cited on page 142, lies at the middle level of abstraction and deals with what appears to be a relatively short-term process with five phases. Similarly, Wierzbicka's explication of *anger* on page 140 requires six phases.

4. The social action content of emotion language can best be described as culturally specific social scenarios that include imagery of language use. In folk knowledge, these scenarios are probably represented simultaneously at several levels of abstraction and layers of metaphor. Choosing the right descriptive level may depend upon one's intended audience or readership.
5. Psychological states have an irreducible and probably universal psychobiological basis that accounts for many similarities in the conceptualisation of emotions. Taking anger, for example, both English and Zulu figurative language characterises anger as pressure in a container, as heat, as contained in the heart, and as bile (Taylor & Mbense 1998). Chinese shares with English all the basic metaphors of happiness: it is up, it is light, and it is fluid in a container (Ning Yu 1995, 1998 and review by Dirven 1999).
6. Psychological states are also, in part, culturally determined. This is because events that evoke parallel emotions in different cultures are unlikely to induce them in precisely the same way. Perhaps it is only Zulus who experience the onset of anger as a "squashing in the heart" (Taylor and Mbense 1998). Perhaps it is only the Japanese who experience extreme anger as coming to the head (*atama*) with a "click" (Matsuki 1995). Perhaps it is only the Chinese who conceptually distribute their anger to various parts of the body rather than directing it towards offenders (Ning Yu 1998: 52–54). Perhaps it is only Hungarians who conceptualise the angry body as a pipe containing a burning substance.
7. The content of well-formed emotion concepts often, or perhaps always, includes some recognition of the experiencer's cogni-

tive, even conscious, state, including ability to remember, to hold thoughts, to prioritise actions according to cultural conventions, and to think and speak rationally (to progress according to a conventional sequence of thoughts). This cognitive content is part of the configuration of an emotion concept.

8. Emotion concepts occur as prototypical scenarios with variants, providing a basis for polysemy in emotion language.
9. Languages vary in respect to whether their emotional discourses and vocabularies of emotion terms are more elaborate and focused in one sphere or another, that is, in the spheres of physiological experience, cognition, or social action. Thus, Tahitians apparently lack a general term for SADNESS and they lack the concept that it has external, social causes. In Tahiti, SADNESS may be *hypocognised* (Levy 1984, cited in D'Andrade 1995). Heider (1991) found that ANGER is less of a focal emotion in Indonesian than it is in English. SADNESS and CONFUSION, on the other hand, are more central emotions in Indonesian than in English. It is interesting that both Tahitian and Indonesian are Austronesian languages, albeit related only distantly. In the Philippines, as perhaps in Ifaluk, the use of emotion language is typically pragmatic rather than expressive (Rosaldo 1990). In Tagalog, emotions are metonymically described in terms of their causes and consequences rather than in terms of the psychological states that they evoke (Palmer & Brown 1998).
10. All concepts are emotion concepts in that nothing can be thought without some direct or indirect connection to psychological states. Similarly, all language is emotion language in this sense. The terms that we normally think of as emotion terms in English are those that evoke imagery of the most intense physiological and cognitive changes in psychological states.
11. Figurative language, including metaphor and metonymy, may express any aspects of emotion concepts. Some metaphors reflect universal image schemata, such as the idea that *anger* is conceptualised as pressure in a container. Metonymies may

also express universal aspects of emotions, such as the idea that *anger* is physiologically felt as loss of muscular control, redness, a rise in body temperature, and loss of rationality. Other metaphors and metonymies may be unique to a specific culture. For example, Zulus become wet with anger, but Americans do not (Taylor & Mbense 1998). Apparently, Zulu culture profiles the perspiration that goes with the physiological heat of anger, whereas the same actual physiological event is suppressed in the American English conceptualisation of anger, perhaps because sweating is regarded by many Americans as a slightly disgusting and embarrassing event, or because it would signal a loss of control such as might be associated with fear, which Americans typically regard as incompatible with anger. Different cultural and social environments bring different values to bear on the formation of emotion concepts.

It is important to distinguish between actual physiology, conceptualised physiology, conceptual metaphor, and cultural context (Kövecses 2000: 162–163). Conceptual metaphors or metonymies with local appeal may compete for the conceptual source materials made available by apprehensions of actual physiological events. This seems to be the case in Chinese, where the metaphor of fluid (gas or *qi*) under pressure in a container omits the element of heat. That element has been captured instead by the Chinese metaphor that anger is fire in a bodily organ, perhaps based on an experience of internal pain during a state of anger.

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The role of domains in the interpretation of metaphors and metonymies*

William Croft

Abstract

Metaphor and metonymy do not occur in isolation; they are triggered in utterances in particular linguistic (and extralinguistic) contexts. They pose an interesting problem from the point of view of semantic composition in that the metaphorical or metonymic interpretation of the parts (the individual words) appears to be determined by the interpretation of the whole construction in which they are found. Much of this is determined by the domain in which the words are to be interpreted. Domains play a central role in the definition of a metaphor as a mapping of conceptual structure from one domain to another. Domains also play a significant (though not defining) role in most metonymies and some related lexical ambiguities, as the highlighting of particular domains in a domain matrix. The processes of domain mapping and domain highlighting are governed by the requirement that a dependent predication (in the sense of Langacker 1987) and all of the autonomous predications it is dependent on must be interpreted in a single domain; this is "the conceptual unity of domain." This is only one of several "conceptual unities" imposed by a whole construction on its component parts.

Keywords: adjustment, autonomous predication, base, base domain, basic domain, conceptual unity, dependent predication, dimension, domain highlighting, domain mapping, domain matrix, domain structure, primary domain, profile, secondary domain, unity of domain.

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1. Introduction

Consider the following sentence:

(1) Denmark shot down the Maastricht treaty.

This sentence is generally taken to involve both metonymy and metaphor: the subject proper noun *Denmark* is a metonymy for 'the voters of Denmark,' while the predicate *shot down* is a metaphor for 'cause to fail.' After the fact this is all quite straightforward. But how does the listener know that this sentence is not about a military act, or a particular piece of territory in Europe? The question this paper will address, though not fully answer, is: how are such figurative meanings constructed in a particular utterance? What leads speakers to not employ the basic or literal meanings of those words, or, if they do, to shift to the appropriate meaning?

This is a problem of semantic composition, that is, of the relation of the meaning of the whole to the meaning of the parts. Unlike the typical problems of semantic composition discussed in the formal semantic literature, where the meaning of the whole is at least in part determined by the meanings of the parts, the meaning of the parts here seems to be determined in part by the meaning of the whole. I will argue here that the "meaning of the whole" that affects the meanings of the parts is what I call the *conceptual unity of domain:* all of the elements in a syntactic unit must be interpreted in a single domain. In example (1), for instance, the domain is political activity.

Moreover, a large part (though not all) of what is going on in metaphorical and metonymic interpretation is adjustment of the domains of the component elements, and hence their meanings, to satisfy the conceptual unity of domain. I use the word "adjustment" here because the adjustment of domains is related to the conceptualisation phenomena that Langacker calls *focal adjustments* (Langacker 1987: ch. 3). In section 2, I will describe a theory of word meaning and the role of domains in word meaning, taken largely from Langacker's model of cognitive grammar (Langacker 1987, 1991). In section 3, I will describe the role of domains in metaphor and metonymy, and

argue that metonymy as traditionally conceived usually involves a more general phenomenon of polysemy that critically involves domains. In section 4, I discuss the relationship between metaphor and metonymy and semantic composition in cognitive grammar, arguing that metaphor applies to dependent predications and metonymy to autonomous predications (Langacker 1987: 8.3). Finally, in section 5, I argue that the scope of the conceptual unity of domain is a dependent predication and the autonomous predications that it is dependent on, and that a listener's cognitive processing in "solving" the conceptual unity of domain requires reference to context.

2. Word meaning and domains in cognitive grammar

One of the central tenets of cognitive semantics is that the meaning of words is encyclopedic: everything you know about the concept is part of its meaning (Haiman 1980; Langacker 1987: 4.2.1). From this it follows that there is no essential difference between (linguistic) semantic representation and (general) knowledge representation; the study of linguistic semantics is the study of commonsense human experience. Thus, that aspect of "pragmatics" which involves the employment of "world knowledge" or "commonsense knowledge," and even contextual knowledge (since the speech act context is part of our world knowledge, albeit a very specific piece of knowledge), becomes part of semantics.

Not surprisingly, taking seriously the encyclopedic view of semantics rather drastically alters our view of most of the outstanding problems of semantics (without necessarily solving them, however; but at least they look much more natural). Although in theory all knowledge about an entity is accessible – that is, the whole knowledge network is accessible – some knowledge is more central (Langacker 1987: 4.2.2), and the pattern of centrality and peripherality is a major part of what distinguishes the meaning of one word from that of another. Langacker identifies four criteria for centrality: the extent to which knowledge of the concept applies to all entities categorised by the concept (*generic*), the extent to which knowledge of the con-

cept applies to only those entities (*characteristic*); these two criteria together define cue validity [Rosch 1978]); the extent to which the knowledge is general knowledge in the speech community (*conventional*), and the degree to which the knowledge applies to the object itself as opposed to external entities (*intrinsic*).[1]

Understanding the meaning of a word in the encyclopedic view means entering the knowledge network at a certain point more precisely, activating the network by activating it at a certain point or points:

> The entity designated by a symbolic unit can therefore be thought of as a *point of access* to a network. The semantic value of a symbolic unit is given by the open-ended set of relations [...] in which this *access node* participates. Each of these relations is a cognitive routine, and because they share at least one component the activation of one routine facilitates (but does not always necessitate) the activation of another. (Langacker 1987: 163)

Thus, semantic space is the whole network of an individual's – and a community's – knowledge. This knowledge as a whole is not unstructured. Encyclopedic knowledge appears to be organised into experiential *domains* (Langacker 1987: 4.1; Lakoff 1987, among many others). The notion of a domain is central to the understanding of metaphor and metonymy. In particular, it is critical to identify when one is dealing with a single domain or different domains. Despite its centrality, the notion of domain has not been delineated in detail. It is related to the notion of a semantic field, as in the field theories of Trier and others. This work has come under considerable criticism, not least because the notion of semantic field is left undefined: "What is lacking so far, as most field-theorists would probably admit, is a more explicit formulation of the criteria which define a lexical field than has yet been provided" (Lyons 1977: 267).

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1. Centrality is clearly closely related to prototypicality, in the sense of prototypical properties rather than prototypical instances of a category, as the reference to Rosch's analysis of prototypes suggests. However, centrality pertains to the organisation of knowledge in the mind, not the categorisation of individuals which both gave rise to that knowledge structure and employs that structure.

The most carefully worked-out description of domains is found in Langacker (1987), some of which is based on Lakoff & Johnson (1980); the description that follows makes explicit some assumptions that are implicit in those works. But to understand the notion of a domain, we must begin by describing a central aspect of a concept symbolised by a word, its division into a profile and base. (What I am calling a "concept" is a semantic structure symbolised by a word; Langacker calls this a predication, and I will use these terms interchangeably. While there are concepts that do not – yet – have words that symbolise them, the notion of a concept is sufficiently difficult to identify independently of language that we will restrict ourselves to those that are already symbolised and therefore have a definite existence consecrated by the conventions of a language.)[2]

We will begin with Langacker's example of an arc of a circle (1987: 183–184). A concept, such as that of an arc, presupposes other concepts, in this case that of a circle. An arc is defined only relative to a circle; otherwise it would be merely a curved line segment. What we intuitively think of as the arc itself is the *profile*; the notion of a circle which it presupposes is its *base*. This idea is not totally new; one of its better known manifestations is as a "frame" in artificial intelligence and linguistics. The concept of [ARC] is not just the profile but also the base; the concept is definable only relative to what it presupposes. (Searle 1979 also argues for the necessary inclusion of background assumptions in the definition of a word.) A circle itself is defined relative to two-dimensional space. The concept [CIRCLE] profiles that shape configuration, and has (two-dimensional) space as its base. (To be precise, it has shape as its base, and the concept of shape – not "a shape," but "shape" – is profiled in two-dimensional space. I return to this issue below.) In other words, a concept can function either as a profile or as a base for another concept profile.

The profile-base relation is not the same as the central-peripheral relation discussed above with respect to the encyclopedic definition of word meaning. The base is that aspect of knowledge which is nec-

2. Grammatical morphemes are also predications, of course; however, I will not be discussing them in this paper.

essarily presupposed in conceptualising the profile. Peripheral knowledge is knowledge associated with a concept that is not as generic, characteristic, conventional, and intrinsic as more central knowledge. Peripheral knowledge is not presupposed knowledge, but additional, less central asserted knowledge. Of course, peripheral knowledge as well as central knowledge is organised in a profile-base fashion. This will be illustrated later.

Profile and base are conceptually interdependent. On the one hand, profiled concepts cannot be understood except against the background knowledge provided by the base. On the other hand, the base exists as a cognitively unified and delimited "chunk" of knowledge only by virtue of the concept or concepts defined with respect to it.

A particular base is almost always the base for several concept profiles. For example, a circle is the base not only for [ARC], but also [DIAMETER], [RADIUS], [CHORD], etc. This is what makes the base a domain, in the intuitive sense: several different concept profiles have it as a base. We can now define a domain as *a semantic structure that functions as the base for at least one concept profile* (typically, many profiles). As Taylor (1989: 84) notes, "In principle, any conceptualization or knowledge configuration, no matter how simple or complex, can serve as the cognitive domain for the characterization of meanings." We can say that the domain of a circle includes the concepts of an arc, a diameter, a radius, chord, etc. A circle itself is in the domain of two-dimensional space (actually, shape). This demonstrates that a particular semantic structure can be a concept in a domain (when it is profiled), or a domain itself (when it is functioning as the base to other concept profiles). We return to this point below.

Space itself does not appear to be profiled in a domain that serves as its base. Instead, it emerges directly from experience (cf. Lakoff & Johnson 1980: ch. 12). Langacker calls space a *basic domain.* Basic domains are concepts that do not appear to be definable relative to other, more basic concepts, at least in the commonsense or folk model of experience. There are a substantial number of such basic domains; in fact, a good idea of the basic domains there are can be found by examining the higher divisions of a good thesaurus.

Langacker calls a nonbasic domain an *abstract domain.* The notion of a circle, functioning as a base, is an example of an abstract domain. An abstract domain itself is a concept that presupposes another domain. The other domain need not be a basic one. I noted above that shape is more precisely the base for [CIRCLE]; the concept of [SHAPE] is in turn profiled in two-dimensional space. (The other major concept profiled in space is [LOCATION].) One can have an arbitrarily deep nesting of abstract domains before reaching a basic domain. However, the base is usually taken to be just the domain immediately presupposed by the profiled concept. We will call this domain the *base domain* (or simply the base; this is also what Langacker calls the *scope of predication;* recall that a predication is a concept). Langacker (1987: 493) notes that the scope of predication/base "may sometimes constitute only a limited portion of relevant domains" (the involvement of multiple domains in the definition of a concept will be discussed below).

The relation between an abstract domain and the basic domain it presupposes is not a taxonomic relation (or, as Langacker calls such relations, a schematic one). It is a relationship of concept to background assumption or presupposition. This distinction is sometimes obscured by the English language. The word *shape* stands for the domain as a mass noun, but as a count noun (*a shape*) it is a more general or schematic concept subsuming TRIANGLE etc. A more general or schematic concept is not the domain for the particular concept; in fact, it is itself profiled in the same domain as its particular concept. As will be seen below, it is not always easy to distinguish a taxonomic relation from an abstract-basic domain relation.

Langacker argues that some domains involve more than one *dimension* (1987: 150-51). An obvious case is space, which involves three dimensions (some concepts, such as [CIRCLE], need only two dimensions for their definition; others need only one). Many physical qualities that are grounded in the experience of sensory perception, such as temperature and pitch, are one-dimensional. Others, such as colour, can be divided into hue, brightness and saturation. Generally, dimensions of a domain are all simultaneously presupposed by con-

cepts profiled in that domain. This is the critical point: a concept may presuppose several different dimensions at once.

In fact, a concept may presuppose several different domains. For example, a human being must be defined relative to the domains of physical objects, living things, and volitional agents (and several other domains, e.g. emotion). The combination of domains simultaneously presupposed by a concept such as [HUMAN BEING] is called a *domain matrix*. Langacker (1987: 152) makes the important point that there is in principle only a difference of degree between dimensions of a domain and domains in a matrix. In practice, we are more likely to call a semantic structure a domain if there are a substantial number of concepts profiled relative to that structure. If there are few, if any, concepts profiled relative to that structure alone, but instead there are concepts profiled relative to that structure and another one, then those structures are likely to be called two dimensions of a single domain. The term "domain" implies a degree of cognitive independence not found in a dimension.

The domain structure presupposed by a concept can be extremely complex. We can begin by considering the domain of physical objects, commonly invoked as a basic domain. The physical object domain is in fact not a basic domain, but a domain matrix. It consists of the domains of matter (an object is made of matter), shape (since objects have a shape; even substances have a shape, although it is not fixed), and location (embodying the principle that two objects cannot occupy the same location). Matter is a basic domain but, as we noted above, shape and location are abstract domains based on space, which is a basic domain.

Physical objects are themselves very general. Let us now consider how one would define what seems to be a kind of physical object, the letter T. It is directly defined as a letter of the alphabet; its base (domain) is hence the alphabet. The alphabet is itself an abstract domain presupposing the notion of a writing system – it is not just an instance of a writing system, since the latter involve not just a set of symbols such as an alphabet but also the means of putting them together, including the order on a page, spaces for words, etc. The domain of writing systems in turn presupposes the activity of writing.

The activity of writing must be defined in terms of human communication, which presupposes the notion of meaning – perhaps a basic domain, since the symbolic relation appears not to be reducible to some other relation – and of the visual sensations, since writing is communication via usually perceived inscriptions, rather than auditorily or through gestures. And since writing is an activity, the domains of time and force or causation (both basic domains; force is a generalisation of causation [Talmy 1988]) are also involved in the domain matrix of writing, since the letter T is the product of an activity. Since it is a human activity, it presupposes the involvement of human beings. Human beings are living things with mental abilities, such as volition, intention and cognition (themselves dimensions of the mental domain or, better, domains in the matrix of the domain of the mind). Living things in turn are physical objects endowed with life. A diagram exhibiting all of the basic-abstract domain relations presupposed in defining the concept of the letter T is shown in Figure 1 (the basic domains are given in small capitals). From this, it can be seen that it is incorrect to describe the concept of the letter T simply as belonging of the domain of writing, as a typical informal theory of domains would most likely have it. The vast majority of concepts belong to abstract domains which are themselves profiled in complex domain matrices, often also abstract, and so ultimately presuppose a large array of basic domains, which I will call a *domain structure.*

It is not easy to distinguish profile base relations from taxonomic ones (that is, type vs. instance). For example, is writing an instance of human communication, or is writing an instance of an activity that can only be understood in terms of the goals of human communication? I believe the latter is a more accurate description, and have described it as such. Likewise, since writing is an instance of human activity, human activity does not appear as a domain, but the various domains that it presupposes – time, change, force, volition – do appear, because anything presupposed by a human activity will be presupposed by any instance of it (cf. the discussion of the base of a circle and a shape above).

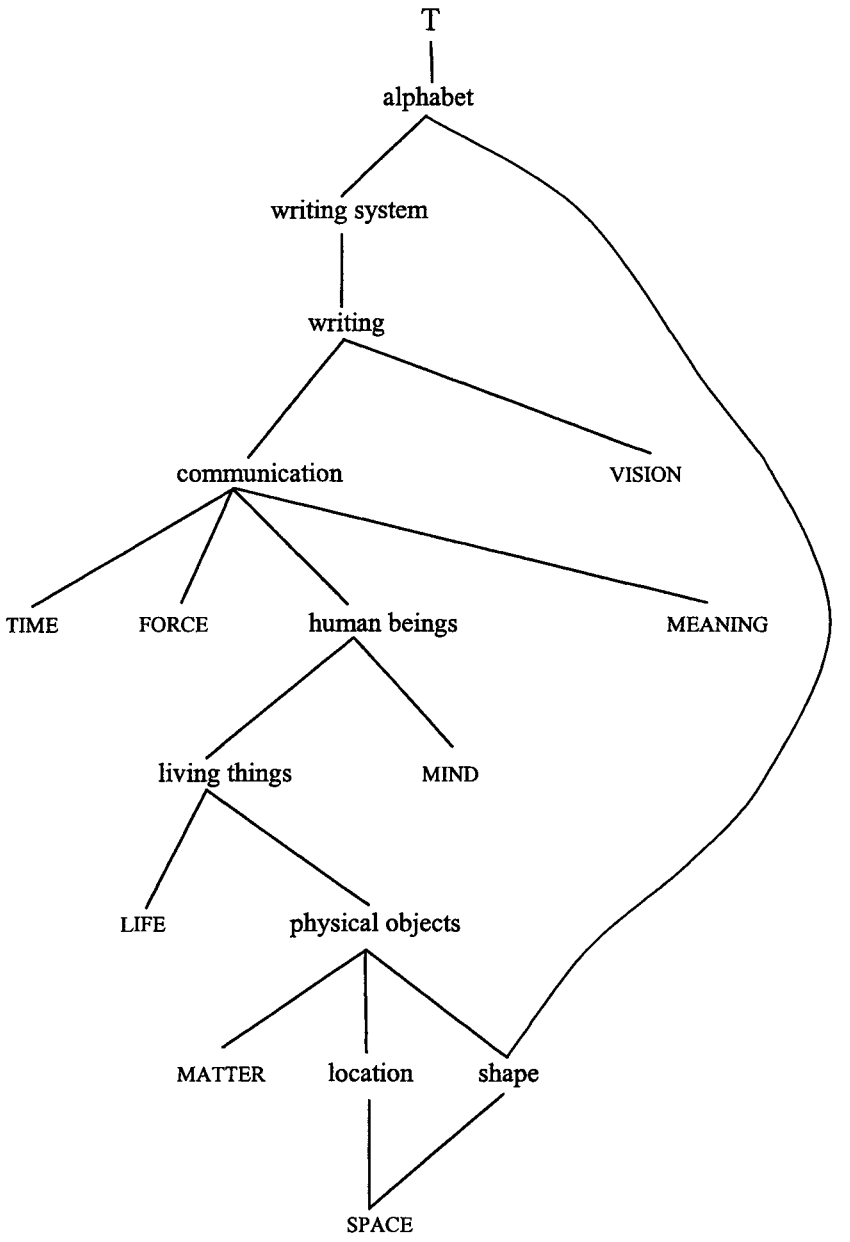

Figure 1. Domain matrix underlying the concept of the letter T

It is also difficult to determine direct vs. indirect reference to a domain. Recall that Langacker argues that the definition of an arc does not directly presuppose two-dimensional space, but rather it presupposes a circle which in turn presupposes two-dimensional space. Thus, an arc is not directly a two-dimensional object per se, but only such by virtue of being a part of a circle. Likewise, the letter T is not directly a shape, but only such by virtue of being a letter of the alphabet. But in fact, is the letter T a shape by virtue of being a letter of the alphabet, or by virtue of being the physical product of the activity of writing? I believe it is best described as the former, since the set of symbols is a set of shapes.

Another similar problem in this example is the location of the domain of mental ability. The activity of writing is a volitional, intentional activity, so it presupposes the domain of mental ability. But mental ability is presupposed by writing because writing presupposes human involvement, and the human involvement involves volition and intention.[3] Determining the exact structure of the array of domains upon which a profiled concept is based requires a careful working out of the definitions of concepts, not unlike that carried out by Wierzbicka in her semantic analyses (see, e.g., Wierzbicka 1987, 1988).

It is not clear from Langacker (1987) whether Langacker considers the domain matrix of a concept to include only the base domains against which a concept is directly profiled or the entire domain structure underlying the concept profile. The example of the letter T demonstrates that for many concepts, the domain structure can be

3. There are actions that involve human beings but do not require mental ability, for example seeing a person. But seeing something does not require that something to be a person, only activities inherently referring to mental abilities do. It is also possible for other entities to write, e.g. for an animal to be taught to produce writing. This is a deviation from the idealised cognitive model (Lakoff 1987) of writing. An abstract domain is a conceptual structure, and Lakoff convincingly argues in his book (and elsewhere) that conceptual structures involve idealisation. Langacker observes that an abstract schema is essentially an idealised cognitive model (1987: 150, fn. 4), which is in turn analogous to the notion of a frame. At any rate, the domain structure represents the presuppositions of the ideal case.

quite deep. There is some evidence that the notion of a domain matrix must include all of the domains in question. Consider the concepts [PERSON] and [BODY]. [PERSON] is profiled against the abstract domain of human beings. As the diagram above indicates, human beings are living things with certain mental abilities (recall the classic definition of man as a rational animal). Living things in turn are physical objects endowed with life. The concept [BODY] represents a person's physical reality (alive or dead). Its base is nevertheless still the abstract domain of human beings (or, more precisely, animals), but it profiles the physical object domain in the domain structure underlying human beings. Contrast [BODY] with [SOUL]which profiles a nonphysical domain of a human being; or with [CORPSE], which profiles the physical object domain but also profiles a particular region in the life domain, namely [DEAD]. Another example is [KNEEL]. Only things with knees, or something resembling knees, can kneel; hence its base domain is (higher) animals – more precisely the base domain matrix includes animals as well as time and force, since kneeling is a process (see the matrix under "communication" in Figure 1). However, it primarily profiles a particular posture, which is a spatial configuration of the object, and the domain of spatial configuration (shape) is quite deeply nested in the domain structure underlying [KNEEL].

This is still not the end of the matter of describing the domain structure underlying a concept. Recall that meaning is encyclopedic. We have focused our attention only on the most central fact about the letter T, that it is a letter of the alphabet. Langacker calls the alphabet domain the *primary domain* of the concept, since it is the domain in which the most central facts about the concept are defined. However, there are other things we know about the letter T that are also quite central. It is the twentieth letter of the alphabet, which brings in the domain of a scale (ordering; a basic domain) and measurement, which in turn presupposes numbers, which in turn presupposes the notion of a unit of an entity. The letter T also corresponds to a linguistic sound, specifically a consonant, which brings in the domain of sound sensation (another basic domain), vocal articulation (a very abstract domain), and (again) language or communication. And there

is much more specific knowledge that is quite peripheral to its meaning, for example that it is the initial of my wife's last name, which presupposes a whole host of abstract domains based on other abstract domains and ultimately a wide range of basic domains.

Whether these other domains form part of the matrix of the concept of the letter T depends on whether the concept of the letter T profiles such things as the fact that it is the twentieth letter of the alphabet, the initial of my wife's last name, etc. Langacker does not precisely answer this question. In the passage quoted above (1987: 163), Langacker states that activation of a concept (presumably, its profile) "facilitates (but does not always necessitate)" the activation of more peripheral knowledge about that concept. He later says that some routines (that is, pieces of knowledge) are sufficiently central to be activated almost every time (1987: 163). This implies that the central–peripheral relation is defined in terms of necessitation vs. facilitation of activation; facilitation can perhaps be thought of as a priming effect. Other factors, such as contextual priming, presumably can convert "facilitation" of activation of peripheral knowledge to actual activation of that knowledge in particular speech events where that peripheral knowledge is relevant.

The activation of the base domain of a profiled concept, on the other hand, is presumably necessary, since the definition of a base domain is the semantic structure presupposed by the profiled concept. This implies that the whole structure given in the diagram is going to be activated. Langacker does not explicitly state this, but he does suggest that the profile–base relation is a matter of attention, in a generalised model of attention which includes multiple loci of attention, which in turn could be modeled in terms of intensity of activation (1987: 188). One could extrapolate that the less direct the involvement of the domain in the definition of the concept, the less intense its activation will be when the concept is activated.

All of the above cognitive semantic structures – encyclopedic definitions, central vs. peripheral knowledge, profile and base, basic and abstract domains – are necessary for the definition of a single meaning of a word (Langacker 1987: 164, fn. 12). There is no apparatus given above for describing multiple meanings of a word. In a

later chapter (1987: ch. 10), Langacker argues for a "schematic network" (cf. Lakoff's [1987] notion of a radial category) for describing different uses of a word which combines both classical and prototype notions. All uses of a single word are related through various types of extensions from an original meaning ("original" in the ontogenetic sense); in addition, a more schematic meaning subsuming many or all of the specific uses can arise and fit into the network. Metaphor and metonymy are two types of extensions of word meaning; they represent different uses of a particular word. We now turn to the role of domains in licensing these semantic extensions.

3. Domains, metaphor and metonymy

The term "metaphor" has been used for many different kinds of figurative language, depending in part on the theory of metaphor subscribed to by the analyst. I will examine the types of metaphors that are central to Lakoff & Johnson's (1980) theory of metaphor. Lakoff & Johnson's theory can be illustrated by the contrast in the following two sentences:[4]

(2) She's in the living room.
(3) She's in a good mood.

Lakoff and Johnson employ a cognitive semantic model and analyse this type of metaphor as a conceptualisation of one domain in terms of the structure of another autonomous domain, that is, a mapping across domains. The two domains, the source domain and the target domain, do not form a domain matrix for the concepts involved. In this example, the use of *in* in (3) for the relation between a person

4. Lakoff & Johnson (1980: 127) describe a large class of phenomena as metaphors, some of which are probably better accounted for by other cognitive processes. For example, they describe a metaphor MORE OF FORM IS MORE OF CONTENT, illustrated by the intensification represented in *He ran and ran and ran*; this is more likely to be an example of iconic motivation (Haiman 1983, 1985).

and her emotional state does not mean that the speaker has constructed a profile for metaphorical *in* simultaneously encoding a spatial relation and an emotional relation. Only the emotional domain is profiled in (3); however, the emotional domain is conceptualised as having the same or similar structure to space by the use of the predicate *in*.

As we saw in section 2, if one accepts Lakoff and Johnson's theory of metaphor, as I do, one must be more specific as to what domain or domains are involved in a metaphor. I argue that the two domains being compared are base domains, that is, the bases of the profiled predication. In this case, the two domains are, as indicated in the informal description in the preceding paragraph, location and emotion, the base domains of the two uses of *in* in (2) and (3). (Actually, *in* involves containment, so more than location is involved in the source domain.)

In order to get an accurate description of a metaphor, the description of the metaphor has to be formulated in such a way that the two base domains are equated. For example, Lakoff & Johnson (1980: 73) describe the following example as an instance of a metaphor they describe as AN OBJECT COMES OUT OF SUBSTANCE.

(4) I made a statue out of clay.

The metaphorical expression is *out of*. Its base domain in the metaphorical usage is creation (that is the meaning of *make* selected in this sentence); the literal meaning has motion as its base domain, so the metaphor can be phrased as CREATION IS MOTION. Of course, both of these abstract domains, creation and motion, have multiple domains in their base matrices; for example, motion involves time, change and location.

Likewise, one must be careful to define the metaphor in terms of the base domain of the words in question. This is not always easy. Consider the metaphor described by Lakoff & Johnson (1980: 49) as LOVE IS A PATIENT; the following examples are theirs:

(5) This is a *sick* relationship.
(6) They have a *strong*, *healthy* marriage.

(7) The marriage is *dead* – it can't be *revived.*
(8) Their marriage is *on the mend.*
(9) We're getting *back on our feet.*
(10) Their relationship is *in really good shape.*
(11) They've got a *listless* marriage.
(12) Their marriage is *on its last legs.*
(13) It's a *tired* affair.

First, the metaphor is probably best described as LOVE IS A BODILY STATE. The words *sick, strong, healthy, listless* and *tired* all have a bodily state as the base. The phrases *back on our feet, in really good shape,* and *on its last legs* are themselves metaphors whose target domain is also bodily states. However, the words *dead* and *revived* are arguably profiled in the domain of life, which is one of the domains underlying the domain of living things which in turn underlies the domain of bodily states (see the domains underlying "human beings" in Figure 1).[5] They are part of another metaphor, LOVE IS LIFE, which can generate metaphorical expressions using words profiled in the domain of living things:

(14) Their letters kept their love *alive.*
(15) Her selfishness *killed* the relationship.
(16) His effort to understand her *breathed* new life into their marriage.

Of course, LOVE IS A BODILY STATE and LOVE IS LIFE are metaphors coherent with each other, since bodily states presuppose the notion of life. However, the metaphors cannot be lumped together under something like "love is a living thing," since there are many other aspects of living things that are not metaphors for love, specifically those associated with the body (bodily activities, such as spitting, sweating; or the body itself, e.g. its parts; etc.).

The role of domains in metaphor is quite central to the definition of that concept in Lakoff and Johnson's model. However, to be more

5. One could argue that "alive" and "dead" are bodily states also, but they are clearly of a different kind from "listless" or "healthy."

precise about the phenomenon that I am examining, I will use the term *domain mapping* to describe metaphor (though since in the Lakoff–Johnson model, the two terms are virtually synonymous, I will continue to use the term "metaphor"). The role of domains in metonymy, on the other hand, is not direct, although it is more pervasive than has generally been noted, once a careful examination of the domain structure underlying a concept is undertaken.

The traditional definition of metonymy is a shift of a word-meaning from the entity it stands for to a "contiguous" entity (Ullmann 1957: 232; cf. Lakoff & Johnson 1980: 35, and Taylor 1989: 122). Entities are contiguous because they are associated in experience (Lakoff & Johnson 1980: 39–40). Lakoff and Turner argue that metonymy, unlike metaphor, "involves only one conceptual domain. A metonymic mapping occurs within a single domain, not across domains" (Lakoff & Turner 1989: 103). However, as we have seen above, a concept is profiled against an often very complex domain structure or matrix, even if there is only one abstract domain as the base. In fact, in the next sentence, Lakoff and Turner switch to describing metonymy as a mapping within a schema; the term "schema" is more amenable to describing a complex domain structure (cf. Taylor 1989: 87). And Lakoff (1987: 288) describes a metonymic mapping as occurring "within a single conceptual domain, which is structured by an ICM [idealized cognitive model]" – which Langacker equates with an abstract domain. Thus, the generalisation should be rephrased as "a metonymic mapping occurs within a single domain matrix, not across domains (or domain matrices)." Of course, the domain matrix possesses a unity that is created by experience – the real point of Lakoff's position.[6]

6. René Dirven (*89) suggests that this characterisation will not distinguish between *Tea was a large meal for the Wicksteeds* (metonymy) and *Drinking Kriek-Lambiek is not just drinking, it is eating and drinking together* (metaphor). The first case is clearly metonymy, since the whole meal is profiled in a domain matrix that includes tea. However, drinking Kriek-Lambiek is profiled in a domain consisting of drinking and not eating; this is its source domain, and the target domain is the matrix of both drinking and eating.

This is indeed the critical difference between metaphor and metonymy. Metaphor is a mapping between two domains that are not part of the same matrix; if you say *She's feeling down,* there is no spatial orientation domain in the matrix of the metaphorical concept of emotion being expressed; HAPPY IS UP involves two different concepts with their own domain structures underlying them. In metonymy, on the other hand, the mapping occurs only within a domain matrix. However, it is possible for metonymy, as well as for other lexical ambiguities, to occur across domains within a domain matrix. In this way, domains do play a significant role in the interpretation of metonymy.[7] I will now illustrate some examples of this role.

Consider the following typical examples of metonymy:

(17) Proust spent most of his time in bed.
(18) Proust is tough to read.
(19) Time magazine is pretty vapid.
(20) Time took over Sunset magazine, and it's gone downhill ever since.

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7. In some cases, domain mapping occurs between two domains, one of which happens to be in the matrix of the other. This appears to be what is going on with what Goossens (1990*) calls "metaphor from metonymy," illustrated below:

(i) "Oh dear," she giggled, "I'd quite forgotten."
(Goossens *356; 1990: 328)

(ii) "Get out of here!" he thundered.

In those cases the usual interpretation is that the act of speaking takes on metaphorical properties of giggling and thundering. As Goossens observes, the metaphor applies to the message (as intended by the speaker) as well as the medium. I would analyse this as a domain mapping, but the source domain (sound) is one of the domains in the matrix of the target (speaking) – hence the appearance of being "metonymy."

Goossens' examples of "metonymy within metaphor," on the other hand, appear to be exactly that:

(iii) She caught the minister's ear and persuaded him to accept her plan.
(Goossens *364; 1990: 334).

Ear is a metonymy for "attention," and that metonymy is itself embedded in a metaphorical use of *catch.*

Sentence (17) and (19) are considered "literal," (18) and (20) "metonymic." However, in the encyclopedic view of semantics, the works of Proust and the company that produces *Time Magazine* are part of the concepts of [PROUST] and [TIME MAGAZINE] respectively. However, they are less central than the fact that Proust was a person and *Time* is a magazine, not least because they are quite extrinsic to the central concepts. The domain matrix of an encyclopedic characterisation of [PROUST] will include the domain of creative activity. Since Proust's claim to fame is that he is a writer, and the work produced is a salient element in the domain of creative activity, the metonymic shift is quite natural (and, in fact, is quite productive). Nevertheless, the metonymic shift also involves a shift of domains within the domain matrix (schema, frame, script) for *Proust.* A similar argument applies to *Time magazine*: a secondary domain for magazines is that of the process of publication, in which the publishing company is a salient entity. The metonymy that shifts reference from the magazine to the company also shifts domains from the magazine as an object with semantic content to the domain of publication. We will call this conceptual effect *domain highlighting* (cf. Cruse 1986: 53), since the metonymy makes primary a domain that is secondary in the literal meaning.

Domain highlighting appears to be a necessary though not sufficient condition for metonymy, which also involves shift of reference, at least in the most typical occurrences thereof. Thus, the relation between domain highlighting and metonymy differs from that between domain mapping and metaphor, since domain mapping does appear to be definitional for metaphor. While domain highlighting appears to be a consequence of many if not all instances of metonymy, it also occurs in other types of lexical ambiguity that have not always been considered metonymy. Consider the following sentences:

(21) This book is heavy.
(22) This book is a history of Iraq.

The concept [BOOK] is profiled in (at least) two primary domains, the domain of physical objects and the domain of meaning or semantic content. In (21), the physical object domain of *book* is highlighted by virtue of the requirements of the predicate *heavy*. In (22), on the other hand, the semantic content domain of *book* is highlighted, again due to the requirements of the predicate *be a history of Iraq*. (There is another reading of [21] which does refer to the semantic content domain, which I will discuss below.)

It is not clear that there are in fact two different entities being referred to in (21) and (22). From a conceptual point of view, however, the concept symbolised by *this book* is different in (21) and (22). It is not an example of metonymy in the usual sense of that term because the elements profiled in each domain are highly intrinsic; no reference is made to external entities. For both of these reasons, the word *book* is not always treated as metonymic, or even ambiguous, in these sentences.

Another oft-cited example illustrates the distinctness of the domains of space and physical material in characterising physical objects (see, e.g., Cruse 1986: 65; Taylor *325–326, 1989: 124):

(23) I broke the window.
(24) She came in through the bathroom window.

These two uses of *window* are usually analysed as an ambiguity; in the encyclopedic semantic view, they highlight the physical object and shape or topological domains of the concept [WINDOW] respectively. The interpretation of [WINDOW] as an opening in the shape domain is somewhat extrinsic because it makes crucial reference to what is around it – contrast the use of *window* to describe a physical object in a hardware store showroom – though it appears to be less extrinsic to the concept [WINDOW] than the publishing company and writings in examples (18) and (20) above. The existence of examples such as *window* in (23) and (24) suggests that there is a continuum between the clear cases of metonymy and the highlighting of highly intrinsic facets of a concept as in (21) and (22). The existence of this continuum suggests that domain highlighting plays a role in lexical

ambiguities other than metonymy (assuming that one does not want to extend the term "metonymy" to the book and window examples).

It may not be the case that domain highlighting within the domain matrix of a word is involved in all cases of metonymy. In some cases, the shift of prominence of domains in the matrix is quite subtle, and sensitive to the semantics of the associated words. For example, consider the following examples of synecdoche, a phenomenon usually subsumed under metonymy (Ullmann 1957: 232; Lakoff & Johnson 1980: 36; examples from Lakoff & Johnson 1980: 36–37):

(25) We need a couple of strong bodies for our team.
(26) There are a lot of good heads in the university.
(27) We need some new faces around here.

Since a part has the whole as its base domain, it appears that no domain selection is involved in these examples. But in fact in an encyclopedic characterisation of *body*, *head*, and *face* the domain matrix of each part is different, since each body part is associated with different human qualities and behaviours. The selection of *bodies* in (25) is sanctioned by the need to highlight the physical strength/ability domain underlying the domain of human beings; *heads* in (26) by the need to highlight the domain of human intelligence; while *faces* in (27) is a cross-linguistically widespread synecdoche for persons as a whole, the presence or absence thereof being what is the topic of (27) (cf. Lakoff & Johnson 1980: 36–37). The synecdoche is in fact highlighting precisely the domain that is relevant to the predication. Compare (25)–(27) to (28)–(30), in which the choice of parts-for-whole is different:

(28) ??We need a couple of strong faces for our team.
(29) ??There are a lot of good bodies in the university.
(30) ??We need some new heads around here.

While a sentence such as (29) is interpretable, it does not mean the same thing as (26). Another example of metonymy which involves a subtle shift in domain prominence is

(31) I filled up the car.

In (31), it is understood that it is the gas tank that is filled, not the main body of the car. This interpretation is possible only because the phrase [fill up VEHICLE], without the substance indicated, is conventionally interpreted as "fill up with fuel;" only by explicitly indicating the substance can it be interpreted as "the interior of the car," and only by explicitly indicating the gas tank can it be interpreted as "fill the gas tank" with some substance other than fuel:

(32) I filled up the car with gasoline and set it on fire. [gas tank or interior of car]
(33) I filled up the car with sand. [interior of car only]
(34) I filled up the gas tank with sand.

The two meanings of *fill up* are profiled in two different domains: the more general meaning in the domain matrix of substances and containers (shape), and the more specific meaning in the more abstract domain of fuelling, which is based on the substances/containers domain as well as a domain of fuel-requiring mechanical objects. The interpretation of *car* as "gas tank of car" involves the highlighting of the domain of fuelling in the domain matrix of [CAR] as well as a shift to the relevant part of the car; in fact, it is the highlighting of that domain by the predicate *fill up* that sanctions the shift of reference (at least when the conventional expression was first coined).

The analysis of metonymy in an encyclopedic theory of meaning, whether or not a secondary domain is highlighted in the process, casts a different light on a problem in semantic representation raised by Nunberg (1979). Nunberg presents an analysis of metonymy arguing from a non-encyclopedic view of semantics. Nunberg argues that there should be one "basic" denotation of a polysemous term, e.g. for *Proust*, *Time magazine*, and *window*. Metonymic uses are to be derived by a set of pragmatic functions that shift the meaning to the appropriate referent. Nunberg argues that the basic meaning is ultimately undecidable because any word (or at least, any noun) can be used to refer to the type of entity, a token of the type, and also the

name for the entity, and a token of the name (the latter two are expressed orthographically with quotation marks, but are not phonologically distinct):

(35) A cat is a mammal.
(36) His cat is called Metathesis.
(37) "Cat" has three letters.
(38) "Cat" here has a VOT of 40 ms. [referring to a spectrograph of an occurrence of the word]

In the encyclopedic approach, there is no "basic" meaning; all metonymic meanings are present in the encyclopedic semantic representation. This is also true for the meanings which Nunberg finds ultimately undecidable. Any symbolised concept will have as part of its encyclopedic definition the phonological entity that symbolises it, and instantiations of the concept (more precisely, concepts of instantiations of the concept type).

This last question leads us to another problem of metonymy: where to locate it in the interaction of words and phrases in semantic composition, or, to put it more generally, conceptual combination. The standard view is that metonymy represents an ambiguity (or pragmatic extension) of the noun, so that in (17)–(31) and (35)–(38), it is a question of the meaning of the noun phrase being shifted from its "basic" or "normal" meaning. Langacker (1984, 1987: 7.3.4) argues for the opposite point of view: the ambiguity is in the predicate (in traditional terms), not the noun phrase (argument). Consider the following examples:

(39) We all heard the [trumpet]. (Langacker 1987: 271, ex. 24a)
(40) This is a striped [apple].

The traditional analysis is that the bracketed nouns symbolise "sound of the trumpet" and "surface of the apple" respectively, and *trumpet* and *apple* are ambiguous. Langacker argues that we should treat the noun phrases as really symbolising the entities they appear to be symbolising, namely the trumpet and the apple, and that the reference

to the sound/surface is a characteristic of the predicate, so that *hear* can profile "hear the sound of [noisemaking object]" and *striped* can profile "striped surface of [three-dimensional opaque object]." Langacker takes this position for (39) and (40) in order to avoid any syntactic derivational or transformational relation that would "delete" the *sound of [the trumpet]* and *surface of [the apple]*. Although Langacker does not discuss metonymy by name, (39) and (40) are closely related to prototypical instances of metonymy, and an active zone analysis for metonymy is in the spirit of the cognitive grammar view that there is a direct symbolic relation between word and meaning.

Langacker's argument in favour of this position notes the idiosyncrasy and conventionality of the ability of particular predicates to allow "metonymic" noun phrase arguments. For example, *hear* can also take an NP that symbolises the sound itself:

(41) We all heard the sound of the trumpet.

Langacker describes the "metonymised" referent as the active zone of the entity symbolised by the argument NP. Thus, the sound produced by the trumpet, and the surface of the apple, are the active zones of the profiled entity, but do not match the profile of the entity itself.

While Langacker's alternative analysis seems reasonable for a number of examples such as those with perception verbs, there are other examples in which the traditional analysis seems more appropriate, and this suggests that a different approach to the question should be taken. For example, predicates describing the actions of national governments virtually always allow the country itself to be the agent of the action:

(42) Germany pushed for greater quality control in beer production.
(43) The United States banned tuna from countries using driftnets.
(44) Myanmar executed twenty Muslim activists.

Also, many of the same predicates allow the seat of government or the head of state to function as the agent; although some significant

semantic differences are found so that interchangeability is not possible in all contexts, it is possible to use all three when it is actually the government (rather than the head of state alone) that makes the decision:

(45) France/Paris/Mitterrand will hold a referendum on the Maastricht treaty.

It would seem odd to consider every action verb attributable to an act of government to be ambiguous between "act of [a government]," "act of the government located in and ruling [a country]," "act of the government seated in [a capital city]," and "act of the government led by [a head of state]"[8].

In other cases, the metonymic extension is an idiosyncrasy of the noun, not of the predicate:

(46) I ate roast chicken for dinner.
(47) *I ate roast cow for dinner.

One cannot argue that there is an ambiguity in *eat* so that it can mean "eat the flesh of [an animal]," since (47) is unacceptable.[9] The word *chicken* must clearly be taken to stand for "the meat thereof." Nevertheless, there is a clear metonymic relation between chicken flesh and chicken "on the hoof" (to borrow a collocation from Nunberg), which is productive with less commonly eaten animals:

8. The last interpretation, with the head of state, often is ambiguous, but that is because the predicates describing acts of governments can also describe acts of individuals, so that *Bush lobbied against the biodiversity treaty* can mean the US government, but can also mean (and is more likely to mean) Bush the individual.
9. The unacceptability is due to the historical idiosyncrasy that English speakers appropriated Norman French words to symbolise "the meat thereof" for cows, pig and sheep *(beef, pork, mutton)*. However, this does not make the synchronic situation any less idiosyncratic.

(48) I ate grilled rattlesnake for dinner.
(49) I ate roast tapir for dinner.
(50) I ate pan-fried armadillo for dinner.

If it were not for the existence of examples such as (47), one might have argued that the metonymy resides in the predicate rather than in the noun.

To some extent, the issue of whether the metonymy can be localised in the predicate or in the noun is a red herring: the metonymy occurs by virtue of the collocation of the predicate and the noun, that is, the semantic composition of the two. The encyclopedic view of meaning supports this approach. One of Langacker's motivations for his analysis is to treat the surface object of *hear*, *the trumpet*, as the "real" object of the verb, without some syntactic transformation that claims that the underlying object of *hear* is the noun phrase "the sound of the trumpet."[10] But in the encyclopedic view of the meaning of *trumpet*, the sound it produces is a quite salient (albeit somewhat extrinsic) aspect of the profiled concept. Conversely, part of the encyclopedic characterisation of *hear* is that objects produce sounds that people hear. Thus, one can have one's semantic cake and eat it too: (part of) the profile of *trumpet* is the object of *hear,* and (part of) the profile of what is heard is the object producing the sound.[11] The same is true of the act-of-government examples: a salient part of the profile of a country, a capital city, and a head of state in the encyclopedic definition of those concepts is the government that rules the country, is seated in the capital city, and is headed by the head of

10. This is quite clear in Langacker (1984), in which he uses the same analysis to argue against a "Tough-movement" analysis as in *Hondas are easy to fix*. In the Tough-movement examples, easiness is being attributed to some inherent property of the surface subject, e.g. the make of automobile, and that property is described as "easy to fix."

11. This is true of any sound produced by any sound-producing object, not just the intended sound of objects like trumpets whose purpose is to produce sound. The collocation of a noun symbolising an object with *hear* will result in the highlighting of any salient sound associated with the object: *I hear the boats on the canal* can refer to any sound produced by the boats – the horn, their splashing, gliding through the water, the people talking on them, etc.

state, respectively. Of course, as I describe in more detail in the following section, it is the semantics of the predicate that highlights the relevant aspect of the encyclopedic profile of the concept symbolised by the noun; the metonymic interpretation arises only in the combination of noun and predicate.

4. Differences between domain mapping and domain highlighting

In the preceding section, Lakoff and Johnson's analysis of metaphor as domain mapping was adopted and it was argued that the source and target domains are the base domains of the "literal" and "figurative" concepts symbolised by the word. It was also argued that an essential part of metonymy is the highlighting of an aspect of a concept's profile in a domain somewhere in the entire domain matrix or domain structure underlying the profiled concept. Those analyses imply that a central aspect of figurative language is the manipulation of experiential domains in understanding and communication. In the case of metonymy, the manipulation of domains plays a significant role, but metonymy cannot be reduced to domain highlighting, and domain highlighting is found in other types of lexical ambiguity for which the term "metonymy" may not be appropriate. I will henceforth use the terms "domain mapping" and "domain highlighting" to describe the semantic phenomena that are under examination in this paper. I will now explore under what circumstances one would expect to find domain mapping and domain highlighting in linguistic expressions.

Consider the following examples from chapter 6 of Lakoff & Johnson (1980), on one type of metaphor, and the subsequent examples from chapter 8, on metonymy; the figure of speech is italicised as in the original:

(51) He's *in* love.
(52) We're *out of* trouble now.
(53) He's *coming out* of the coma.

(54) I'm *slowly getting into* shape.
(55) He *entered* a state of euphoria.
(56) He *fell into* a depression.

(Lakoff & Johnson 1980: 32)

(57) He likes to read the *Marquis de Sade.*
(58) He's in *dance.*
(59) *Acrylic* has taken over the art world.
(60) The *Times* hasn't arrived at the press conference yet.
(61) Mrs. Grundy frowns on *blue jeans.*
(62) *New windshield wipers* will satisfy him.

(Lakoff & Johnson 1980: 45)

A glance at these examples and many others suggests that metaphor is associated with predicates (not just verbs, but also prepositions and adjectives), and metonymy with nouns (hence the focus of Nunberg's paper on nominal metonymy). However, this initial hypothesis is simply incorrect. Examples (63)–(66) below involve domain mapping with nouns, and examples (67)–(70) involve domain highlighting with verbs:

(63) mouth of a person, an animal, a bottle, a cave, a river
(Cruse 1986: 72)
(64) handle of a door, suitcase, umbrella, sword, spoon
(Cruse 1986: 74)
(65) tree, phrase structure tree, family tree, clothes tree
(66) cup [for drinking), acorn cup, resin cup, cup [for capstan], cup [golf hole], bra cup (Dirven 1985)
(67) She swore foully.
(68) She swore loudly.
(69) The vase fell quickly.
(70) The vase fell far.

In examples (63)–(66), the different uses of *mouth*, *handle*, *tree* and *cup* are undoubtedly profiled in different domains, as the explicit or implicit nominal or genitive modifiers suggest. There is a resem-

blance in shape and function in all of the examples, resemblances which appear to be of the image-schematic kind characteristic of metaphors. These are generally agreed to be nominal metaphors, or at least a figurative phenomenon closely akin to metaphor which involves domain mapping in essentially the same way.

In examples (67)–(70), a verb which has more than one primary domain associated with it has one or the other domain highlighted by virtue of the adverb associated with it. In (67), the content of the imprecation is highlighted, while in (68) it is the sound volume that is highlighted. In (69), the time and change domains in the matrix underlying motion are highlighted, while in (70) it is the location/distance domain.

Although domain mapping and domain highlighting can occur with a word of any lexical category, there is a generalisation underlying the distribution of these two cognitive semantic phenomena. In (63)–(66), domain mapping is induced by the nominal/genitive dependents on the noun that is figuratively interpreted. In (67)–(70), domain highlighting is induced by the adverbial modifier to the verbal predicate. In order to formulate the distribution of domain mapping and domain highlighting, we must examine the cognitive grammar description of syntactic/semantic composition.

One of the criteria for the centrality of knowledge to a particular concept is its intrinsicness: the extent to which it refers to (or rather, does not refer to) entities external to that concept. Some concepts, however, inherently involve extrinsic entities; these are called *relational concepts.* The external entities that relational concepts "include" correspond roughly to the arguments of a predicate in formal semantics; examples include [EAT], which inherently makes reference to an eater, an item eaten, and to a lesser extent to the implement used by the eater in eating.[12] A relational concept contains only a schematic representation of the extrinsic entities associated with it, in our example the eater, the thing eaten, etc. *Things* (a technical term in

12. In this respect the notion of a relational concept is richer than that of a predicate: less centrally involved extrinsic entities are part of the concept. In fact, one can add manner and other more peripherally involved entities to the entities inherently involved in the act of eating.

cognitive grammar) are nonrelational concepts, however (Langacker 1987: 6.1.1). Relational concepts are divided into *atemporal relations* and *processes,* which correspond roughly to those relational concepts that are construed as static (i.e., construed atemporally) and those that are construed as unfolding over time (for the purposes of this paper it is not necessary to describe this distinction in detail). Things are the semantic structures symbolised by nouns, while relations are symbolised by verbs, adjectives, adverbs, and prepositions.

Syntactic/semantic composition, that is, symbolic composition in cognitive grammar, involves two aspects: what the semantic type of the resulting complex expression is, and how the component expressions are fitted together. The phrase *the fat book* and the sentence *The book is fat* symbolise two different semantic sorts: the phrase symbolises a thing, while the sentence symbolises a "state of affairs" (in cognitive grammar terms, an *imperfective process*). The two constructions differ (among other things) in their profile determinant, that is, the component element that determines the semantic type of the whole. In the phrase, *book* is the profile determinant, since it is also a thing (we are ignoring the semantic contribution of *the*). In the sentence, *book* is not the profile determinant; if we ignore the contribution of *be*, one could say that *(being) fat* is the profile determinant.[13] As can be seen by the different status of *book* and *fat* in the phrase and in the sentence, profile determinacy is a function of the construction into which words enter.

This leaves the matter of how words are combined semantically. Relationality may appear to underlie semantic composition in cognitive grammar, but this is not precisely correct. In the canonical case of a main verb and the subject and object dependent on it, as in *Mara sings*, this appears to be the case: the subject is nonrelational, and the predicate is relational; the subject referent "fills the slot" for the singer in the relational semantic structure for *sing*. But what about *Mara sings beautifully*? Here *beautiful(ly)* is a relational structure

13. Cognitive grammar accommodates the fact that some expressions may have no profile determinant, or even more than one profile determinant (Langacker 1987: 291–292).

with a "slot" for a process, and *sings* "fills that slot." The fact that *sings* is inherently relational is irrelevant to the combination of *sings* and *beautifully*. Thus, in one and the same sentence, *sings* is both an entity with "slots" to be filled, and a "filler" for another entity's "slot."

In one of Langacker's most insightful analyses of the relation between syntax and semantics, he argues that it is not relationality that governs symbolic combinations, but an independent phenomenon which he calls autonomy and dependence. In most grammatical combinations, one predication can be identified as the autonomous one and the other as the dependent one using the following definition: "One structure, D, is dependent on the other, A, to the extent that A constitutes an elaboration of a salient substructure within D" (Langacker 1987: 300). Let us examine our example *Mara sings beautifully* with respect to this definition. *Mara* (that is, the semantic structure symbolised by *Mara*) does indeed elaborate a salient substructure of *sings*, namely the schematic singer in its semantic representation that makes it a relational predication (concept). Having compared *Mara* to *sings*, we must reverse this process and compare *sings* to *Mara:* does *sings* elaborate a salient substructure of *Mara*? The answer is "no," but it is not a categorical answer; after all, the semantic representation of *Mara* is encyclopedic, and part of the encyclopedic knowledge about Mara is that the speaker knows that Mara sings. But this is a very nonsalient substructure of *Mara.* Hence, we can say that *sings* is dependent and *Mara* is autonomous, relative to each other.

Now let us compare *sings* and *beautifully. Sings* elaborates a salient substructure of *beautifully*, namely the schematic process that makes it a relational predication. But *beautifully* does not elaborate a salient substructure of *sings,* even though *sings is* relational. At best, *sings* has a not very salient substructure representing the manner in which the process is executed, and *beautifully* elaborates that; but that substructure is not nearly as salient in the semantic representation for *beautifully* as the substructure of *beautifully* that is elaborated by *sings*. So on balance *beautifully is* the dependent predication and *sings is* autonomous. Note that, by this analysis, *sings* is dependent

relative to *Mara,* but autonomous relative to *beautifully.* Autonomy and dependence are relative notions, and that is exactly what is needed to describe this aspect of semantic composition.

We may now characterise the conditions under which domain mapping and domain highlighting occurs: domain mapping occurs with dependent predications, and domain highlighting occurs with autonomous predications. As the preceding discussion of *sings beautifully* demonstrates, "dependent" does not necessarily correspond with "relational" (verbs, adjectives, etc.), and "autonomous" does not necessarily correspond with "nonrelational" (nouns). Thus, there is no connection between metaphor/domain mapping and relational predications, or between metonymy (more precisely, domain highlighting) and nonrelational predications. This will account for the cases in (63)–(70). But let us begin with the "typical" cases, (51)–(62).

In (51)–(56), the metaphorical expressions are dependent on the subject and object (more precisely, the object of the preposition in all but [55]); hence they are the ones subject to domain mapping. But in particular it is the autonomous expressions on which they are dependent that induce the domain mapping: *love, trouble, the coma, shape, euphoria* and *depression* are all profiled as states (physical or emotional) of a human being, and those expressions require the metaphorical interpretation of the container-based directional prepositions and verbs.

In contrast, in (57)–(62), the expressions that manifest domain highlighting are all autonomous relative to the main verbs which are dependent on them. And, conversely, the domain highlighting is induced by the dependent expressions in relation to which the italicised expressions are autonomous. For example, in (57) *read* requires that the object be understood as a text; in (60) *arrive* requires that the subject be interpreted as a person (or at least as an animal, but no animal is salient in the domain matrix of *Times*)[14]; and in (62), *satisfy*

14. There is another interpretation of *arrive*, as *in The Times arrived at my doorstep*, in which case the physical-object interpretation is possible. In fact, both interpretations are possible in both contexts (see examples [80]–[81] below), but the adjuncts favour one reading over the other.

requires that the subject be some completed event.[15] These examples all illustrate the principle to be discussed in section 5: that in the grammatical combination of an autonomous and a dependent predication, the dependent predication can induce domain highlighting in the autonomous one, and the autonomous predication can induce domain mapping in the dependent one. Now let us turn to the other cases.

Examples (67)–(70) are straightforward: it is clear that the verb is autonomous relative to the adverb, and it is the adverb that induces the domain highlighting. Again, it is important to note that the word in question be autonomous relative to the word that is inducing the domain highlighting.

Examples (63)–(66) are more difficult, because an argument must be made that the nouns *mouth*, *handle*, *tree*, and *cup* are dependent on their nominal/genitive modifiers, and can be so construed even when no such modifiers are present. This latter question will be discussed in section 5. *Mouth* and *handle* are what are called "relational nouns," since they represent parts of wholes; it is those wholes which make up the genitive modifiers. Langacker (1987: 185) argues that relational nouns such as part nouns do not profile the thing (in this case, the whole) that they are related to (what he calls a *landmark*); otherwise they would no longer be nouns/things. Instead, the landmark is a very salient substructure in the base. Of course, the structures in the base are part of the semantic structure of the concept (see section 2 above). On the other hand, the part elaborated by the head noun is not as salient a substructure of the whole symbolised by the genitive as the whole is for the part. Thus, in the expression *the mouth of the river* (or *the river's mouth*, or *the river mouth*), *mouth* is on balance more dependent on *river*, and *river* is more autonomous relative to *mouth*. And it is *river* that induces the domain mapping for *mouth*.

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15. The other examples involve not just domain highlighting of the autonomous predications but also domain mapping (metaphor) in the dependent predications; this will be discussed in section 5.

The same argument can be applied to *handle* and other relational nouns; can it also be applied to *tree, cup,* and other nonrelational nouns that have metaphorical interpretations? In the cases illustrated, the answer is "yes." In some of the examples, e.g. *bra cup*, the word is functioning as a relational noun (part/whole). In the examples *phase-structure tree* and *family tree*, the modifying nouns essentially name the base domain of the head noun's profile. As such, they are in a relation very much like a part–whole relation: the base domain taken as a whole is a quite salient substructure of the profiled concept, while the profiled concept is not a very salient substructure of the base domain (on average, no more so than any other concept in the domain). In *clothes tree*, *clothes* elaborates a much more salient substructure of *tree* – the tree is made expressly for the purpose of hanging clothes – than *tree* does in *clothes.* An example like *acorn cup* is a closer call: the cup is "for" the acorn and so *acorn* elaborates a salient substructure for *cup*; but the acorn is often conceived of sans cup, and so *cup* elaborates a less salient substructure of *acorn.* While there appears to be no general principle by means of which we can say that the metaphorically interpreted noun is the dependent member, partly because the semantics of noun–noun compounding seems to be so open-ended (Downing 1977), it seems to be a not unreasonably hypothesis given the examples just discussed, and should be investigated further.

5. The unity of domain revisited

In the last section, I argued that domain mapping can occur to a dependent predication when the autonomous predication it is dependent on induces it; and domain highlighting can occur to an autonomous predication when the predication dependent on it induces it. The reason for this is that the grammatical combination of a dependent predication and the autonomous predication(s) it is dependent on must be interpreted in a single domain (or domain matrix). Consider again a simple example of metaphor and metonymy:

(71) She's in a good mood. [=(3)]
(72) Proust is tough to read. [=(18)]

In (71), the relational predication *(be) in* is interpreted metaphorically in the target domain of emotion. This renders the sentence semantically coherent because the subject of *be* and the complement of *in* are in the domain of emotion. In (72), Proust is interpreted metonymically because the complex predicate *be tough to read* requires an entity in the domain of semantic content and the metonymic interpretation provides just such an entity in that domain. In both of these cases, and in all such cases in general, there is an attempt to "match" the domain of the dependent predication and of the autonomous predications that elaborate it. Sentences such as (71) and (72) that do not match domains in the "literal" interpretations of the elements are not rejected as semantically incoherent. Instead, the listener attempts to interpret one or more elements figuratively, using metaphor or metonymy (or other cognitive processes that we have not discussed here). In other words, there is a background assumption on the part of the listener that sentences are semantically coherent. These background assumptions I call the "conceptual unities." The conceptual unity discussed in this paper is the unity of domain.

This account leaves two questions as yet unanswered: the scope of the semantic unit that requires conceptual unity, and the source of the required conceptual unity. We now take up these questions in turn.

It should be clear from our description of conceptual adjustments of domains that the scope of the unity of domain is the dependent predication and the autonomous predications it is dependent on, but no more. That means that if a word enters into grammatical relations with more than one other word – for example, *sings* compared to *Mara* and *sings* compared to *beautifully* – it is possible that it will be interpreted in different domains for each of the grammatical relations it contracts.

The first example of this is illustrated by another problem that Nunberg (1979) found with his analysis of a basic and derived meanings for nouns that allow metonymy. In some examples, the

basic and a derived meaning must be simultaneously attributed to a single occurrence of the word:

(73) Cædmon, who was the first Anglo-Saxon poet, fills only a couple of pages in this book of poetry. (Nunberg 1979: 167, ex. 29)

The single occurrence of the word *Cædmon* is used to refer both to the person and to his works. This problem disappears in the encyclopedic view of metonymy. Both domains are present in the domain matrix of the complex. For the word *Cædmon* more than one part of its domain matrix can be highlighted simultaneously. However, the triggers are found in different grammatical relations: *Cædmon* with respect to the nonrestrictive relative clause *who was the first Anglo-Saxon poet,* and with respect to the main clause *fills only a couple of pages in this book of poetry. Cædmon* is the autonomous predication in both cases, but relative to different dependent predications.[16]

The same is true of the following example, in which the main predicate highlights the physical object domain of the object NP, but its PP modifier highlights the semantic content domain:

(74) I cut out this article on the environment.

Example (20), repeated below as (75), provides an example of the same phenomenon involving anaphora, with *Sunset magazine* refer-

16. If one reverses the two clauses, the sentence is less acceptable (thanks again to René Dirven for pointing this out to me):

?Cædmon, who fills only a couple of pages in this anthology, was the first Anglo-Saxon poet.

This is due to the fact that although both metonymic interpretations can be accessed from a single occurrence, one meaning is more established than the other (Cruse 1986: 68–71). Nevertheless, an analysis of metonymy must still account for the fact that it is possible for the same linguistic expression to simultaneously highlight two aspects of the concept symbolised by that expression.

ring to the company and anaphoric *it* referring to the magazine's content:

(75) Time took over Sunset magazine, and it's gone downhill ever since. [= (20)]

In fact, different modifiers (adjuncts) in a single phrase can highlight different domains of the head:

(76) a thin, dog-eared monograph on hallucinogenic mushrooms of the Pacific Northwest

In (76), the two adjectival modifiers highlight the physical object domain of *monograph* and the prepositional phrase postmodifier highlights the semantic content domain. Here also, the predication *monograph* enters into two different grammatical relations with two different predications which are dependent on it.

If a predication is dependent on more than one autonomous predication, then the whole combination must obey the conceptual unity of domain:

(77) I won't buy that idea.

Not only must *buy* be mapped onto the domain of mental activity, but the subject *I* also has the domain of the mind highlighted (the person as a being with mental capacities, not a physical object, for instance). *Idea,* of course, has mental activity as its (primary) base domain.

We now turn to the second question, whether or not one can predict what the domain of the combination of dependent predication and the autonomous predication(s) it is dependent on will be. It turns out that this is not decidable, because, not surprisingly, unexpressed contextual knowledge can enter into the semantic determination of the domain in which an utterance is interpreted.

Either the autonomous or dependent predication in a grammatical unit can have its domain adjusted, via domain mapping or domain highlighting. In the simplest cases, such as (71) and (72), either the

autonomous or the dependent predication is interpreted "literally" – that is, as the most intrinsic entity profiled in the concept's primary domain(s) – and the other element of the sentence has its domain adjusted. As (71) and (72) demonstrate, there is no a priori directionality, requiring either the autonomous or the dependent predication to be interpreted literally. In fact, both may be interpreted figuratively, as in (1), repeated here as (78), or (79):

(78) Denmark shot down the Maastricht treaty. [= (1)]
(79) Sales rose to $5m last year.

In (78), the domain of political force is highlighted in the subject NP, and there is a domain mapping in the main verb from weaponry to political action. In (79), the value (price) domain rather than the object, service, etc. domain is highlighted in the subject NP, while there is a domain mapping in the verb from vertical motion to increase in quantity, specifically monetary quantity.

One could identify the object NPs *Maastricht treaty* and *$5m* in (78) and (79) as the source of the figurative interpretations of the subject and the verb, since they "literally" refer to the political activity and monetary value domains, respectively. However, it is not always possible to attribute the figurative interpretations of the parts of a construction to some "literally" interpreted element in the clause. In some examples, only contextual properties can provide the "source" of the figurative interpretations. Consider again the following example:

(80) This book is heavy. [= (21)]

The profile of the concept symbolised by the word *book* inhabits two domains, physical objects and meaning (semantic content). However, the predicate *heavy* can be interpreted "literally" in the physical object domain, or it can be shifted metaphorically to the meaning domain. Thus, there are interpretations of both subject and predicate in both the physical object and meaning domains, and in fact this sen-

tence is ambiguous out of context for precisely that reason. Another example of this is the following sentence:

(81) The newspaper went under.

One interpretation of this sentence has both subject and predicate interpreted figuratively. Metonymy and metaphor interact to produce the interpretation. "The company producing the newspaper went bankrupt." However, there is also another interpretation, "The physical paper went under the surface of the water;" cf. *The boat went under*. Since one of the domains in the matrix of [NEWSPAPER] is that of physical objects, which undergo motion, which is the "literal" domain of [GO UNDER], this other interpretation is possible as well.

These examples demonstrate that the correct literal or figurative interpretations of the elements of sentences is not decidable from the elements of the sentence by themselves. The domain in which a predication is interpreted can be determined by context. This is possible because the autonomy–dependence relation is a relationship between semantic structures, which need not be overtly expressed in an utterance. A semantic structure symbolised by a word in a sentence can contract an autonomy–dependence relation with a semantic structure left unexpressed in the context. This is why the nominal metaphors in (63)–(66) can be interpreted metaphorically without the nominal modifiers upon which they are dependent being present in the utterance. For example, *cup* [for drinking, for a golf hole, for a capstan) is interpreted in whatever domain is prominent in the context of the speech event. In fact, an interpretation in any domain is possible, short of semantic incompatibility (and conventional limitations on the figurative interpretations of particular words and phrases). This is not surprising, considering that this is generally the case in semantic interpretation.

6. Conclusion

In this paper, I have argued that particular grammatical constructions, those that combine a dependent grammatical element with the autonomous elements it is dependent on, must be interpreted in a single domain (the unity of domain). This is a necessary part of the interpretation of such constructions, which include almost all of the common grammatical constructions, for example predicate–argument, head–modifier, noun–genitive, verb–adverb. In order to achieve the semantic coherence specified by the unity of domain, there must often occur an adjustment of the domains of the individual words in the construction. Domain adjustment is also a major factor, if not the major factor, in a significant portion of what are usually called "metaphors" and "metonymies." In order to focus on this aspect of the interpretation of words, I have more precisely characterised the conceptual semantic phenomena that I have described as "domain mapping" and "domain highlighting" respectively. In the case of metonymy, it is particularly appropriate to choose a different term to describe the domain adjustment involved.

The conceptual unity of domain is one of at least three conceptual unities. The second is the unity of mental space, including "physical" space and time. A mental space is a conceptual construct that is used to describe the ontological status of entities and situations – e.g. a belief, a desire, a counterfactual hypothesis, or even reality at a particular location in time or space (Fauconnier 1985). Fauconnier (1985) describes in detail the types of conceptual mappings that are required in interpreting sentences in which predicates and arguments originate in different mental spaces, namely the variety of counterpart relations. Consider for example, example (82), which builds a belief mental space M for Margaret's belief:

(82) Margaret believes that her sister bought a car.

In (82), assume that Margaret has a sister in "reality" (R; that is, mutually believed space). The complement of *believes* must be interpreted in Mary's belief space M, so the phrase *her sister* must desig-

nate individuals in M, which the listener normally takes to be the counterparts of Margaret and her sister in M. Likewise, *a car* must be interpreted as designating an individual in M, whether or not there is a counterpart in R. The crucial point for us here is that all of the entities in the complement are interpreted in M, and if the "normal" interpretation of a linguistic expression is to an entity in a mental space other than M, e.g. Margaret in (82), it must be interpreted as referring to a counterpart in M to be coherent.

The third is the unity of selection (cf. the minor propositional act of selection in Croft [1990]), in which predicate and argument must match in individuation, quantification or number (Talmy's [1985] "plexity") and genericness (generic vs. specific, or type vs. token). These construals have been called granularity coercions (Hobbs 1985; Croft in prep.). The necessity of the unity of selection is illustrated in the following examples:

(83) She is resembling her mother more and more every year. [stative predicate construed as an inchoative process]
(84) "Fresh walnut meats" [substance construed as a set of individuated objects]
(85) Cats have whiskers. [bare plural construed as reference to a kind with generic predicate]
(86) Cats were lounging on the patio. [bare plural construed as reference to a set of cats with specific predicate]

The latter unity has been the topic of a considerable amount of work in formal semantics, but no satisfactory unified account has been presented as yet (though see Croft in prep.).

There is some reason to believe that these three conceptual unities are the most important ones in imposing semantic coherence on an utterance. Langacker (1991: 33) argues that both nominal and verbal structure involves three levels of organisation: the level of a concept type, manifested in a bare noun or bare verb stem; the level of a grounded instance of the type, manifested in a full nominal with determiner and a full finite clause; and an intermediate level of an instance of the type, corresponding to the grammatical unit at which

quantification occurs. The conceptual unity of domain is at the level of the type: a concept type is defined against its base domain. The unity of mental space is at the level of a grounded instance of a type: grounding involves situating the instance with respect to speaker/hearer knowledge (Langacker 1987: 126–127), which is modeled by mental spaces (1991: 97). Finally, the unity of selection is at the level of the instance, since it is at that level that individuation and quantification occur. The conceptual unities represent the requirement that dependent verbal predications must be semantically coherent with respect to the autonomous nominal predications that they are dependent on.[17]

In comprehending an utterance, the listener assumes the unities of domain, mental space, and selection, and attempts to interpret the sentence as conforming to those unities, employing metaphor, metonymy, granularity, counterpart relations, and other *focal adjustments* (Langacker 1987: 33) where necessary. The listener is under a strong Gricean convention that the speaker is being semantically coherent, particularly at the lower levels of semantic composition, such as predicate–argument and head–modifier constructions. For that reason, the listener will generally try as much as possible to adjust the meanings of the parts to yield a coherent interpretation of the whole. The conceptual unities of domain, mental space, and selection are a significant part of what it means for an utterance to be coherent. This adjustment is how the interpretation of the parts is influenced by the meaning of the whole, as described in the introduction. If such focal adjustments do not yield sensible interpretations, or are conventionally prohibited due to the constructions and inflections involved, the listener may assume the sentence is incoherent. A better understanding of the specific types of coherence (the unities) will cast much more light on the "irregularities" of the process of semantic composition. Nevertheless, the process can never be made fully algorithmic. As we observed for the unity of domain, elements of an

17. The notion of conceptual unity is very similar to the notion of "isotopie" (Greimas 1966; Rastier 1987). However, I am using "conceptual unity" to refer only to the three levels of organisation of a clause or phrase, whereas "isotopie" is used for a much wider range of phenomena of semantic coherence.

utterance interact with context, that is, conceptual structures already activated to various levels at the time of the speech event. This will be true for the other unities as well. But this fact is not surprising, and in fact should be of some comfort for those of us who believe that the expressiveness and flexibility of language is essentially open-ended.

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Clarifying and applying the notions of metaphor and metonymy within cognitive linguistics: An update*

Antonio Barcelona

Abstract

The present paper has both a theoretical and a pedagogical outlook. The cognitive theories of metaphor and metonymy (CTMM), in the author's view, present some minor deficiencies which have to be overcome if they are to be easily applicable in linguistic and literary research. Moreover the researcher attempting to apply these theories must be given some clear guidelines helping him to decide as confidently

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as possible whether a given portion of a text is the expression of a conventional metaphor, of a conventional metonymy, or of both, and he must also be able to identify the kind of metaphor or metonymy that is at work, and the kind of interaction between them.

The article is, in its first part, a contribution to the clarification of some of the theoretical problems. The second part is a case study, through which a methodology is suggested for the application of the CTMM.

Keywords: activation, active zone, active zone metonymy, chained metonymies, conceptual domain, interaction theories, Invariance Hypothesis, mapping, methodology, metonymic chain, metonymicity, submapping, subdomain, submetonymy, two-domain model, unidirectionality.

1. Introduction

The article is devoted to pointing out and attempting to solve some of the *definitional* and *descriptive* problems that in my view affect the notions of metaphor and metonymy within the cognitive tradition.[1] It has been written with the ultimate goal of making these notions more readily applicable by students and researchers in linguistics and literature, especially when their research has to cope with sets of "authentic" (i.e. not constructed) examples. The first part of this paper deals with some definitional problems, among them, the differences between metaphor and metonymy. The second part deals with some of the descriptive problems by suggesting a procedure that could be used to guide the analyst's hypothesis as to the existence and the occurrence of a particular metaphor or a particular metonymy in a given textual example.

My own experience, both as a researcher and as a teacher, with the application of these theories has persuaded me of the need to write a

1. By cognitive tradition I mean the approach to linguistic research initiated by George Lakoff (1987), Charles Fillmore (1982) or Ronald Langacker (1987, 1991). This approach considers that linguistic theory and description have to be consistent with what is known about cognition and the brain. This position is expressed forcefully in Lakoff (1990).

double-purpose article like this. Over the past fifteen years I have applied the cognitive theories of metaphor and metonymy to sets of authentic examples in a number of articles aimed at describing the semantics of emotional concepts in English and or in Spanish (e.g. in Barcelona 1986, 1992). I have also applied these theories to the semantic study of a literary work (Barcelona 1995), and to theological concepts (Barcelona 1999). In all of these attempts the theories in their present form have worked quite well in most cases, i.e. with most examples. But in quite a few other cases they were not so easy to apply, simply because it was not at all easy to decide whether the example in question was metaphorical, metonymic, or both. This was a clear indication that the definitions required some refinement to make them more operative. Even when one could confidently identify the metaphor or the metonymy at work, it was even more difficult (and still is, as we shall see below) to decide the superordinate class(es) of metaphors or metonymies it was to be assigned to. So besides a definitional problem, we often also have a classificatory problem, which is in fact inextricably bound up with the definitional one. Unfortunately, we will still have to wait some time until much more research has been done into the kinds and hierarchies of metaphors and metonymies in English and other languages before being able to provide some plausible answers to the classificatory problem. Thus I will only be able to address some of the definitional and the descriptive problems.

Cognition and language are strewn with prototype effects, and it is not surprising that the very analytical categories used by linguists – sentence, clause, metaphorical mapping, etc.– often display prototype effects themselves (for example, there are prototypical transitive clauses, like *John broke the window*, and less prototypical transitive clauses like *I have no money*). The same applies to such theoretical constructs as the cognitive theories of metaphor and metonymy. But a scientific theory of metaphor and metonymy should, in principle, attempt to create theoretical categories as predictive as possible, of the form: "a metaphor is a conceptual mechanism that has these characteristics: ... ". Such predictive categories have to be able to accommodate as many phenomena as possible. The first part of the

present paper is an attempt in this direction. However, after the successive refinements of the categories, there will still be cases where it will not be easy to decide which kind or kinds of mechanisms are at work. Those cases should lead us to refine the definitions still further, provided they are still consistent with the nature of the data, i.e. provided they do not lead to vacuous abstract generalisations. Of course, if no further refinements are feasible, then perhaps we should treat these stubbornly impregnable cases as deviations from prototypical metaphor or metonymy.

Beyond the definitional and the classificatory problems, I think that the analyst trying to apply these theories should follow a set of systematic procedures clearly laid out to check the correctness of his account of the occurrence and operation of a given metaphor and/or metonymy in a specific reading of an authentic example. Otherwise, as has also been my repeated experience whenever I have asked some of my students to identify in a text the metaphors for a certain domain (i.e. romantic love), the descriptive results may at best be very limited (e.g. when a student analysed *Our love has withered* as a realisation of the metaphor ROMANTIC LOVE IS A FLOWER, failing to generalise to plants, or better still to living beings, by connecting this example to others where love is regarded as a living being). The coinstantiation of one or several metaphors and metonymies by the same expression is fairly common, as will become apparent below in the case study. When the analyst encounters an expression which can be interpreted as activating either a metaphor, a metonymy, or both, a clear methodology for stating clearly the various possible readings and their interaction will be of great help. The second part of the paper is an attempt at devising such a methodology.

The reader is supposed to be at least superficially familiar with the basic outlook and terminology of cognitive linguistics. For three good introductions, see Taylor (1995), Ungerer & Schmid (1996), and Dirven & Verspoor, eds. (1998).

2. The standard cognitive linguistic notions of metaphor and metonymy

2.1. Metaphor and metonymy

Metaphor is the cognitive mechanism whereby one experiential domain (in the sense of Langacker 1987, Ch. 4) is partially mapped onto a different experiential domain, the second domain being partially understood in terms of the first one. The domain that is mapped is called the *source* or *donor domain*, and the domain onto which it is mapped, is called the *target* or *recipient* domain. Both domains have to belong to different superordinate domains. This is basically the cognitive concept of metaphor propounded by George Lakoff, Mark Johnson and Mark Turner (Johnson 1987, Lakoff & Johnson 1980, Lakoff 1987, 1990, 1993, Lakoff & Turner 1989, Turner 1987, 1991), as well as by Gibbs (1994), Sweetser (1991), and by other cognitive linguists that have been investigating the field for the past fifteen years.

In the well-known metaphor UNDERSTANDING IS SEEING, illustrated in examples (1) through (3) below, the domain of sight, itself a subdomain in the domain of bodily functions, is mapped, that is, superimposed, onto the domain of understanding, itself a subdomain in the domain of mental functions:

(1) I now *see* the point you were trying to make. I couldn't understand it at first.
(2) His theory has *thrown light* on this problem. Now it is easier to understand.
(3) The candidate's speech was not really *transparent* enough. There were many *dark points* in it. So we couldn't understand all of it.

This metaphorical mapping[2] transfers a large number of attributes, entities and propositions from the experiential domain of sight to the experiential domain of understanding. The following are some of the submappings or correspondences between the source and target domains illustrated by examples (1) through (3) (of course there are more correspondences in this conceptual metaphor which are not illustrated by these examples):

- The act of seeing corresponds to the act of understanding: (1).
- The person that sees is the person that understands: (1).
- An increase in light on an object corresponds to an increase in the likelihood for something to be understood: (2).
- Impediments to seeing correspond to impediments to understanding: (3).

Besides these *ontological correspondences* we can find *knowledge* (or *epistemic*) *correspondences*. For example, we know that when an object is not transparent (because its outer surface is covered with many dark i.e. opaque areas), we cannot see its inside; this corresponds to our knowledge that when an idea or a series of ideas is not clearly expressed, it is difficult to understand it (for instance, a messy speech may be difficult to understand – example (3)). We also know that we can see better when illumination is better, and that the agent of, or the cause for, the increase in light brings about an increase in visibility; this knowledge maps onto anything or anybody that brings about an increase in understandability, and onto the means used for it (the man in (2), who helps to clarify the problem thanks to his theory).

Epistemic correspondences, in my view, in fact normally entail further ontological correspondences. Once we map the schema of seeing onto the schema of understanding, all of our knowledge about seeing can potentially be incorporated into our knowledge of the

2. By "metaphorical mapping" we should simply understand a set of fixed conceptual correspondences, not a real-time algorithmic process by means of which we start out at the source domain semantic structure and then we end up at the target domain one (Lakoff 1993).

schema of understanding (provided the constraint imposed by the Invariance Hypothesis is respected; see below). Take the mapping of our knowledge that if an object is not transparent we cannot see its inside onto our knowledge that if an idea is not orderly expressed we cannot understand it: (3). This epistemic correspondence thus yields the fourth ontological correspondence presented above ("Impediments to seeing correspond..."). Incidentally, example (3) co-instantiates UNDERSTANDING = SEEING and the CONDUIT METAPHOR (Reddy 1979), which regards words as containers for meaning. As "containers" they can have varying degrees of "transparency" (i.e. understandability).[3]

The main constraint on metaphorical mappings seems to be the so-called Invariance Hypothesis[4a] (Brugman 1990, Lakoff & Turner 1989, Lakoff 1990, 1993, Turner 1990). That is, if both domains share, at least in parts, their image-schematic[4b] structure, then the mapping is possible. Bartsch's* notion of *stability* of categories is similar to that of invariance.

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3. For a criticism of the "domain view" see Riemer*, Dirven*, and Warren*.

4a. The Invariance Hypothesis is a constraint on existing metaphorical mappings (Lakoff 1993), to the effect that:

i) The mapping is consistent with the inherent structure of the source domain: sources are mapped onto sources, paths onto paths etc., not sources onto paths or paths onto sources. In SCALES OF MEASUREMENT ARE PATHS (Lakoff 1993) (*John is* way ahead of *Bill in intelligence.* '*John is* far *more intelligent than Bill*') we find that the beginning of the path is mapped onto the bottom of the scale, and distance travelled onto distance in general.

ii) The mapping cannot violate the image-schematic structure of the target domain. One example: in ACTIONS ARE TRANSFERS (*She* gave *me a kick*), the source domain contains the information in its image schema structure that the object given remains in the possession of the recipient. But the inherent structure of the target domain does not include the fact that the recipient of the action keeps the action in his possession (although the *effects* of the action may be with him for a long time!). In this case, this part of the mapping cannot take place.

However the Invariance Hypothesis has to be formulated more precisely. One of the obvious modifications required is to state that what has to be preserved is not only the image-schematic structure of the target domain, but also its associated conventional knowledge about the target domain. This sum of

According to the standard cognitive theory of metaphor and metonymy (CTMM), the mapping in metaphor is always *unidirectional*: only the source is projected onto the target domain, and the target domain is not at the same time mapped onto the source domain. Therefore, simultaneous *bidirectional* metaphorical projections do not exist in this theory. This is an important difference between the CTMM and other theories, like Black's interaction theory (Black 1962). For example, there seems to exist a high-level metaphor PEOPLE AS ANIMALS. If we say *Don't* snap *at me*, or *Their love* nest *has been discovered*, we project an aspect (aggressive behaviour, living place) of some animals (dogs or birds) onto some aspects of people (anger, lovers' meeting point), but no aspect of people is mapped onto animals by virtue of the existence of *this* metaphor. However this claim does not mean that there cannot exist a different metaphor, ANIMALS AS PEOPLE, which maps aspects of people onto aspects of animals, as in the sentence *Lions are courageous*, in which a human moral attribute is projected onto an animal instinct (but here nothing is mapped from animals onto people). They are not two variants of the same metaphor, because what is mapped is very different in each case (Lakoff & Turner 1989: 132; see also Jäkel 1999).

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image-schematic structure and conventional knowledge is what Lakoff & Turner (1989) call "schemas." It is these that have to be preserved, as the preceding example shows.

The Invariance Hypothesis has been subsumed under other broader principles in Lakoff's Neural Theory of Language (Lakoff & Johnson 1999) and in Fauconnier and Turner's theory of Conceptual Integration (Turner & Fauconnier 1995).

4b. Image schemas are prelinguistic cognitive structures, many of which are acquired on the basis of our earliest experiences: "container," "part-whole," "front-back," "up-down," "source-path-goal," "link," "center-periphery." These experiential blocks are often extremely simple, and are used in the formation of most (if not all) basic concepts. For example, the concept of "journey" is grounded on the "source-path-goal" schema. See, e.g. Lakoff (1987: 270–276), Johnson (1987), Gibbs & Colston (1995) for their psychological reality and Mandler (1992) for their role in the transition from perception to concepts in child development

Metonymy has not received as much attention as metaphor in cognitive linguistics, although it is probably even more basic than metaphor in language and cognition (see Taylor*). Metonymy is a cognitive mechanism whereby one experiential domain is partially understood in terms of another experiential domain included *in the same common experiential domain.* Metonymy is a case of what Croft (1993,*) calls *domain highlighting*, whereas metaphor is a case of what he calls *domain mapping*. In metonymy the target domain is "highlighted," i.e. mentally activated, often with a limited discourse purpose (Lakoff 1987: 78–80), because it is this domain that is partially conceptualised by mapping onto it the source domain included in the same common domain. If we study one of Lakoff & Johnson's (1980) examples, namely, example (4) below,

(4) *Washington* is insensitive to the needs of the people.

we find that within the common domain of the capital city of the United States, we have, among others, the subdomains of the city itself as a location, the subdomain of the political institutions located in it, and further in the background, the subdomain of the people that make the decisions in those political institutions (the President, the department secretaries, the senators and congressmen, etc.). Via metonymy, one of these subdomains, namely, the subdomain of the political institutions, is highlighted and additionally referred to from that of the city itself as a location, which is backgrounded in the normal interpretation of this sentence.[5] And indirectly, the important people in these institutions can also be activated, highlighted, and referred to via a possible further conventional metonymy, in which

5. This is what Langacker (e.g. Langacker 1999) calls an active zone metonymy, as the active zone of WASHINGTON is a reference point for an active zone target. The identification of the metonymic target is dependent on the context; in this case, the context primes U.S. POLITICAL INSTITUTIONS as target, but a different context might activate a different target: *Washington does not like football. Few people attended yesterday's game*; the target now is WASHINGTON'S INHABITANTS.

the institutions stand for the people that have a prominent role in them.[6] The phenomenon of "chained metonymies" is in fact relatively frequent, as is also pointed out by Bartsch* and Ruiz de Mendoza & Díez *, who call this "double metonymy"[7].

From what has been said so far, it should be clear that both metaphor and metonymy are mental mechanisms, not to be confused with their expression, linguistic or otherwise. Metaphors and metonymies are often not verbalised, but can be expressed through gestures (McNeill 1992) or other non-verbal communicative devices, or not be communicated at all and simply motivate our behaviour (Lakoff & Johnson 1980: 156–159). In some cases there does not even exist a fully conventional lexical item to denote their source domain, as is the case with the HOUSEWIFE-MOTHER metonymic model discussed by Lakoff (1987: Ch. 5). The mother who is a housewife but does not have a job outside the home is the prototypical mother in the nurturance model of motherhood, that is, in the model of mothers *as nurturers*. Within the nurturance model, there is another non-prototypical submodel which contrasts with the housewife-mother

6. That conventional metonymy is conceptually independent from the location for institution metonymy. Note that even if the speaker/writer had not perspectivised the federal government from its geographical location, having thus used a phrase like *The federal government* is *insensitive...* there would still be a metonymy (note the singular concord with the collective subject NP), in which the federal government as an institution would stand for the important people in the government. Example (4) therefore provides an additional 'line of defence' for those people, because their personal involvement is backgrounded and only becomes obvious when one reads off this additional metonymy. Speakers of British English have the option of unveiling more explicitly the metonymic link between the institution and the people that make the decisions by using "notional concord" (*The federal government* are *insensitive...*).
7. In fact it seems that in both metonymies we have the same generic type of metonymy (PART FOR WHOLE): federal political institutions are a part of the conceptual whole constituted by our experiential domain of Washington, and the people in charge of these institutions are in turn a part of these institutions. The chaining comes from the part-whole connection between the geographical location, the institutions located in it and the decision-makers in the institutions.

model, and for which there exists an established lexical item, *working mother* (which refers to a mother that has a job outside the home, even though she may also be in charge of her home). The housewife-mother model, which is thus a subcategory or subdomain within the experiential domain of motherhood (i.e. which is only one of the possible kinds of mothers), stands for the whole category of mothers from the point of view of nurturance, as housewife-mothers are stereotypically regarded as more representative providers of nurturance than working mothers. The fact that the housewife-mother model does not have an established lexeme shows that this is a *default* model for the category MOTHER in the nurturance model, in other words, that it is the prototype model for the whole category. If every mother is understood, by default, to be a full-time housewife, there is no need to have a lexicalised label for this subcategory. On the other hand, this label is necessary, and has been conventionalised, for other non-prototypical members of the category like *working mothers,* or *genetic mothers* (i.e. the women who have only contributed their ova), *foster mothers*, *adoptive mothers,* etc.[8]

2.2. Blending

A recent tendency in cognitive linguistics which subsumes metaphor and metonymy as special cases of more general mental mapping mechanisms is the theory of "blending" or conceptual integration, which is an extension of Gilles Fauconnier's earlier work on mental spaces (Fauconnier 1994) and has been developed by him, Mark Turner and their associates (Turner & Fauconnier 1995, 2000, *, Fauconnier 1997, Coulson & Oakley 2000). This new theory seeks to explain how speakers and hearers keep track of conceptual corre-

8. Of course, a metonymic prototype based on a cultural model may eventually lose its status if the cultural model changes. The enormous growth in Western societies of the number of working mothers, and of their social acceptance, may eventually cause the replacement of the housewife-mother submodel by the working mother submodel as the metonymic category prototype.

spondences and build new inferences throughout discourse, often by constructing provisional conceptual domains or "blends." In order to avoid unnecessary repetition, I refer the reader to the various places in this volume (especially the editor's introduction, Nerlich & Clarke*, Ruiz de Mendoza & Díez*, and Turner & Fauconnier*) in which the theory is described in some detail. I will briefly comment here only on two aspects of the model: unidirectionality and the emergent conceptual structure in the blend.

This approach is not incompatible, according to its proponents, with the standard two-domain theory of metaphor and metonymy that has been outlined above, because it presupposes it. However, it places in a new perspective the common claim in the CTMM that metaphorical mappings are unidirectional, i.e. that they go only from the source to the target domain, and points to the existence of multiple selective projections from the source and target input spaces to the generic space and to the blend. This does not mean that Turner and Fauconnier argue for a return to interaction theories of metaphor. Although projections go from both inputs to the blend, the principal inferences project from the blend to the target, not to the source.

As for the emergent conceptual structure in the blend, this is illustrated by Turner & Fauconnier (2000, *475), among other examples, by the sentence *God, was he ever mad. I could see the smoke coming out of his ears – I thought his hat would catch fire!* They say that this creative elaboration of ANGER IS HEAT only takes place in the blend, as there is no counterpart for the hat in the source, nor is there one in the target. But it is not really clear that this elaboration does not proceed from either input. In my view, it can still be accounted for in terms of the two-domain model. First of all, the two input spaces in this example are ANGRY PEOPLE as target (not anger as an abstract emotional concept) and CONTAINER WITH A HOT SUBSTANCE as source. The example represents a complex entailment of the composite metaphor ANGER IS HEAT IN PEOPLE THAT ARE CONTAINERS (which combines ANGER IS HEAT, EMOTIONS ARE SUBSTANCES and PEOPLE ARE CONTAINERS FOR EMOTIONS). If anger is a substance and it is heat, it is a hot substance; and if people are containers for emo-

tions, and if the emotion is anger, an angry person is a container with a hot substance. Thus, the specific metaphor in the example is AN ANGRY PERSON IS A CONTAINER WITH A HOT SUBSTANCE.

Within this specific metaphor, the hat results from a further elaboration of the PERSON subschema in the composite source schema ANGRY PERSON, as a PERSON WEARING A HAT – part of the common knowledge about people is that they may wear hats. The container orifice in the source is mapped onto the ears in the target. The fire coming out of the source is mapped onto a show of anger in the target. Thus, in my view, all the apparently new conceptual *elements* in the blend in this example are really derived from the inputs. What can perhaps be explained by assuming a provisional blended space is the counterfactual *combination* of these elements, reflected in the lexicogrammatical structure of the example: smoke coming out of one's ears, a hat catching fire... but even this counterfactuality can ultimately be explained as the result of the exploitation of the specific metaphor AN ANGRY PERSON IS A CONTAINER WITH A HOT SUBSTANCE. (For a different, but comparable interpretation, see Ruiz de Mendoza & Díez *506.)

With this second comment, I do not at all expect to refute in general terms Turner and Fauconnier's claim that the blend yields new conceptual structure, because, in order to do this, I would have to examine in very close detail all of the independent evidence offered for this claim by the proponents of the model, and I have not been able to carry out this survey yet (for a more detailed survey, see Ruiz de Mendoza & Díez*). I just intended to point out that all the conceptual structure in the example in question can still be explained in terms of the two-domain model. And whatever the ultimate justification for the blending model, I find it particularly valuable as a serious attempt at setting up a general theory of conceptual mapping, and as a highly sophisticated descriptive apparatus to represent the multiplicity of counterparts relations occurring at any stage in discourse.

3. Definitional problems in the cognitive linguistic notions of metaphor and metonymy

3.1. Problems specifically affecting the cognitive linguistic notion of metonymy

One of the main problems is created by the reliance on the notions of same or different conceptual domains to distinguish metaphor from metonymy. This issue is dealt with in a later section. But there are other problems in the standard cognitive linguistic view of metonymy that are independent from the issue of its distinction from metaphor and which also require clarification. These problems are:

- Is metonymy a relationship between "entities" or between "domains"?
- Is metonymy necessarily connected to an act of reference?
- What is meant by saying that metonymy is a stand-for relationship?
- Metonymy as a mapping.
- Directionality of the mapping in metonymy.
- Metonymy as highlighting.
- Metonymy as activation.
- The overlap between metonymy and the reference-point ability. Degrees of metonymicity.
- Factors in the conventionalisation of a metonymy.

I have discussed in some detail all of these problems in Barcelona (in press a). Here I will only comment briefly on these groups of problems, which are closely connected to each other[9]:

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9. I sum up here my position as regards some of the other problems:
(1) *Stand-for relationship*. If the unambiguous substitution of the target by the source is meant by this, then there are many instances of metonymy that do not imply a stand-for relationship; in *Washington is afraid of possible terrorist attacks*, the exact metonymic target (inhabitants, political institutions) depends on the broader context. Cf. with the unambiguous example *The kettle is boiling* (Kövecses & Radden 1998: 40).

- Is metonymy a relationship between "entities" or between "domains"?
- Metonymy and referentiality.
- Metonymy as a mapping, as highlighting and as activation.
- What qualifies as a target in WHOLE FOR PART metonymies? Degrees of metonymicity.
- Factors in the conventionalisation of a metonymy.

3.1.1. Entities or domains?

Metonymy is often presented as a relationship between two "entities." But what exactly is meant by "entity"? Certainly, not merely a physical entity, but a conceptual entity in a "schema" or "domain." The term seems to allude to an individual of some kind (an object, an

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(2) *Directionality.* In my view, metonymy is unidirectional. Its difference from metaphor in this respect is that a large number of metonymies are *reversible*, as Kövecses & Radden (1998: 46ff) have noticed. This does not often happen in metaphor. These are two of their examples (Kövecses & Radden 1998: 50): (a) *America* (for "United States," i.e. WHOLE THING FOR A PART OF THE THING); (b) *England* (for "Great Britain," i.e. PART OF A THING FOR THE WHOLE THING). Reversibility is not the same thing as bidirectionality. The mapping in (a) is very different from the mapping in (b), so they manifest different metonymies. Furthermore, in neither metonymy do the source and the target simultaneously map onto each other.

(3) *Overlap between metonymy and reference-point ability.* Langacker (1993: 5) defines the notion of "conceptual reference point" as the image-schematic "ability to invoke the conception of one entity for purposes of establishing mental contact with another, i.e., to single it out for individual conscious awareness." He regards metonymy as a reference-point phenomenon (Langacker 1993: 29–35). The difference between reference-point ability and metonymy might lie in the fact that only the latter involves mapping. However, it all depends on what one understands by mapping (see below). In *The boy's watch,* the genitive NP is a reference point for the possessed object, but is the boy mapped onto the watch, so that the latter is conceptualised *as* belonging to the boy? Cf. with undoubted metonymies like *The Times has just arrived at the press conference*, in which the newspaper company is a reference point and is mapped onto the reporter, so that the latter is presented primarily as an employee of that company.

animate being, even a well-defined abstract "object," like "agent," "action," "institution," "emotion," "category," "cause," "effect"). Kövecses & Radden (1998) offer numerous examples of metonymy in which the entities connected are well-defined abstract "entities" of an ICM or frame: FORM FOR CONCEPT, ACTION FOR AGENT, CONTROLLER FOR CONTROLLED, etc. However, these abstract entities normally have an intricate conceptual structure. That is, they constitute "domains" of relative breadth. In many cases, they are either "abstract domains" or "basic domains" (Langacker 1987: 147–152; Croft *166). Even the concept of an individual physical entity like a finger constitutes an "abstract domain," in that it presupposes a certain aspect of knowledge (part of a hand) as the base (domain) against which it is profiled. This is already an indication that the term "entity" may be inaccurate to designate the elements linked by metonymy. In fact, Croft's (*177ff) most interesting contribution to the understanding of the nature of metonymy is his realisation that metonymy highlights a domain within a complex domain matrix. On the other hand, if one looks at Lakoff's theory of metonymic cognitive models (Lakoff 1987: Chapter 5), one cannot fail to realise that in them a *subcategory* stands for the whole category that includes it. This is further confirmation that the elements linked by metonymy are two *domains*, rather than two individuals (two entities).

Now since, according to the standard view, metonymy occurs *within* one single domain (ignoring, for the time being, the serious problems raised by this property), I suggest that a domain linked by metonymy should be called a *subdomain*, if it is included in the overall experiential domain within which metonymy operates. For example in a PART FOR WHOLE metonymy, as in (5)

(5) She's just *a pretty face*.

a subdomain (a body part) stands for the whole domain (the person). In a PART FOR PART metonymy like (6),

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

a subdomain of the restaurant domain, namely a food item, stands for another subdomain in the restaurant domain, namely, the customer that ordered it.

3.1.2. Metonymy and referentiality

Lakoff & Johnson (1980: Ch. 8), and later Lakoff & Turner (1989: 100ff) have said that the function of metonymy is primarily referential (without clearly making this function a requirement). Lakoff (1987: Ch. 5) discusses a number of "metonymic models" (i.e. prototype categories whose central category has emerged through metonymy), which turn out to be one of the four fundamental types of cognitive mechanisms (or *idealised cognitive models*) which he proposes. Some of the most cognitively powerful metonymies he explores are not necessarily used for reference, like the housewife-mother stereotype (see above), but principally for making inferences. Croft (*179–180, 1993: 349) sets reference as a necessary requirement for metonymies, but Taylor (*325, 1995: 124) says metonymy is not restricted to the act of reference. My own position is that, given the evidence provided by Lakoff (1987: Chapter 5), who, on the other hand, does not address this problem, metonymies are *not* to be regarded as necessarily restricted to the act of reference; however, especially in metonymies for individuals (Lakoff 1987: 85), this is the most frequent "limited discourse-pragmatic purpose" (Lakoff 1987: 79) for which they are used.

3.1.3. Metonymy as mapping, highlighting and activation

What does it mean for metonymy to be a mapping? Is it really a mapping? If so, leaving aside the issue of the sameness or distinctness of the domains involved (see below), is it the same kind of mapping as metaphor?

As we said above, Croft (*178–179) contrasts metonymy with metaphor by saying that the former is an instance of what he calls

domain highlighting, whereas the latter is an instance of *domain mapping*. Domain highlighting consists in highlighting a secondary (sub)domain[10] within the domain matrix constituted by a speaker's encyclopedic knowledge of the meaning of a linguistic expression. For instance, in an example like *Proust is tough to read* the subject NP highlights Proust's works. In our knowledge of Marcel Proust, his literary output is an important domain, but it is not primary in comparison to the fact that Proust was a person. In this metonymy, then, the secondary subdomain of Proust's literary output is highlighted within the domain matrix for Proust.

The fact that Croft emphasises his view of metaphor as a type of mapping and of metonymy as a type of highlighting, might lead to his position being misconstrued as implying that metonymy is not a mapping. Actually, Croft states (*178, 1993: 348) that "in metonymy ... the mapping occurs only within a domain matrix." I discuss below the notions of highlighting and mapping together, as they are inseparable in metonymy.

As far as I understand Croft's notion of domain highlighting, it amounts to the mental *activation* of a certain (sub)domain, the target, *by* another (sub)domain, the source, both located within the same domain matrix. One does not have to view metonymy in terms of Langacker's notion of "domain matrix" (Croft's strategy), to take advantage of the useful notion of highlighting or activation (I prefer the latter term). For instance, if one uses as a theoretical background the notion of Idealised Cognitive Models or ICMs, as Kövecses & Radden (1998) do, it is still possible to claim that in every case of metonymy a (sub)domain is mentally activated via another (sub)domain in the same ICM or domain. In my view, this intradomain activation of one (sub)domain by another is an essential ingredient of metonymy. The mental *activation* of the target is different from the conceptual *foregrounding* of the source in metonymy. The target is accessed mentally (activated) *via* the source, which is its "reference point" (Langacker 1993). But the choice of source (or "vehicle" in

10. The technical terms "secondary" (or, rather, "subsidiary") vs. "primary" domain are borrowed by Croft from Langacker (1987: 165, 222).

another terminology) constrains the way in which the target is activated. In the Proust example, the literary works are activated mainly *as* produced by a given author. In other words, the author is mapped onto his works. This is the reason why metonymy is not only a matter of highlighting or activation, but also of mapping.

But what exactly should be understood by "mapping" in connection with metonymy? A mapping, "in its most general mathematical sense, is a correspondence between two sets that assigns to each element in the first a counterpart in the second" (Fauconnier 1997: 1). It can also be understood, in a narrower sense, as the projection or superimposition of one structure onto another, so that the projected structure imposes (some of) its internal elements, traits and properties onto their counterparts in the other. Mapping, in this sense, is facilitated if both structures have a basic degree of structural "match." This is what happens in metaphor, in which source and target share at least the most abstract level of their image-schematic structure, so that sources are mapped onto sources, goals onto goals, etc. (Lakoff 1993: 215). In CAREERS ARE JOURNEYS, the beginning of the journey maps onto that of the career, the obstacles in the journey onto the difficulties in the career, etc. This match does not seem to occur in metonymy. In metonymy, the projection proceeds from a whole onto a part, a part onto a whole, or a part onto a part of a domain (but see Dirven (*79ff) for more complex cases). The only counterparts in metonymy are normally the domains and the subdomains which are linked by means of this mapping. The metonymically linked (sub)domains do not normally exhibit any degree of structural match. Wholes do not exhibit the same abstract structure as parts, and when the mapping relates two parts of the same ICM (e.g. a producer and a product in the "production ICM," as in *I bought a Stradivarius*), those parts are seldom, if ever, equivalent functionally or relationally. In view of this asymmetry, are we still entitled to regard metonymy as a mapping? Some authors (e.g. Kövecses & Radden 1998), actually refrain from regarding metonymy as a mapping at all; they just treat it as a "relationship" based on conceptual contiguity. In my view, there is no problem in treating metonymy as a mapping, provided one is aware of the fact that the mapping that occurs in meton-

ymy is *asymmetrical*, whereas that occurring in metaphor is *symmetrical*.

The metonymic source projects its conceptual structure onto that of the target, not by means of a systematic matching of counterparts, but by conceptually *foregrounding* the source and by *backgrounding* the target. In the Proust example, the subdomain of Proust's works is "backgrounded" and the whole domain matrix of their author (in which PERSON is a primary subdomain) becomes prominent. A metonymic mapping affects the conceptualisation of the target domain, which is understood "in a new light": the mapping invites viewing these works as an extension of Proust's personality. This reconceptualisation can be relatively transient and limited, as in this example, or it can leave an extensive permanent trace in cognitive domains and in inference patterns. The latter situation is typically encountered in metonymic models.

3.1.4. What qualifies as a target in WHOLE FOR PART metonymies? Degrees of metonymicity.

WHOLE FOR PART metonymies often create a definitional problem. Which requirements must be satisfied by a subdomain to qualify as a metonymic target of the source whole? The above Proust example would normally be treated by most authors as metonymic. Disagreement occurs in instances like (7):

(7) This *book* is a history of Irak.

Can this example be regarded as metonymic, so that the book as a whole maps onto its SEMANTIC CONTENT subdomain? Croft (1993, *179) and Ruiz de Mendoza (2000) disagree in their answer to this question. To Croft, (7) is not metonymic, because semantic content, being a highly intrinsic subdomain in the BOOK domain, constitutes a primary domain in it, in Langacker's (1987: 159–161) sense of "intrinsicness" and of "primariness / secondariness." To Ruiz de Mendoza, (7) is fully metonymic, because intrinsicness is, according to

Langacker, just one of the factors involved in the *centrality* of a subdomain, which is the main factor determining the primary or secondary status of a subdomain in a domain matrix; centrality, in turn, depends on a number of additional factors. Semantic content may be shown to be a relatively secondary domain of books, which are primarily physical objects. I fully endorse Ruiz de Mendoza's notion of secondariness. He sets as a requirement for metonymic status in what he calls "target-in-source" metonymies (i.e. WHOLE FOR PART metonymies) that the target be a secondary or non-central domain in the source (for details, see Ruiz de Mendoza 2000, and Barcelona in press a). This requirement means that the source whole must be neatly distinguishable from the target. However, as I show below, I do not make secondariness a requirement for metonymic status, but only for one of the degrees of metonymicity that I postulate below.

Both Croft and Ruiz de Mendoza agree that an example like (8) would not be metonymic, since both regard the PHYSICAL OBJECT subdomain (which in turn implies SIZE, SHAPE, WEIGHT, COLOUR, etc.) as a primary domain in the BOOK domain.

(8) This *book* is very large.

Here I disagree with both of them, as I explain below.

If metaphor may not always be easy to distinguish from metonymy, so that some authors (Jakobson*, Dirven *107, Radden *409) support the idea of a continuum between metaphor and metonymy, we may also find a continuum from the most prototypical instances of metonymy to other more marginal instances of it, and to non-metonymic use. Croft (*181, 1993: 350) also suggests this continuum. I propose in Barcelona (in press a) to distinguish at least three basic degrees of metonymicity on this continuum: *schematic, typical,* and *prototypical* metonymies. A *schematic* metonymy is a mapping of a cognitive domain, the source, onto another cognitive domain, the target, both belonging to the same overall domain, so that the source causes the mental activation of the target. Any semantic shift that satisfies these requirements would be a metonymy in schematic terms. A *typical* metonymy is a schematic metonymy whose target is

clearly distinct from the source, either because it is a relatively secondary subdomain of the source or because it is not included in it (as in PART FOR PART metonymies).

These two degrees of metonymicity help us account for the difference between (7), in which the SEMANTIC CONTENT subdomain of BOOK is activated, and (8), in which the PHYSICAL DOMAIN subdomain of BOOK is activated. Sentence (7) manifests a *typical* metonymy because SEMANTIC CONTENT is a clearly distinguishable subdomain from PHYSICAL OBJECT in the BOOK domain; thus (7) is more easily felt as a mapping, and as a semantic shift, than (8). In (8), the PHYSICAL OBJECT domain is less easily distinguishable from the BOOK domain as a whole (it is felt to be an "essential" domain in it) , and the semantic shift is less obvious; (8) would be a schematic, but not a typical metonymy. Typical metonymies include many different instances, as the distinctness of target vis-à-vis source, especially in WHOLE FOR PART metonymies, is a matter of degree (see Barcelona in press a).

Finally, a *prototypical* metonymy is a typical metonymy with individual entities as targets and as referents (e.g. examples (4) and (6) above). Prototypical metonymies are the "classical" instances of undisputed metonymies. These display the highest degree of metonymicity in this traditional sense, with typical and schematic metonymies displaying decreasing degrees of it.

The treatment of examples like (8) as metonymic has the advantage of underlining the fundamental similarity between this example, normally undisputed examples of metonymy like (4)–(6), and more controversial instances like (7): all of them exhibit an intradomain activation of the whole matrix or a subdomain in it (that is why (8) is said to be at least *schematically* metonymic). Of course, granting metonymic status to (8) entails that most uses of a linguistic expression in context will be metonymic in this sense. But this is hardly

surprising, given that active zone metonymies (Langacker 1999: 62–67) are the rule rather than the exception.[11]

Typical and prototypical metonymies exhibit additional factors (greater distinctness between source and target and referentiality) that make them more likely to be noticed as semantic shifts or mappings than (purely) schematic metonymies. The above scale of metonymicity is given that name because what are called prototypical metonymies have traditionally acted as the model in the categorisation of these phenomena by linguists and rhetoricians. But, since typical and schematic metonymies are equally metonymic in schematic terms, the scale might also be called a scale of "noteworthiness" in metonymy, measuring their different likelihood to be perceived as mappings.[12]

3.1.5. The conventionalisation of metonymy

The factors favouring the conventionalisation of metonymy can be quite varied. They could, perhaps, be summed up by saying that a metonymy becomes conventional if it satisfies these requirements (Taylor *324, 1995: 122–123):

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11. Taylor* and Dirven* would see (7) and (8) as cases of "modulation" (a term borrowed from Cruse), because the focusing on many of its constituent elements does not bring about the creation of new senses. But a metonymy need not result in established polysemy to count as metonymy, just as we have metonymy in *The dog bit the cat* without thereby *dog* or *cat* acquiring new senses. In any case, as I show later, *book* does have several separate senses resulting from the metonymic activation of its primary or it secondary domains.
12. In Barcelona (in press a) I present a detailed analysis of the dominant notion of metonymy in cognitive linguistics; on the basis of this analysis I propose these degrees of metonymicity and justify them at greater length. The analysis by Taylor (*326, 1995: 124–125) of zeugmatic examples like *We took the door off its hinges and then walked through it* and *I painted the window while she was standing in it,* of the uses of *close,* and of *climb* (1995: 105–109) is consonant with the acceptance of a "schematic" notion of metonymy, like Langacker's notion of active zone metonymy.

(a) It must follow one of the default patterns or types of metonymic mapping (types like PART FOR WHOLE, WHOLE FOR PART, PRODUCER AND PRODUCT, PATH AND GOAL, etc.). Kövecses & Radden (1998: 48–61) provide a systematic list of these default patterns, which arise on the basis of what they call "metonymy-producing relationships." These are what, following Fauconnier (1994), I call "pragmatic function" links (see below) between source and target; that is, there is a privileged experience-based link between author and work, path and goal, whole and part, instrument and action, etc. Default patterns are motivated by one or more of the general cognitive and communicative principles mentioned in (b1) below.

Typical and prototypical metonymies respond to these patterns, but they also account for schematic metonymies. For instance, in *We need a tall person* we have the schematic metonymic PERSON FOR HIS BODY, i.e. the person is mapped onto one of his/her main "parts" (the other parts being, depending on one's philosophical stance or folk theory, the mind and the spirit): his/her body, specifically its spatial dimension.

(b) It must be socially sanctioned. This is, obviously, the most important requirement for conventionalisation. Social sanction depends, in turn, on:

(b1) The *number* of *general* cognitive and communicative principles favouring default types of metonymy that apply in the case in question. Kövecses & Radden (1998: 62–71) have proposed a number of general cognitive and communicative principles favouring the conventionalisation of a metonymy. The larger the number of these principles licensing a specific metonymy, the more motivated it will be and the more likely it will be to become conventionalised.

(b2) The existence of a *specific* cultural (Taylor *325, 1995: 123), social-interactional, or aesthetic principle (Kövecses & Radden 1998: 71–74) favouring the conventionalisation of that metonymy, or conversely, the lack of a specific principle blocking the conven-

tionalisation. These specific principles sometimes override the general cognitive and communicative principles.

Let us briefly illustrate requirement (b). One of the general types of metonymy is AUTHOR FOR WORK, as in (9):

(9) I have just bought *a Picasso*.

The metonymy PICASSO FOR HIS WORK is a conventional specific realisation of AUTHOR FOR WORK. The expression *a Picasso* activates the subdomain of Picasso's artistic work, and in this example, it refers to a particular painting by this artist. Kövecses & Radden (1998: 71) say that a metonymy like that in (9) is motivated by the cognitive principles that they call HUMAN OVER NON HUMAN, CONCRETE OVER ABSTRACT, and GOOD GESTALT OVER POOR GESTALT. That is, it satisfies requirement (b1). Perhaps another principle mentioned by them and that also seems to motivate this metonymy is SALIENT OVER NON SALIENT, because in the domain of artists, their works are a naturally salient subdomain. The metonymy in (9) also gets conventionalised because there exists a cultural principle whereby works of art are regarded as unique products of the creative genius of artists, as an extension of their personality. Thus, the metonymy also meets requirement (b2).

However, if my sister Jane paints what I take to be wonderful landscapes, which are, however, only bought by our family and a few friends, the specific realisation of AUTHOR FOR WORK intended in (10)

(10) I have just bought *a Jane*.

certainly responds to the general pattern – requirement (a)– and is motivated by the same cognitive-communicative principles as in (9) –requirement (b1) – but it is not socially conventionalised according to requirement (b2), except perhaps within my small family circle (see Taylor *324–325, 1995: 123).

An important point is that any of the three types or degrees of metonymy may become conventionalised, to the point that they can

bring about established polysemous senses; this normally happens in typical and prototypical metonymies, but it can also happen with (purely) schematic metonymies. The targets of BOOK in (7) and (8) have become essential parts of several established separate senses of the lexeme *book*. A standard dictionary like the Webster's Dictionary (McKechnie, ed., 1978) registers these senses, among others: "1. any literary or scientific composition or treatise which is printed... ;" "2. any number of written or printed sheets when bound or sewed together along one edge, usually between protective covers," "3. a volume of blank paper, or of printed blank forms, intended for any kind of writing, as for memorandums, accounts or receipts;" "13. a book-like package, as of matches, tickets, gold leaf, etc."

3.2. Problems affecting the distinction between metaphor and metonymy in cognitive linguistics

These problems are the following:

- Cognitive domains often have fuzzy boundaries so that it is not always easy to know if the source and the target domains are or are not in the same superordinate domain.
- A linguistic expression may often be interpreted, on the *sole* basis of context, background knowledge, or the purpose of the interpreter, as metaphorical, or as metonymic.
- Metaphor and metonymy very often interact in intricate patterns, which complicates their distinction.

3.2.1. Problems derived from the notion of domain

The most important of the problems affecting the distinction between metaphor and metonymy in cognitive linguistics is the one that derives from the notion of *conceptual domain* or *cognitive domain*. In the encyclopedic view of linguistic meaning that prevails in cognitive linguistics, conceptual domains are normally open-ended. Conceptual domains, which can be defined as structured blocks of knowledge

based on experience, are very often presupposed in other apparently separate domains, in an extremely intricate conceptual web (see Langacker 1987: 147–182, especially 154–166). Only what Langacker calls *basic* domains do not presuppose other domains for their conceptualisation: space, time, vision, pitch, taste and smell, temperature, pressure, pain, the emotions, and perhaps others.[13]

This conception of domains creates several problems for the definitions we have just given of metaphor and metonymy. There are two types of these:

- In certain conventional metaphors, the source domain is *apparently* included in the target domain.
- In certain metaphors, both the source and the target are included in the same superordinate domain.

I discuss them separately below.

3.2.1.1. The source domain is included in the target domain

Let us illustrate the problem with an example. Probably no native speaker of English would deny that the cause-effect link between an emotion and certain physiological or behavioural responses is included in the overall domain of emotions. Most English speakers would agree that sadness is manifested by a drooping bodily posture, as well as by crying, or by paleness. One of the behavioural effects of

13. This list of basic domains could be questioned on several grounds, depending on what is understood by "presupposing a domain." One of its problems is that under a very broad interpretation of domain presupposition, any contribution, no matter how indirect, of a domain to the conceptualisation of a basic domain, could be regarded as a case of presupposition of another domain by the purported basic domain. Another problem is that this broad interpretation would regard the metaphorical mapping from one domain (say space) onto a purported basic domain (say time or the emotions) as a case of presupposition of the source by the target. In this light, time or the emotions would not qualify as basic domains (see Barcelona 1986, Kövecses (all publications listed), Lakoff 1987). In the discussion in connection with the next example (*She's feeling down*, etc.), I propose a restrictive interpretation that could solve the first kind of problem created by broad conceptualisations of domain presupposition.

sadness, which is conventionally recognised in this culture, is, then, a drooping bodily posture (drooping head, shoulders or facial muscles). In fact, in my own study of the concept of depression in American English (Barcelona 1986), I identified a conventional metonymy in which, in a given pragmatic context, a drooping bodily posture (as effect) stands for sadness (as cause):

(11) a. Mary has a *long* face.[14]
b. John *drooped* his head (sadly).
c. She walked with *drooping* shoulders/*downcast* eyes after the news of her child's death.

Now this emotional subdomain presupposes in turn the domain of verticality, which in turn presupposes that of space. If we stretch our logic but a little, we might end up concluding that verticality and space are also a part of the cognitive domain of sadness. Therefore, the mappings in examples like those in (12)

(12) a. She is in the *pits*.
b. Mike is in *low* spirits.
c. I am *prostrate*.
d. Mary is *down in the dumps*.
e. Her spirits *drooped*.

would be metonymic and not metaphorical, because a subdomain (verticality) within the overall domain of sadness would be mapped, as a part of the effect of sadness consisting in a drooping bodily posture, onto the overall domain of sadness; that is, as in every metonymy, the source and the target would be in the same superordinate domain. However, most cognitive semanticists would intuitively be

14. That is, vertically 'long,' with drooping facial muscles. *To put / have a long face* means in English *to look sad, dismal or serious*. The equivalent expression has a similar meaning in Spanish, but in Dutch it means *to look discontent or angry* (I am grateful to René Dirven for the remark on Dutch.). So it seems that the behavioural effects of sadness are not exactly the same even in related European cultures.

inclined to regard these examples as manifestations of the metaphor SADNESS IS DOWN, and not of the metonymy DOWN (VERTICALITY) FOR SADNESS. Note that the sentences in (12), unlike those in (11), are used to describe the emotional state of someone who may not actually be displaying the conventional drooping posture behaviour; in this case, the actual behavioural effect would not be used as a conceptual link to activate the emotional cause in the hearer's mind. There certainly exists, thus, a conventional metaphorical mapping of DOWN onto SADNESS, which is independent from actual bodily behaviour. This does not mean that in these, as in a great many other cases, the metaphor is not ultimately based upon a metonymy.[15] The problem is that the source (verticality) is apparently included in the target (sadness).

A possible way out of this theoretical puzzle may be, in my view, to notice that there exists in every culture a conscious ICM (Lakoff 1987) of the taxonomy of domains (a sort of folk classification of the world), which specifies, in more or less detail, the hierarchies of domains, and which excludes certain (sub)domains from others. The spatial domain (verticality) may be indirectly included in the domain of sadness (and happiness) via people's *unconscious* experiential knowledge of the behavioural effects of this emotion. But this does not mean that it is actually included in the overall domain of sadness by our conventional folk classification of domains: no native speaker of English (or, for that matter, Spanish, Italian, or other European languages) is likely to categorise verticality (or space) *consciously* as a subdomain of sadness. If a native speaker of any of these languages is asked, prior to showing her/him the sentences in (12), whether verticality (let alone space in general) is a part of the domain of emo-

15. In (12) the metaphor actually arises as a generalisation of the EFFECT FOR CAUSE metonymy. I have argued elsewhere that the metonymic motivation of metaphor is in fact the rule, rather than the exception (see Barcelona 2000b, and below). But the fact that metaphors are often based on metonymies does not mean that they can be totally reduced to (post-)metonymies. In this respect, I cannot agree with Riemer*, if I interpret his position correctly, since metonymy-based metaphors (see also Goossens 1990*, Radden 2000*) imply richer mappings than the metonymies originating them.

tions, (s)he will give a negative answer. These remarks should not be interpreted as claiming that every time the SADNESS IS DOWN metaphor is activated, people are conscious of the fact that verticality belongs to an altogether separate domain. As is well-known, both metaphor and metonymy are typically unconscious mental processes. What I mean is that speakers would normally reject the proposition that the notion of sadness includes that of verticality or space in general, if it is explicitly submitted to them. This rejection would be evidence that their conscious folk taxonomy of domains separates sadness (or happiness) from verticality. Therefore, when metaphor is said to be a mapping across two different domains, a possible interpretation of what is meant is that these are two domains not included by that taxonomy in the same overall domain. The preceding remarks are consonant, I believe, with Langacker's (1987: 161–166) notion of "unit status."[16]

3.2.1.2. In certain metaphors, both the source and the target are actually included in the same superordinate domain

The above observations may help us to distinguish metonymy from metaphor in many cases. However, they would not be of great help in certain others. Few cognitive linguists would probably regard an example like (13)

(13) John is *a lion*

16. This notion would be a different way of formulating this solution to the theoretical puzzle. If we consider that the notion of verticality presupposed by the notion of a drooping bodily posture is not automatically activated whenever we use a conventional non-metaphorical and non-metonymic linguistic expression of the domain of sadness, this means that the notion of verticality has not reached "unit status" within the domain of sadness; that, in other words, it is not an entrenched subdomain in it. This amounts, in fact, to saying that it is not automatically regarded by the conscious folk model of the taxonomy of domains as a subdomain of sadness.

as metonymic. And yet no average native speaker of English would deny that both the domain of animals (the source) and the domain of people (the target) are centrally included in the overall taxonomic domain of LIVING BEINGS.

A principled way that I would like to suggest in which metaphor and metonymy could be distinguished consists:

(a) in distinguishing, to the extent that this can be done, between the experience-based taxonomic classification of domains and the co-occurrence of domains in an experience-based functional superordinate domain. A domain X may be distinguished from a domain Y in terms of the general taxonomy of domains, and yet be grouped with it in an overall functional experiential domain by a *frame* (Fillmore 1982) or *ICM* (Lakoff 1987: 68–77).

(b) in taking into account the presence or absence of a *pragmatic function* (Fauconnier 1994, 1997: 11) linking two domains.

Now if source domain X and target domain Y are linked by a pragmatic function, then one of them may eventually be mapped onto the other in a metonymic relationship. Irrespective of the fact that they belong or not to the same overall taxonomic domain, this pragmatic link shows that they are grouped in the same functional experiential domain by an ICM or a frame. The pragmatic link in these cases connects a domain and its *role* in the frame to another subdomain and its role in the same frame, so that one of the domains activates the other, as a reference point for it.

For example, GOVERNMENTS and BUILDINGS can be said to be in two different superordinate taxonomic experiential domains, respectively the domains of ABSTRACT ENTITIES and of INERT PHYSICAL ENTITIES. However, they can be connected by a number of functional experiential domains of ICMs. The U.S. FEDERAL POLITICAL INSTITUTIONS ICM groups the U.S. government with the White House in the same functional domain. Furthermore, there exists a pragmatic function linking the U.S. government, in its *locatum* role, to the White House, in its *location* role (LOCATION⇒LOCATUM). The result

is that there can be, and in fact there is, a conventional metonymy WHITE HOUSE FOR U.S. GOVERNMENT, as in (14)

(14) The *White House* did not intervene

A different situation holds in examples like (12) above. Here DOWN and SADNESS are in two different taxonomic domains, but DOWN can be said to be functionally included in the SADNESS domain, no matter how indirectly. However, there is no pragmatic function directly linking DOWN to SADNESS. The direct pragmatic link is that between DOWNWARD BODILY ORIENTATION and SADNESS. Thus, the link between DOWN and SADNESS is not strictly metonymic, but metaphorical (even though this metaphor, being based on a generalisation of the metonymy linking the bodily posture and the emotion, is on the very borderline of metaphor and metonymy, and perhaps DOWN FOR SADNESS can be regarded as the final metonymic step in the generalisation from DOWNWARD BODILY ORIENTATION FOR SADNESS to SADNESS IS DOWN; see Barcelona 2000b: 43–44).

Thus, if source and target are *not* linked by a pragmatic function, even if they are in the same functional domain, then they cannot stand in a metonymic relationship. A further example: The nose and the mouth are in the same FACE ICM, yet neither can serve as a metonymic source for the other, at least not in terms of this ICM (Kövecses & Radden 1998: 48), since they are not linked by a pragmatic function.

On the other hand, two domains may be in the same general taxonomic domain; take ANIMALS and PEOPLE, both included in LIVING BEINGS. If they are not included in the same functional experiential domain by an ICM, then they may stand in a metaphorical relation. This is what happens in (13) above, in which the LION domain, or at least its stereotype in human perception, is mapped onto the HUMAN domain.

However, the same two domains may be grouped under an overall functional experiential domain by an ICM. Take the FARMING ICM, which groups certain ANIMAL domains together with the PEOPLE domain. Then, if a pragmatic function connects them, they could stand

in a metonymic relationship. The pragmatic function is CONTROLLER ⇒CONTROLLED, as in this Spanish sentence, which could be quite acceptable in an adequate context:

(15) *El* *(del)* *rebaño* *del* *monte*
The (one-of-the) flock of-the hill
no *ha* *cobrado* *aún*
not has been-paid yet
'The hill flock shepherd has not been paid yet'[17]

Like the taxonomic grouping of domains, functional groupings (frames, ICMs) can be subjected to explicit conscious recognition. That is, people are normally aware of the functional connection between people and certain animals in the farm ICM, or of the functional association between the White House building and the executive branch of the U.S. government.

This requirement of the existence of a pragmatic function link affects any type of metonymy, including what I have called above *schematic* metonymies (normally certain types of WHOLE FOR PART metonymies), which are the least likely to be felt as a semantic shift. The pragmatic function link between source and target is sometimes quite generic (often just PART⇒WHOLE, or WHOLE⇒PART), as in (8), in which the whole BOOK domain is mapped onto its PHYSICAL OBJECT subdomain.

A similar proposal is made by Dirven*, who suggests that the distinction between domains is a matter of construal. In sum, the notion of domain must be flexibly understood in either its taxonomic or its functional sense, with the latter having a decisive role in distinguishing metaphor from metonymy.[18]

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17. According to a native British informant, a sentence like *The hill flock has not been paid yet* is not quite conventional, and requires the insertion of a noun like *man* or *shepherd* after *flock*.

18. A further, possibly fundamental, difference between metaphor and metonymy, is the different nature, mentioned above, of the source-target mapping in each of them. If *every* metonymy can be shown indeed to be an asymmetrical correspondence between one domain and another, and *every* metaphor a symmetri-

3.2.2. A linguistic expression may often be interpreted, on the basis of context, background knowledge, or simply the purpose of the interpreter, as exclusively metaphorical, or exclusively metonymic

This situation is very frequent, and has been noted by several authors in this volume (e.g. Bartsch*, Goossens* or Geeraerts*). These are cases like (16) (borrowed from Bultinck (1998):

(16) He *fell* in the war.

Depending on the context of interpretation, this sentence could be interpreted metaphorically or metonymically. If it describes the conventional image of the soldier that is seriously wounded, falls and dies, then the meaning could be claimed to be metonymic: A SALIENT EVENT (FALLING) FOR A SALIENT SUCCESSIVE (OR CO-OCCURRING) EVENT (DYING). If, however, the speaker simply refers to the fact that the soldier died when he was in the war, irrespective of the fact that he died when he was lying asleep in his bed (perhaps because the barracks was bombed at night), the domain of falling is used as a generalised metaphorical source for the domain of dying at war. Doubtless the generalised metaphorical mapping is grounded in the prototypical metonymic connection between actual falling and dying in the war. Knowledge of the context and/or the speaker's communicative intent is, then, decisive to know whether the domains of falling, or downward movement in general, and that of dying in a war are in the same domain (metonymy), or in two different functional experiential domains (metaphor).

This is a general problem with linguistic interpretation in any area, and is further evidence of the actual infrequency of literal intended

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cal set of correspondences between two domains, then this would be a clear-cut difference between both types of mapping. A preliminary discussion of this issue is in Barcelona (in press a) and in Barcelona (n.d.). See also Warren*. The postulation of "one-correspondence" metaphors (metaphors consisting of just one submapping) by Ruiz de Mendoza (2000) would run, however, against this difference. The issue deserves further detailed examination.

meaning. However, these cases do not undermine the validity of the cognitive-linguistic theoretical distinction between metaphor and metonymy, as the interpreter can freely choose to apply either type of conceptual mechanism in the absence of contrary indication from the context.

3.2.3. Interaction of metaphor and metonymy

The final problem affecting the distinction between metaphor and metonymy concerns their interaction. We have already encountered metonymy and metaphor interacting with each other in some of the previous examples The patterns of the interaction between metaphor and metonymy has been treated in some detail by Lakoff & Turner (1989) and more systematically by Goossens (1990*). In my view these patterns can be classified into these two *main types*:

1. Interaction at the conceptual level.
2. Purely textual co-instantiation of a metaphor and a metonymy in the same linguistic expression.

The most important type for definitional purposes is the first one, i.e. *interaction at the conceptual level.* I discuss it in the first place. There are mainly two subtypes of metaphor-metonymy interaction at this level:

(a) The metonymic conceptual motivation of metaphor.
(b) The metaphorical conceptual motivation of metonymy.

The *metonymic conceptual motivation of metaphor* is fairly problematic, and it constitutes a real challenge for the theory of metaphor. A large number of metaphors have been found to have a metonymic basis (Barcelona 2000b; Goossens*; Radden*). SADNESS IS DOWN is a case, as we saw above; another case is the ANGER IS THE HEAT OF A FLUID metaphor, as investigated by Lakoff and Kövecses and reported in Lakoff (1987: 382-389). Taylor (*323, 1995: 139) suggests

some other cases. These are some of Lakoff and Kövecses's examples:

(17) a. I had reached boiling point.
b. She got all *steamed up.*
c. When I told him, he just *exploded.*

According to them, this metaphor is motivated by a group of metonymies in which certain physiological effects of anger stand for this emotion. These are some of their examples of these metonymies, preceded by the kind of physiological effects of anger that stand metonymically for it:

(18) a. *Body heat*: Don't get hot under the collar
b. *Internal pressure*: When I found out, I almost *burst a blood vessel*
c. *Agitation*: I was *hopping mad.*[19]

A very interesting area of research is thus the study of the extent to which the metaphorical network of a language is motivated by the metonymic one. Taylor (*323, 1995: 139) says that, though very tempting, the claim that all metaphors are based on metonymy is contradicted by the existence of metaphors like those in (19) below. The second member in each pair, according to him, is a case of synesthesia (in Taylor's loose use of it, this term denotes a kind of meta-

19. The sentences in this example are, in fact, metonymic for the physiological effects themselves. That is, BEING HOT UNDER ONE'S COLLAR metonymically activates the notion of body heat, BURSTING A BLOOD VESSEL is a metonymic hyperbolic source for internal pressure, and so on. But these physiological manifestations of anger are not yet metaphorical sources for it, because they are in the same domain. The metaphor occurs when HEAT-IN-CONTAINER (independently from any necessary co-occurrence with physiological body heat, internal pressure and agitation) is mapped abstractly onto anger, as in the absence of any direct connection to bodily experiences, as in (17). But some connection to the physiological effects can be perceived even in these examples. This metonymy-based metaphor (Radden 2000*) seems, then, to support the case for the metaphor-metonymy continuum.

phor in which a sensory domain is mapped onto any other kind of domain).

(19) a. Loud music / A *loud colour*
b. A sweet cake / *Sweet music*
c. A black cloth / A *black mood*

In the metaphorical member of these pairs (the second one in each case) we find the following mappings, according to Taylor (*343): in (19a), the source is the auditory domain and the target is the visual domain; in (19b), the source is the gustatory domain and the target is the auditory domain; in (19c), the source is (the colour subdomain of) the visual domain and the target domain is the domain of emotions. He says he cannot find a metonymic motivation for these synesthetic metaphors.[20] I believe there *is* such a motivation. The details of my alternative analysis can be found in Barcelona (2000b). As an illustration of my analysis I will only comment briefly on the metaphor in (19a). I claim in Barcelona (2000b) that the metonymic perspectivisation of deviant ("loud") colours as colours that force themselves on one's attention motivates the selection of loud sounds, which likewise force themselves on one's attention, as the source in the metaphorical mapping. The focus (see Kövecses 2000) of the metaphorical mapping is the issue of the attention-getting power of these colours. Thus, loud sounds are an ideal source to metaphorically describe our experience of perceiving a deviant, gaudy colour. A metonymic motivation is also offered in that article for the metaphors in (19b-c) and for other counterexamples pointed out by Taylor. Radden (2000*) has systematised the metonymic basis of a large number of conventional metaphors. The extent to which all or most metaphors have an ultimately metonymic basis is, thus, an extremely interesting area of inquiry. The outcome of this research might lead to the rec-

20. Conceptual synesthesia is a type of metaphor; some authors (e.g. Dirven 1985) regard it as a different type of mechanism, intermediate between metaphor and metonymy; the reason may be, in my view, that most conceptual synesthesias have a metonymic motivation (see Barcelona 2000b).

ognition of metonymy as a more basic cognitive strategy than metaphor.

The *metaphorical conceptual motivation of some metonymies* can be discovered in metonymic interpretations of a linguistic expression that are *only* possible *within* a co-occurring metaphorical mapping, as in (20), borrowed from Goossens (*364, 1990: 334):

(20) She caught the Minister's *ear* and persuaded him to accept her plan

The metaphor here is ATTENTION IS A MOVING PHYSICAL ENTITY (that one has to get hold of or attract, or call).[21] At the same time we find in this sentence a specific version of the conventional metonymy BODY PART FOR (MANNER OF) FUNCTION. In this conventional type of metonymy a body part stands for its function or for the manner in which its function is performed (cf. *He has a good* hand, *She has a good* head).

The specific version we find in this example of a conventional metonymy is EAR FOR ATTENTION; or, to put it differently, we have a body part whose function (hearing) is characterised as being performed in a highly specific manner: "with attention." This body part stands for *this* manner of its function. As Goossens (*365, 1990: 334) implies, EAR FOR ATTENTION only takes place in metaphorical mappings involving attention as the target domain. That is, only if attention has been made the target domain in a metaphorical mapping is it possible, within the target domain, to carry out a metonymic mapping in which the ear stands for a specific attribute (attention) of its typical function (hearing). This means that this specific metonymy can only be found in linguistic expressions of conceptual metaphors like ATTENTION IS A MOVING PHYSICAL ENTITY in which attention is the target domain. In fact if we look at other cases where EAR stands for ATTENTION, we find that this is indeed the case:

21. Some more examples that show how attention is systematically conceptualised as a moving entity that has to be directed to a metaphorical place: *She called my attention, That car caught my attention, They managed to attract our attention, Her fine features drew John's attention, My attention wandered,* etc.

(21) She *won* his ears.
(22) She *lent an ear* to my words.

Again in these two cases, as in (20), attention is understood as an entity (usually a moving one) that has to be attracted or obtained in some way, and it is metonymically accessed from the ears.

The second general type of interaction is the *purely textual co-instantiation of a metaphor and a metonymy* in the same linguistic expression. This happens when a particular conceptual metonymy co-occurs in a linguistic expression with a conceptual metaphor mapping, both being conceptually independent from each other. Their co-occurrence is, thus, not due to the fact that one of them motivates the other conceptually, but to the fact that they are *compatible*. An example:

(23) The ham sandwich started *snarling*.

The metaphor in this example is a special version of PEOPLE ARE ANIMALS (implicit in Lakoff & Turner 1989: 192–198). The special version is ANGRY BEHAVIOUR IS AGGRESSIVE ANIMAL BEHAVIOUR (Lakoff 1987: 380–415). This sentence would refer, in a restaurant situation, to the angry behaviour of the customer that bought the ham sandwich. The metaphor co-occurs in this sentence with the same metonymy as in (6) above, that is FOOD FOR (RESTAURANT) CUSTOMER.

The metaphor and the metonymy in (23) are compatible with each other, in this case, because both have a class of people, or an aspect of them, as target. But they are conceptually independent from each other. It is easy to see this fact, as regards the metonymy, by noting that example (6) occurs without the metaphor. As for the metaphor, it is enough to replace the subject in (23) to realise that the metaphor does not depend conceptually on the metonymy FOOD FOR (RESTAURANT) CUSTOMER:

(24) John started *snarling*

3.3. Proposed definitions of metaphor and metonymy

In the light of the discussion in this section, the following general definitions of metaphor and metonymy are proposed. The definition of metonymy is a broad, "schematic" definition:

> Metaphor is a mapping of a conceptual domain, the source, onto another domain, the target. Source and target are either in different taxonomic domains and not linked by a pragmatic function, or they are in different functional domains.
>
> Metonymy is a mapping of a conceptual domain, the source, onto another domain, the target. Source and target are in the same functional domain and are linked by a pragmatic function, so that the target is mentally activated.

Note that the apparent different nature of the mapping (symmetrical in metaphor and asymmetrical in metonymy) is not included in the definition, as this issue requires further investigation.

4. Steps suggested to formulate hypotheses as to the presence of a given metaphor or a metonymy in a textual example.

In order to illustrate the discussion, I will analyse the sentence italicised in the following passage from *Romeo and Juliet* (II.3.61–68):

(25) Friar Laurence:
Holy Saint Francis! What a change is here!
Is Rosaline, that thou didst love so dear,
So soon forsaken? *Young men's love then lies*
Not truly in their hearts, but in their eyes.
Jesu Maria, what a deal of brine
Hath washed thy sallow cheeks for Rosaline!
How much salt water thrown away in waste
To season love that of it doth not taste!

The edition of the play that has been used is T.J.B. Spencer's (Spencer 1967). The bulk of this section is concerned with the discussion of each of these steps. At the end I briefly present a possible global reading of the sentence on the basis of the metaphors and metonymies identified in it.

4.1. The steps

The steps suggested are the following.

Step 1: Observe which domains are connected by the mapping (metaphor or metonymy) and how they are connected.
Step 2: Characterise the mapping in precise terms.

The second step is broken down into a number of operations:

a. Look for additional conventional linguistic expressions of the metaphor (or the metonymy).
b. Look for additional semantic/pragmatic evidence.
c. Try and recognise the most general metaphor (or metonymy) manifested in the specific mapping under analysis and/or which yields the mapping under analysis in combination with another metaphor (or metonymy).
d. Describe the functioning of the metaphor (or the metonymy) in the particular context in which it is used. This entails in turn:
   d.1. observing whether or not some specific submappings of the metaphor are highlighted at the expense of others (or, in metonymies, whether some other subdomains in the common domain have been highlighted), and
   d.2. observing whether or not the linguistic expression of the metaphor (or the metonymy) is itself metaphorico-metonymically complex.

We will discuss each of these steps first in connection with metaphor, then in connection with metonymy, and finally we will suggest the metaphorico-metonymic meaning of the example.

4.2. *Step one: Observe which domains are connected by the mapping (metaphor or metonymy) and how they are connected.*

That is, if the mapping is to be construed as a metaphor, make sure that it occurs between domains which are *not* included by an overall taxonomic or functional domain. If the mapping is to be construed as a metonymy, make sure that it links two domains *within* the same functional domain in virtue of a pragmatic function.

In (25), there seems to be a mapping from the domain of containers to the domain of people, the source and the target domains appearing in consciously independent taxonomies of domains (containers are exclusively in the taxonomy of objects and people are in the taxonomy of living beings). Furthermore, they are not associated in a functional domain. We might call this mapping the PEOPLE ARE CONTAINERS metaphor.

There is a further mapping from physical entities to emotions (both taxonomically separate domains) to the effect that emotions are understood as entities of some kind, usually an inanimate entity like a fluid or a solid, but also sometimes an animate entity, such as a person (usually an opponent: *I was **seized** by anger*) or an animal or plant (*He **unleashed** his anger*; *his affection **withered***).[22] Emotions and a type of physical entities (people) are associated in the EMOTION ICM, but they do not seem to be connected by a pragmatic function. This metaphor might be called EMOTIONS ARE PHYSICAL ENTITIES. In the rest of the discussion, I will mostly concentrate on the first metaphor.

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22. These inanimate physical entities are usually fluids when composed with the container metaphor, but not necessarily so. They can also be solids: *That kindled my ire* (Lakoff and Kövecses as reported in Lakoff 1987: 388).

We can also identify at least one metonymy in the sentence. In this example, *eyes* stands metonymically for *an unspecified kind of ocular behaviour*, that is, an activity in which a person uses his/her eyes. The metonymised expression (*eyes*) of itself does not specify the exact kind of ocular behaviour. Only the context makes this clear. In this example, the types of behaviour in which young men engage by means of their eyes are crying and, perhaps, looking lovingly at their sweetheart. The context also specifies that these kinds of behaviour are caused by love, not by real romantic love, but by unrequited "superficial" love: Friar Laurence seems to be saying that young men's love never goes beyond the enraptured contemplation of the object of love or the crying and the paleness (*sallow cheeks*) over being rejected; their love is often, besides non-existent (*love that of it does not taste*), a mere illusion (*thrown away in waste*) .

Love, like some other emotions, is conventionally thought to have a number of behavioural effects on the person affected: the lover tries to be close to the object of love, uses tender language to speak to or of that person, etc. Engaging in some kind of loving ocular behaviour is just one of these behavioural effects (when you are in love with someone you are supposed to look at her/him tenderly, or with shiny eyes, etc.). But there can be other kinds of ocular behaviour caused by love: for example, if your love is unrequited, you may, as in the case of Romeo's unrequited love for Rosaline, engage in a different kind of ocular behaviour, like crying, keeping your eyes looking downwards, etc.).

Both the eyes and the kinds of behaviour with which they can be conventionally associated are in the same functional experiential domain (the domain of the eyes), and there is a pragmatic function linking them: ORGAN (eye) ⇒ OCULAR BEHAVIOUR. We might call the metonymy that involves *eyes* in (25) EYES FOR OCULAR BEHAVIOUR, but if we consider that displaying ocular behaviour is just one of the functions or the uses to which the eyes can be put, perhaps we should recognise the mapping as a special case of the more general metonymy EYES FOR FUNCTION OF THE EYES, motivated by a more general pragmatic function EYE ⇒ FUNCTION. In the metonymy, the eyes in fact stand for one of their functions. At the same

time, it is this function that is conceptually activated (and referred to), rather than the general domain of the eyes itself. The functions of the eyes can be, on the one hand, seeing, tear-shedding, or blinking, which are not fully controllable by subjects and hence cannot be said to constitute instances of behaviour, but mere physiological/psychological processes or responses to stimuli: blinking at a sudden flash of light, or tear-shedding due to some irritant substance applied to the eye. Looking, winking, crying (because of sadness), on the other hand, are instances of behaviour because these actions can in principle be controlled by subjects (although in the case of crying it is not always easy to decide to what extent a person is capable of controlling this emotional response to an unhappy event). The eyes can metonymically stand for either type of function. An example in which the eyes would be metonymically mapped onto their physiological functions, but not onto their behavioural functions would be *John has good eyes*, uttered in a context in which this sentence would mean that John's eyesight is good.

4.3. Step 2: Characterise the mapping in precise terms

As stated above, the characterisation consists of a number of operations. We discuss them one by one next.

4.3.1. Look for additional conventional linguistic expressions of the metaphor (or the metonymy).

That is, look for several other linguistic examples

a) in which a linguistic expression of the source domain appears in a grammatically acceptable combination with a linguistic expression of the target domain, and
b) in which the source domain expression, in an appropriate context, must or can be interpreted in the target domain, that is, metaphorically or metonymically (Croft *194–199, 1993: 360–364 suggests

some interesting rules as to the kind of element in a syntactic composition that will be interpreted metaphorically or metonymically).

The second requirement is a necessary one.

Going back to our Shakespeare example, we can find in the literature on metaphor a large number of additional examples of linguistic expressions for both the PEOPLE ARE CONTAINERS[23] and the EMOTIONS ARE PHYSICAL ENTITIES metaphors (Barcelona 1986, Johnson 1987, Kövecses 1986, 1988, 1990, 1991, Lakoff & Johnson 1980, Lakoff 1987) that satisfy the two preceding requirements, or at least the second one. The following sentences, all but the first of them borrowed from Kövecses (1990: 146ff), illustrate both metaphors:

(26) a. She was about to *explode*
b. She was *filled* with emotion
c. Emotion *welled up* inside her
d. Her emotions *rose*
e. I feel emotionally *drained*
f. I was *swelling* with emotion
g. She *overflowed* with emotion

We can add the following example in which the "content" of the person is not an emotion: it shows that the first metaphor is not tied up with emotions as the typical metaphorical content:

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23. This metaphor is usually known in the literature as the BODY IS A CONTAINER (for the emotions). But the curious fact is that in many of the examples offered, like those by Kövecses reproduced in example (26) below, the target domain is expressed by terms (*I, she*) which refer to people, rather than specifically to their bodies. Take ???*My body is full of love*; this is a clear case in which the target domain is the body, although there might be a metonymic reading of *my body* to *I*. In any case, the body is conventionally regarded as inseparable from the person, and there is a frequent metonymic co-implication between both domains, so that both labels would be adequate for the metaphor.

(27) I am *full* of ideas

In the first sentence of (26) both requirements are satisfied as far as the PEOPLE ARE CONTAINERS metaphor is concerned (*She* is an expression of the target domain and *explode* is an expression of the source domain, since containers can explode; and of course the source domain expression is interpreted in the target domain of people). As for EMOTIONS ARE PHYSICAL ENTITIES, only the second requirement is met by this sentence, since we only have an expression of the source domain (again, *explode*, since explosions can be caused by certain physical substances under certain conditions – very hot fluids, or gases, or even burning solids), but no expression of the target domain (emotions). However, the second requirement, namely, the mapping to the target domain of emotion, is satisfied. This mapping is arrived at through the linguistic or situational context, or through a conversational implicature.[24] Moreover the co-occurrence of PEOPLE ARE CONTAINERS already creates a strong bias towards this inference to emotion as the target domain, because what corresponds to the physical substance that can make a person "explode" has to be an emotion.

In the remaining sentences of (26), *fill*, *well up*, *rise*, *drain*, *swell*, and *overflow*, are simultaneously expressions of the source domains in PEOPLE ARE CONTAINERS and in EMOTIONS ARE PHYSICAL ENTITIES: that is, the domains of containers and physical entities, in this case fluid substances (with which you fill the container, which rise inside the container, of which a container is drained, etc.).[25] The domain of

24. Croft (*195) suggests that the principle accounting for metaphorical and metonymic interpretation is the principle of the "conceptual unity of the domain," as he terms it, which prompts interpreters to figure out a single conceptual domain in which to interpret syntactic compositions.

25. René Dirven points out (p.c.) that in the examples in which the substance seems to be a fluid, we know from encyclopedic knowledge that fluids can only be kept in containers. This fact suggests that the source CONTAINER and with it the metaphors PEOPLE ARE CONTAINERS is co-activated (metonymically?) together with EMOTIONS ARE HOT FLUIDS via the mention of these terms denoting or implying hot fluids (*fill*, *well up*, etc.).

containers is furthermore evoked by *inside* in the third sentence. The expressions of the target domain of people are *she*, *her* and *I*. The ones corresponding to the target domain of emotion are *emotion*, *emotions*, and *emotionally*.

The important thing is that the source domain expressions which are combined with the target domain expressions in these examples have to be interpreted in the target domain: that is, *fill, rise*, etc. have to be matched with some aspect or subdomain of the domain of emotions (the aspect being in this case "emotional intensity") and with some aspect of the domain of people (the aspect being in this case the effects of these emotions on people).

As we have said just a few lines earlier, the eyes can stand for two kinds of ocular functions: non-behavioural and behavioural functions. This could in principle yield two series of instances of the metonymy, that is two series of *submetonymies*: EYES FOR SEEING, EYES FOR TEAR-SHEDDING, etc. (non-behavioural), or EYES FOR LOOKING, EYES FOR CRYING, etc. (behavioural). We have also seen that in example (25) the behavioural rather than the non-behavioural submetonymies are instantiated, specifically EYES FOR CRYING and EYES FOR LOOKING (IN A SPECIAL MANNER). The first of them is obvious in the lines following the sentence under analysis in (25), where Friar Laurence makes explicit reference to Romeo's crying.[26] The other submetonymy is less obvious, but it is also a possible reading if the context of the whole play is taken into consideration. The Friar, later in the scene, scolds Romeo because his love "did read by rote, that could not spell," which is paraphrased by the editor, T.J.B. Spencer (1967: 214), as "your notions of love were like those of someone who could recite words of a text learnt by heart without actually be-

26. In fact we have a complex metonymic chain in the passage: the behavioural function (crying) is actually activated metonymically from an associated non-behavioural function (tear-shedding): "Jesu Maria! What a deal of *brine* / hath *washed thy sallow cheeks* for Rosaline! / How much *salt water* thrown away in waste." Tear-shedding is arrived at on the basis of other metonymies that activate this process from some of its elements: brine washing cheeks, salt water thrown away (*brine* is a metaphor for tears, but its combination with *wash cheeks* acts as a metonymy for tear-shedding).

ing able to read the words;" that is, Romeo's love of Rosaline is simply limited to external manifestations, among them, looking tenderly at the object of love. In the next scene Mercutio criticises Romeo in II.4.39–40 for having loved Rosaline in the Petrarchan way, that is, with exaggerated manifestations of love. Of course, among these manifestations is that of looking tenderly at the object of love. In fact, the conventionalisation in English of this second submetonymy is manifested by a much larger number of common linguistic expressions (see below) than the submetonymy in which the eyes stand for crying. Therefore we shall pay more attention in the ensuing paragraphs to the characterisation of the submetonymy where *eyes* points to loving ocular behaviour than to the submetonymy where it points to crying.

It is relatively easy to find additional conventional linguistic evidence of the existence of the submetonymy pointing to loving ocular behaviour. Many of the figurative uses of *eye* that are registered in standard dictionaries are actually based on a metonymy highlighting 'looking.' Then the specific mapping on to '*loving* looks' is easy to convey with the help of the discourse context, as in the sentences in example (28) (the first two sentences are borrowed from Kövecses 1986, 1991; I have added the minimal contexts in brackets):

(28) a. He *could not take his eyes off* her (because he liked her).
b. Love *showed in his eyes.*
c. He was *telling you with his eyes* (that he is madly in love with you).
d. He *feasted his eyes on her* (because he finds her so attractive).
e. Her *eyes belied her words* (because she really loves you).
f. He *was making eyes at* Jenny.

Some of the italicised expressions[27] are registered as idioms in the entry for 'eye' in many standard dictionaries, and *make eyes (to)* is

27. Some additional examples suggested by René Dirven (p.c.) are *to run or cast one's eyes over a nice person*; *He was devouring her with his eyes.*

registered as specifically denoting loving ocular behaviour. In the italicised expressions in the other examples in (28), *eyes* eventually gets its more specific metonymic reading as '*loving* looks' through the discourse context, which selects 'love' as the entity causally connected with this way of looking. Yet even before getting to this specific metonymic reading, we find in all of the sentences in (28) an expression of the source domain (*eyes*) in combination with expressions that have to be interpreted, either literally or metaphorically,[28] in the target domain of behaviour (*could not take off, showed, was telling, feasted, belied, was making*), since they refer to a relatively specified kind of behaviour (which is manifested by means of the eyes). *Not be able to take one's eyes off someone* refers to a kind of ocular behaviour in which a person is irresistibly driven to look insistently at another person. *He was telling you with his eyes* evokes a kind of behaviour in which an agent communicates non-verbally by means of his eyes (i.e. by engaging in a certain kind of ocular behaviour). The sentence could approximately be paraphrased by 'He was telling you by looking at you in that way.'

The important thing is that the source domain term in the examples (*eyes*) must or can be interpreted metonymically as referring, rather than to the eyes themselves, to the notion of ocular behaviour. In all of the sentences in (28), *eyes* actually highlights of itself a relatively unspecified behaviour with the eyes. This relatively unspecified behaviour may consist of looking at someone in a certain way (as in the first, third and fourth sentences), of adjusting the retina and the eye muscles in a certain way (as in the second and fifth sentences), etc. The specific kind of ocular behaviour is highlighted by the target domain terms. Thus in the first sentence, *could not take off* highlights the specific kind of look, which, caused by an irresistible

28. As a matter of fact the target domain terms in the first five sentences are themselves highly metaphorical. For example the first one is an expression of the metaphor SEEING IS PHYSICAL CONTACT, the second one manifests PEOPLE ARE CONTAINERS and EMOTIONS ARE PHYSICAL ENTITIES, the third and fifth ones map language onto communicative ocular behaviour, and the fourth one reflects THE OBJECT OF DESIRE (in this case the object of love) IS APPETISING FOOD (Cf. *She is quite a dish*).

force, is an *insistent* look; in the third sentence, *was telling* specifies that he looked at you in a *meaningful* way; in the fourth sentence, *feasted* specifies that the behaviour, besides being insistent, caused *pleasure* to the looker; in the second and sixth sentences, *showed* and *was making* specify that the adjustments of his retina and his eye muscles expressed the joy, the tenderness, or other *attitudes* typically associated with love; and in the last sentence, *belie* signals a *lack of correspondence* between these ocular adjustments and her words.[29]

The submetonymy where the eyes stand for crying is hardly if at all represented in the conventionalised lexical senses of the lexeme 'eye,' and thus it is not so easy to find common phrasal, clausal or sentential manifestations of it. I looked up the lexemes 'cry' and 'eye' (both as nouns and as verbs) in a number of recent editions of standard thesauruses and dictionaries (Brown (1993), Chapman (1992), Gilmour (1995), Green (1986), Urdang (1991)). The closest conventionalised metonymic near-synonyms for 'cry' that I was able to find were expressions like *be with watery eyes*, *be with brimming eyes*, *be with eyes suffused in tears*. Yet in these expressions the word *eyes* does not refer metonymically by itself to a relatively unspecified kind of ocular behaviour. It is only the complex concepts evoked by the whole of those idiomatic expressions that stand metonymically, not exactly for crying, but for tear-shedding. Of course they can also stand indirectly for crying. In *Mary has watery eyes* the prima facie metonymy is EFFECT (the wet eyes) FOR CAUSE (having shed tears): the state of her eyes tells us she has been shedding tears. However, in some contexts, this sentence could also mean that she is about to cry, or that she actually is, or has been, crying. But this would be a further metonymic reading in which tear-shedding itself stands for crying. In fact this is what happens in (25): *eyes* actually (and exceptionally)

29. The preceding two paragraphs are not to be taken as advocating a strictly compositional view of linguistic meaning. In fact, for instance, both *could not take off* and *eyes* (and not only *eyes*) jointly and inseparably yield the general metonymic reading 'unavoidable insistent behaviour by means of the eyes.' This reading is arrived at in a holistic, gestalt-like manner, but *eyes* highlights the body-part aspect of the inference, and *could not take off* highlights its behavioural aspect.

stands itself for tear-shedding, and not directly for crying. The lines following immediately refer to the tears that had bathed Romeo's face, but readers make an immediate automatic metonymic extension from 'tear-shedding' to 'crying for sorrow,' that is, to ocular behaviour, prompted by Friar Laurence's later words (that make it clear that Romeo had cried for his disdainful lady), and helped by their knowledge that Romeo had been rejected by Rosaline (see also the earlier note on this).

As for the lexeme 'eye' (both as noun and as verb) I found no sense and no near-synonym of it whose literal meaning belonged to the domain of crying, or for that matter, to the domains of blinking, or winking, or eye-rolling. All of this is a clear indication that the domain of the eyes is not institutionalised as a metonymy for these domains.

The difference then between the two submetonymies is that the one mapping the eyes onto the behavioural domain of looking, and from here, onto the domain of loving looks (although in (25) this is only a legitimate additional reading), is more profusely represented in conventional language, as is attested by (28), and is furthermore a more direct metonymy: we can read directly '(way of) looking' from *eyes*, at least in the second, third and fifth examples in (28), with very little help from the context. The context would of course specify the precise way of looking (insistently, glowingly, etc.) and/or the cause for that way of looking (love in example (28)). The submetonymy to crying, on the other hand, is less commonly found in conventional language, and in any case, the metonymic shift from the eye domain to the behavioural domain of crying is not normally direct, but only via the physiological domain of tear-shedding and with additional indispensable recourse to contextual information.

4.3.2. Look for additional semantic/pragmatic evidence

That is, we must look for evidence in conventional linguistic or other behaviour that the metaphor or metonymy is really alive, that it is used in reasoning and in making inferences.

As regards metaphors, this is done by finding evidence of the conventionalisation of specific submappings (that is, of what Lakoff and Johnson call ontological or epistemic mappings). Simply by looking at example (25), we can find the linguistic expression of some of these specific submappings of the PEOPLE ARE CONTAINERS metaphor (in fact the following account is a simplification[30]).

Some *ontological submappings* in example (25):

- The container is mapped onto the person (often onto his/her body).
- The exterior of the container is mapped onto the visible, "outer" parts of the person: in the example, one of these visible parts is highlighted, namely the eyes (the eyes are further understood metaphorically as smaller containers "in" which love "lies").
- The topological center of the container is mapped onto the heart, which is conventionally regarded as the topological center of the person and the body. Besides in this case it is also regarded as an internal container for emotions, in fact, as the typical inner container for emotions.[31]

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30. Because, for instance, we should add the epistemic mapping that the image-schematic container mapped onto the person and his body in this metaphor can be opaque or transparent (cf. *He is transparent. You can see through him* i.e. it is easy to know what he means). When it is opaque, its opaque, visible boundaries are mapped onto the opaque, but visible, outer parts / boundaries of the body. In containers with opaque boundaries, only these boundaries, and not the interior, can be seen from the outside. In these lines from *Romeo and Juliet* the composite metaphorical expression regards the person as an opaque container, thus distinguishing between the body parts, like the heart, which are not accessible to an external viewer, and where emotional "content" remains invisible, and the body parts, such as the eye, which are accessible to an external viewer, and through which the emotional content of the body can be accessed only indirectly.

31. The metaphor THE HEART IS THE SEAT (OR CONTAINER) OF THE EMOTIONS is an independent metaphor from PEOPLE ARE CONTAINERS, though it is consistent with it; it is independent from it because it arises on the basis of the AFFECTED HEART FUNCTION metonymy –one of a group of common metonymies in which the physiological effects of an emotion stand for the emotion itself. Some strong emotions are popularly believed to cause a change in heart rate; this affected heart function is then often used, in an appropriate context, as an

– The content of the container (which is normally a physical entity, i.e. an object or a substance) is mapped onto an emotion (romantic love); this submapping of PEOPLE ARE CONTAINERS is furthermore consistent with the metaphor EMOTIONS ARE PHYSICAL ENTITIES.

Some *epistemic (or knowledge) submappings* in (25):

– The knowledge that a physical entity is inside a container when it is located on the inner side of its outer, visible boundaries (i.e. an object attached to the outer side of the walls of a container is not *in* it, but only *next to* it)

is mapped onto

the proposition that an emotion is in a person when it is "located" on the inner side of her/his outer, visible boundaries (e.g. the skin, eyes, etc.), rather than on their outer side; that is, an emotion exists[32] in a person when its manifestations are not restricted to his/her visible parts (in this example, the eyes), but when they seem to lie "deeper inside."[33]

EFFECT-FOR-CAUSE metonymy for these emotions. Some of these examples are borrowed from Kövecses 1990: *My* heart beat *when I saw her* (love), *His* heart *was* throbbing *with pride* (pride), *His* heart *began to* pound (any kind of excitement). This metonymic link, together with the reapplication to the heart of the image-schematic notion of a container, leads to the metaphorical understanding of the heart as a bounded location for emotions.

32. Via the EXISTENCE IS LOCATION HERE metaphor (Lakoff 1987: 518), which underlies many expressions like *There's a baby on the way* (he is about to be born), *the baby has arrived* (she has been born), *He's left us* (has died), *The chances are gone* (they no longer exist), etc.

33. The difficulty of using different linguistic expressions to name the target domain attests to the real difficulty of conceiving of the relationship between people and their emotions in purely 'literal,' non-metaphorical terms. The ontological target domain counterpart of the interior of the container is simply the 'interior' of the person. If we try and look for alternative ways of stating this target counterpart, we find that we cannot escape the metaphor ('the *place* where the person's *inner* feelings *lie*'? 'the *seat* of emotions' ?). But what is the 'interior' of the person ? The "center" of his/her body? Perhaps her/his "inner" *self* ? This last answer would be favoured by Talmy's (1988) force-dynamic conception of the divided self and by Lakoff's Divided Self Metaphor' in Lakoff (n.d.), or by the metaphor THE BODY IS A CONTAINER FOR THE SELF also

– The knowledge that the closer to the topological center of the container the less likely an entity is to move out of it (that is, to disappear, due to the metaphorical link between location and existence explained in an earlier note), the more stable its location is, and the more safely its existence can be ascertained

is mapped onto

the proposition that the closer to the topological center of the body (in this case, the heart) an emotion is felt, the less likely is it to "move out of it" (that is, to cease being felt), the more stable it will be, and the more safely its existence can be ascertained.

– From the epistemic correspondences involving the existence of an emotion, we get this entailment: if an emotion exists, then, the belief that this emotion exists is correct; if it does not exist, the belief is incorrect. That is, Friar Laurence says that young men's love does not really exist because it is superficial, and implies that they all too often believe that they are genuinely in love, when they are simply infatuated with a girl.

We find evidence of at least some of these epistemic submappings in example (25) and in such examples as

(29) a. Heartfelt thanks
b. I am *deeply* interested in the subject

and many others, where there is an implicit contrast between "superficial" (non-existent) and "deep" (existing) emotions.

The following is a frequent epistemic submapping in the metaphor which, however, is not foregrounded in example (25):

– The knowledge that when the amount of the content goes beyond the capacity of the container, it exerts pressure on its walls and can overflow

maps onto

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suggested by George Lakoff (included in the list provided in his Conceptual Metaphor Homepage, available on the WWW at http://cogsci.berkeley.edu/).

the knowledge that when the intensity of an emotion goes beyond the capacity for self-control it exerts pressure on the person and is overtly manifested (recall cases like *I overflowed with emotion*).

With regard to metonymies, we must show that the metonymy is really active, namely, that it is regularly used in reasoning and in making inferences. This can be done by discovering the high-level type of metonymy it belongs to, as these high-level types in fact facilitate basic inferential patterns (see Barcelona in press b) and that it is somehow conventionalised. The general type manifested by EYE FOR FUNCTION is discussed in the next subsection. As stated in an earlier section (3.1.5), this general type is at the same time one of the factors favouring the conventionalisation of a metonymy. Therefore only the social factors favour the conventionalisation of EYE FOR FUNCTION and its submetonymies.

In the case at hand, at least the following general cognitive principles proposed by Kövecses & Radden (1998: 62–71) favour the conventionalisation of EYE as a metonymic reference point for its function: IMMEDIATE OVER NON-IMMEDIATE, GOOD GESTALT OVER POOR GESTALT, BOUNDED OVER UNBOUNDED. It is also favoured by the communicative principle of CLARITY. The eyes are experientially more immediate than their various functions, they constitute a better gestalt than them, they are spatially bounded, and their use as sources for their function facilitates communication. On the other hand, the selection of FUNCTION as a metonymic target of EYE is based both on a body of belief associated with the eyes, and on the specific characteristics of the ocular domain. The behaviours conventionally associated with the eyes are, in fact, determined by the folk-theoretical functions of the eyes and by the conventional attributes of these functions. The folk-theoretical functions are uses like seeing, blinking, winking, eye-rolling, tear-shedding, crying (which can be characterised, in one of its senses, as tear-shedding caused by sadness), or looking (which can be characterised as seeing intentionally). The folk-theoretical attributes (manners, causes, circumstances in general) of these functions can be varied and they are often specified contextually: looking *lovingly*, *with hate*, *insistently*, etc.

If we look into the specific characteristics of the ocular domain, the functions and their attributes constitute a naturally salient subdomain. This salient subdomain, this specific combination of function and attribute, is what is highlighted by each different metonymic use of the lexeme 'eye.' In *Her eyes made me shudder* the speaker has perhaps highlighted by means of *eyes* (in an appropriate context) the notion of 'looking with hate.' In the examples in (28) above, the metonymies highlight various *manners* of looking (insistently, denoting pleasure...), and, with the aid of either the immediate or the larger context, the *cause* for the look (love). Thus we have in these sentences a metonymic chain stretching from eyes to function of the eyes (looking) and to the manner attribute of the function (insistently, etc.), and to its causal attribute (romantic love).

In example (25), however, the highlighted function and attribute are 'crying for (unrequited) love.' But, as we said above, this version of the EYE FOR FUNCTION metonymy is not as fully conventionalised lexically and in everyday language as the submetonymies with looking as target. In fact, of the functions of the eyes, only seeing and (manner of) looking are institutionalised as target domains in metonymic mappings of the eyes, and this is evident in the established polysemy of 'eye,' and in everyday expressions. This is perhaps so because seeing and looking are the most salient functional subdomains of the eyes, and the most likely candidates for metonymic highlighting, together with the shape of the eye (a metonymic highlighting of which underlies metaphorical expressions like *The eye of the needle*).

A conclusion then is that the version of EYE FOR FUNCTION with crying as target is not conventionalised. It is just a typical (in the technical sense of this term) metonymy, which is only occasionally instantiated, whereas the version with (manner of) looking as target is fully conventionalised. As a result, the inference pattern leading from EYE to CRYING is less automatic than the one from EYE to (MANNER OF) LOOKING.

4.3.3. Try and recognise the most general metaphor (or metonymy) manifested in the specific mapping under analysis and/or which yields the mapping under analysis in combination with another metaphor (or metonymy).

It is common for many metaphors to be extensions or elaborations of more abstract mappings, or the result of combinations (or 'compositions' as Lakoff and Turner would call them) of more than one metaphor. The PEOPLE ARE CONTAINERS metaphor is itself one of the most elementary mappings, since it maps a basic image schema (that of containers) onto people. Unfortunately there is still a long way before the hierarchies and the structure of the network of metaphors underlying our conceptual system is established with some degree of confidence. Thus the present state of our knowledge complicates this third operation. Yet in this case there seem to be grounds for hypothesising that PEOPLE ARE CONTAINERS is a specific instantiation of the high-level GREAT CHAIN metaphor (Lakoff & Turner: 171–181)[34] and that the version of EMOTIONS ARE PHYSICAL ENTITIES in which the source domain is an entity is in most of its manifestations coherent with it, since in both basic metaphors the structural attributes and functional behaviour of a lower form of being (an object like a con-

34. The GREAT CHAIN metaphor, as proposed by Lakoff & Turner (1989: chapter 4) basically consists of a very abstract metaphor, the GENERIC IS SPECIFIC metaphor, whose mappings are guided or motivated by two entrenched cultural models, namely, THE BASIC CHAIN OF BEING and THE NATURE OF THINGS (which are themselves combined into "The Extended Great Chain"), and by the pragmatic maxim of quantity. There is no space here for a detailed exposition of each of these ingredients, but THE GREAT CHAIN METAPHOR explains a large number of mappings in which lower order forms of being and their attributes can be mapped onto higher forms of being and their attributes, and vice-versa: people as animals, animals as people, things as people, natural phenomena as animals; it also explains the mappings that cannot occur.

In the PEOPLE AS CONTAINERS metaphor we find that lower-order forms of being, their attributes and their usual behaviour or functioning are mapped onto higher order forms of being, their attributes and behaviour or their functioning: containers are mapped onto human bodies and people; location in a topological center is mapped onto existence of an emotion, etc.

tainer or an inanimate physical entity, like a substance) are mapped onto the attributes and behaviour of higher forms of being (human beings). But certain elaborations of EMOTIONS ARE PHYSICAL ENTITIES seem to present emotions as human beings like an opponent in a struggle (as in *Anger took control of him, I was seized by anger*).

EMOTIONS ARE ENTITIES is additionally coherent with one of the submappings of the dual of the very abstract EVENT STRUCTURE metaphor studied by Lakoff and his associates (Lakoff 1990, 1993).[35] Thus EMOTIONS ARE ENTITIES is normally a manifestation of two general metaphors at the same time: EVENT STRUCTURE and GREAT CHAIN.

This third operation is really the most difficult one to carry out, and its results are not always satisfactory. But one should at least try to describe the mapping at the highest superordinate level that is possible. As a matter of fact, I described in Barcelona (1995) one of the three linguistic instances of container metaphors in this example (namely, *in their eyes*; the other two have people and the heart as targets) as an expression of the metaphor EYES ARE CONTAINERS FOR (SUPERFICIAL) EMOTIONS. Though this account of the metaphorical meaning of the example did capture some of the essential aspects of it (as we shall see later), it failed to relate this micro-mapping to the

35. Let us try and illustrate the notion of duality in metaphor by means of the EVENT STRUCTURE metaphor:

This metaphor is a very general metaphor that maps the domains of space and force dynamics onto the domain of events. In the normal version of the metaphor, an entity that changes in some way (even emotionally) is regarded as moving to a location (thus states are regarded as locations): *I fell in love* (change of state), *I am in trouble* (state). In the dual of the metaphor, the changing entity does not move metaphorically: it is regarded as a possessor of another object that does move; this object corresponds to the new state (thus states are regarded now as possessions): *I have plenty of love, I have trouble, I am full of hate*. So, the object possessed is the dual of the location in the other version, and the possessor is the dual of the changing entity. In the version in example (25) of EMOTIONS ARE PHYSICAL ENTITIES (in which the entity is a thing), emotions are objects that are located in the container, which can also be conceptualised as the possessor. Notice that we could rephrase the example as "Young people *have* love not in their hearts but in their eyes."

one that is really at work in the passage, namely, PEOPLE ARE CONTAINERS, which is the one that, together with the concordant metaphors and the metonymy that we have discussed, really indicates a contrast between "superficial" (i.e. non-existent, hence insincere) and "deep" (i.e. existing, hence sincere) emotions. Furthermore, only through this metaphor can it make sense to contrast two possible locations for love, as the whole of the passage does: one "on the outside" (the eyes), and another "at (or near) the topological center" (the heart), of the person-container.

As for metonymies, we find ourselves even less assisted by the specialised literature. The uncovering of the network of general metonymies underlying our conceptual system is still a neglected area of research: very little has been done yet in this direction.[36] The metonymy EYE FOR EYE FUNCTION/ATTRIBUTE in the example, though, seems to be a particular instance of the general metonymy BODY PART FOR ITS TYPICAL FUNCTIONS AND FOR THE ATTRIBUTES CONNECTED WITH THEM, as example (30) seems to demonstrate:

(30) a. He has *a good hand*
(HAND for MANUAL SKILL – an attribute connected with the primary function of the hands, which is that of manipulating objects).

b. John has *a good head*
(HEAD for INTELLIGENCE, an attribute connected with the folk theoretical main function of the head, i.e. thinking).[37]

c. John has *good legs*. He can walk five miles without a stop
(LEG for WALKING/ RUNNING CAPACITY, an attribute of the function of the legs, i.e. walking).

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36. The essays gathered in Panther & Radden (1999), Goossens et al. (1995), and Barcelona (2000a) include numerous basic metonymies. Kövecses & Radden (1998) is a serious attempt at a systematic classification of metonymy types.

37. For a detailed analysis of metonymic and metaphorical uses of HAND and HEAD see Dirven (*98–99; *83, respectively).

d. They have *good eyes*
(EYES for SHARPNESS OF VISION, an attribute of the main function of the eyes, i.e. seeing).

In fact, in this metonymy we have a chaining of two metonymies: BODY PART FOR ITS TYPICAL FUNCTIONS and TYPICAL FUNCTIONS FOR ATTRIBUTES CONNECTED WITH THEM. On the other hand, perhaps these two chained metonymies can be further regarded as instances of the WHOLE FOR PART general class of metonymies, if we consider typical functions as a "part" of the domain of bodily organs or parts, and the attributes of these functions as a "part" of them.

Returning now to the topic of section 4.3.2., these high-level metonymies provide automatic inferential patterns: body parts evoke their typical functions and the latter their attributes, so that (with help from the context), it is possible to infer the notion of ocular behaviour, namely 'looking' (function) and the attribute of this behaviour, namely 'with love' from the expression *his eyes* in (25).

4.3.4. Describe the functioning of the metaphor (or the metonymy) in the particular context in which it is used

As was noticed earlier, this operation consists of another two subordinate operations:

(a) observing whether or not some specific submappings of the metaphor are highlighted at the expense of others (or, in metonymies, whether some further domains within the common functional domain can be activated or highlighted), and
(b) observe whether or not the linguistic expression of the metaphor (or the metonymy) is itself metaphorico-metonymically complex.

They are discussed one by one.

4.3.4.1. Highlighting of submappings (metaphor) and further highlighting of domains

As for the specific submappings in the metaphors identified in this example, we have already seen that only the epistemic submappings that deal with the existence and the intensity of the emotion are highlighted in example (25), but not other possible submappings like the one focusing on the control of one's emotions, which is highlighted, for example, in the first and the last sentence of the list in (26) above.

The further metonymic activation of domains in (25) calls for a longer discussion. Normally metonymies can lead to other metonymies, so that, depending on the context and on the perspicuity of the analyst, we can often read off a chaining of several metonymies, all of them triggered off by the same linguistic expression. A highlighted (sub)domain often constitutes a basis for the highlighting of other related (sub)domains.

We have already noted that EYE can evoke a full metonymic chain stretching from the functions of the eyes to some of the attributes of these functions, especially manner or cause (from 'eyes' to 'looking;' and from here, to 'looking insistently' and to 'looking insistently because of love'). But this chain could easily be supplemented by another chain if we moved to other functions and their attributes or related entities: the metonymy can also be from EYE to SEEING and from this function to one of its related entities, namely the object of seeing; in this case, from 'seeing,' we would move to 'thing seen.'[38] This chain, together with the knowledge of the dramatic context, would yet afford an additional metonymic reading of example (25), in which *eyes* could also be interpreted as implying the purely visible features of the beloved, who, according to the conventional model of love (see Kövecses, all publications), is beautiful. In sum, *eyes* can also be interpreted as activating 'those physical features of the object of love that come through the eyes,' and from here, 'the beauty of the

38. The metonymy SEEING FOR THING SEEN (a subcase of PERCEPTION FOR PERCEPT) is quite conventional. Cf. *She was a sorry sight, The lake is a wonderful view.*

object of love.' Thus a possible additional reading of this sentence is that Romeo had only loved Rosaline for her beauty.

On the other hand, the general PART-FOR-WHOLE metonymy would take us from the chain leading to the behavioural domain of LOOKING LOVINGLY (which is just one part of the set of behavioural effects of love) to all of the other conventional behavioural effects of love, and to the effects of love in general (both behavioural and physiological).

All of these additional inferences are consistent with Romeo's behaviour. He had displayed, just a few scenes earlier, several other behavioural effects of unrequited love (sleeplessness, unsociability) which are all epitomised by Friar Laurence with his reference to tear-shedding in the rest of his speech. But now Romeo has forgotten all about Rosaline. There does not seem to have been any basis for his love of her, other than an appreciation of her beauty, as he had explicitly declared in those earlier scenes, and his love had only been manifested in the conventional behavioural and physiological effects of love, and when rejected, in those of unrequited love. There was nothing else "inside."

4.3.4.2. Metaphorico-metonymic complexity of the linguistic expression

This means that we must study whether the same expression manifests more than one metaphorical mapping, and whether it also manifests one or more metonymies.

The expression under analysis is metaphorically complex because we find in it, first of all, a composition of EMOTIONS ARE PHYSICAL ENTITIES ("Young men's *love* then *lies*"), with PEOPLE ARE CONTAINERS ("then lies, not *in* their hearts but *in* their eyes"). We additionally find a composition of this common composite metaphor (PEOPLE ARE CONTAINERS FOR THE EMOTIONS WHICH ARE PHYSICAL ENTITIES) with, on the one hand, HEART IS A CONTAINER FOR EMOTIONS ("*in* their *hearts*") and with EYES ARE CONTAINERS FOR EMOTIONS ("but *in* their *eyes*"), on the other hand. And the metaphorical entailment that young people often deceive themselves

about their feelings, is possible thanks to the purely *conceptual composition* of the composite metaphor PEOPLE ARE CONTAINERS FOR EMOTIONS WHICH ARE PHYSICAL ENTITIES with EXISTENCE IS LOCATION HERE (or the reverse: non-existence is viewed as absence from a location). That is, if the "love-substance" is not in the "person-container," then love does not exist.

The metonymy EYES FOR FUNCTION OF THE EYES (in either of the two versions that we have been considering here) interacts with the PEOPLE ARE CONTAINERS and the EMOTIONS ARE PHYSICAL ENTITIES metaphors in example (25), but it does not arise conceptually within them: it is independent from them, since it can occur independently from them. In (25) the primary metonymic reading points to tear-shedding. I think this version of the metonymy is independent from the two dominant metaphors in the example, but it is quite consistent with the conventional metaphor where the eyes are regarded as containers: *be with brimming eyes*, *be with eyes suffused in tears*. In any case, this version of the metonymy is hardly conventionalised at all.

As for the additional metonymic reading of *eyes* in example (25) as 'way of looking,' all the sentences in example (28), except perhaps for the second one (*Love showed in his eyes*), definitely attest to the conceptual independence of the metonymy from all the metaphors occurring in example (25). By asserting that the metonymy is conceptually independent from the metaphors, I mean that in example (28) we do not necessarily have to take recourse to PEOPLE ARE CONTAINER or to EMOTIONS ARE PHYSICAL ENTITIES, etc. to be able to carry out a metonymic reading from the eyes to their function.

In the second sentence in (28), *Love showed in his eyes*, as in (25), the metonymy is independent from, but at the same time *consistent* with, these metaphors: if love shows in your eyes this may be because they are the outlet for the (radiant, overflowing, burning) love-substance inside you. And this potential articulation between the metaphors and the metonymy can be exploited overtly in a linguistic expression. This is what happens in (25), where external loving ocular behaviour is contrasted with the absence of genuine feelings of love in the internal metaphorical seat of emotions, that is, in the heart.

Therefore, example (25) is, as is usually the case, metaphorically and metonymically complex.

4.4. A final word on the methodology

These are the steps and the subordinate operations that are suggested to hypothesise and describe the metaphors and metonymies in a given linguistic expression. If the metaphor or metonymy is sufficiently documented in the literature on metaphor step one ("observe which domains are connected by the mapping...") may be skipped as well as operations a and b ("look for additional conventional linguistic expressions / additional semantic and pragmatic evidence") of step 2. The characterisation step would then reduce to operation c (devoted to looking for the most general type) and operation d (devoted to describing the functioning of the mapping in context).[39]

Now we can attempt to offer a global reading of the example on the basis of the preceding discussion of its metaphors and metonymies.

4.5. A global metaphorical and metonymic reading of example (25)

Friar Laurence's words present Romeo's love for Rosaline as superficial love. It is a feeling that does not really come from "inside," from the heart. Therefore it does not really exist. It only appears on the "outside." That is, it consists solely of the conventional behavioural effects of romantic love and of unrequited romantic love (especially crying, loving ocular behaviour, unsociability) and of its physiological effects (lack of sleep, paleness). This superficial emotion is furthermore grounded solely on the appreciation of the physical beauty of his loved one.

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39. In some cases, even operation c may have been carried out by other linguists and be available in the literature, and occasionally, even operation d.

On the other hand, this feeling is only a delusion. The shallowness of Romeo's love of Rosaline is brought into relief when he discovers Juliet.

5. Conclusions

This article has summed up briefly the cognitive notions of metaphor and metonymy and then pointed out and attempted to answer a number of definitional problems with these notions. As regards metonymy, it has been claimed to consist of a relationship between domains. It has also been claimed that it does not have to be referential and that it is a mapping resulting in the activation of the target. On the basis of the discussion of WHOLE FOR PART metonymies, three degrees in the continuum of metonymicity have been proposed. The factors favouring the conventionalisation of metonymy have been enumerated and briefly illustrated.

With respect to the problems affecting the cognitive linguistic notion of metaphor, the paper has attempted to clarify the requirement that the source and the target domains must be in separate domains, as a way of distinguishing metaphor from metonymy. This requirement is not sufficient to distinguish them in a number of cases. A possible refinement suggested in the paper, namely, that metaphorical mappings are only possible if a conscious ICM of the taxonomy of domains excludes source and target from each other, is still insufficient to distinguish metaphor from metonymy when source and target are taxonomically included by a more general domain. Thus a more useful formulation of the same/different domain principle seems to take into account primarily functional, rather than taxonomic, domains, and the notion of pragmatic function. In metaphor, source and target are not included by the same functional domain (a frame or an ICM). In metonymy, they are included by one such domain, and in addition, they are linked by a pragmatic function. Finally the types of interaction between metaphor and metonymy have been discussed, distinguishing conceptual interaction from simple coinstantiation in a given expression. An important type of conceptual

interaction is the metonymic motivation of metaphor, which has been suggested to be the rule rather than the exception.

Once these theoretical problems have been dealt with, a methodology for describing the metaphorical and metonymic structure of a textual example has been laid out and applied to a case study. The methodology has proved useful as a proper way of focusing upon the various issues that have to be considered in a descriptive task of this kind: the kind of the mapping, the type of evidence that has to be sought and used, the classification of the mapping as an instantiation of a more general mapping, the functioning of the mapping in the textual example, and the possible metaphorico-metonymic complexity of the example. The methodology has also enabled us to single out the areas where the theory has to be extended (the classification problem, especially with metonymies). One of the conclusions that can be drawn from this case study is the realisation that the same linguistic expression often activates or instantiates simultaneously more than one metaphor and/or metonymy. The figurative reading depends in part on how much we want to "read into" the example. But the methodology proposed here constitutes at once a filter against unsubstantiated readings and a prompt to formulate plausible readings as precisely as is possible in the present state of our knowledge of the metaphorical and metonymic systems of English.

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The roles of metaphor and metonymy in English *-er* nominals

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Abstract

In this chapter we demonstrate that the English nominalising suffix *-er* is a polysemous symbolic unit whose meanings are conceptually related through metaphoric and metonymic links. We hold to the well-established view of metaphor as a cross-domain mapping and view metonymy as a *contingent* (i.e. non-necessary) relation whereby a source concept facilitates access to a target concept within one conceptual domain. In positing a central sense of *-er* embedded in a general conceptual action schema, and metaphoric and metonymic extensions, we account for the range of semantic role possibilities (Agent, Experiencer, Instrument, Location, etc.) and referent types (people, objects, events, etc.) of *-er* nominals, irrespective of the syntactic category of the base. We show that metaphoric and metonymic operations contribute to the high productivity of *-er* nominals by operating on both the suffix and the base of the formation. Thus our analysis supports the view that grammar and lexicon form a continuum of symbolic units.

Keywords: agentive suffix, conceptual transitivity, metonymic source, metonymic target, productivity, polysemy, semantic role, Transitive Scenario, word formation.

1. Remarks on metaphor, metonymy, polysemy, and prior *-er* analyses

As a consequence of the seminal works of Lakoff & Johnson (1980, 1999), Lakoff (1987, 1993), Lakoff & Turner (1989), Gibbs (1994), and others, there now exists a reasonably clear idea of what constitutes a conceptual metaphor: It can be regarded as involving a map-

ping from a (usually relatively) concrete source domain into a (relatively) more abstract target domain, where the target domain is (at least, partially) structured by the source domain. Things are, however, less straightforward with metonymy. The usual characterisation of metonymy refers to the notion of contiguity between two denotata or concepts. Assuming that 'denotata' are not just "real-world" phenomena *per se* but conceptualisations of the human mind, one can reduce 'contiguity between denotata *or* concepts' to 'contiguity between concepts.' Thus the denotational (spatial) contiguity of, say, *face* and *nose* can be considered as a case of conceptual contiguity in the sense that there is a perceptually grounded idealised cognitive model of human body parts and their normal spatial positions relative to one another.

Nevertheless, the problem remains to delineate the meaning of 'conceptual contiguity': Can or shall *any* conceptual or semantic relation be called a contiguity relation, which would make it exploitable for metonymic purposes? We propose that the term *contiguous relation* should be interpreted as meaning 'contingent relation,' i.e. as a relation between two entities that is not conceptually necessary. For example, the relation between a woman and the property of playing the piano is contingent in this sense. This relation can be exploited via the metonymy MUSICAL INSTRUMENT FOR PERSON in the utterance *The piano wants a glass of Chardonnay*, where the subject noun phrase refers to the person that satisfies the definite description (in this case the musician playing the piano). In contrast, the hyponymic relation between *tulip* and *flower* is not contingent (and therefore not contiguous), since a tulip is a flower by definition. In an utterance such as *I have to water the tulips* the concept TULIP automatically evokes the concept FLOWER and, in fact, the latter is not deniable without contradiction. This kind of conceptual necessity does not exist in uncontroversial cases of metonymy, like the one above: The concept PIANO can be focused on without necessarily evoking the concept PIANO PLAYER.[1]

1. Our characterisation of metonymy comes close to that proposed by Seto (1999: 91), who considers metonymy to be "a referential transfer phenomenon based

Metonymy, just like metaphor, can be regarded as a mapping process from a source (sometimes called 'vehicle') to a target (cf. Ruiz de Mendoza & Díez*). Different from metaphor, which involves a mapping between distinct domains, metonymic mappings are supposed to take place within one and the same cognitive domain. This definitional criterion immediately raises the problem of delimiting distinct domains and of identifying single domains. The difficulties are well-known (see Croft*, Barcelona*, Riemer*, Ruiz de Mendoza & Díez*, Warren* for detailed discussion) and will be addressed below in connection with the agentive and the instrumental meanings of *-er* nominals (section 3.4) and with regard to the question of how the event readings of *-er* nominals are conceptually related to their more basic object readings (section 4.6).

We would like to emphasise at this point that we regard both metaphor and metonymy as *conceptual* phenomena and that we disagree with Warren's (*118) view that referential metonymy reduces to head-modifier constructions. Warren assumes that referential metonymies "violate truth conditions" whereas propositional metonymies do not. However, we maintain that, from a cognitive-pragmatic perspective, the primary function of both referential and propositional metonymy is to facilitate the identification of the metonymic target, be it a referential or a propositional target. Questions of truth are secondary in this identification process.[2] One of Warren's examples for a head-modifier construction that is supposed to underlie *a hand* in *Give me a hand*, namely 'that which the hand produces

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on the spatio-temporal contiguity *as conceived by* [emphasis added] the speaker between an entity and another in the (real) world." However, we do not regard metonymy as a purely referential relationship; it is also pervasive on the predicational and illocutionary levels (see Thornburg & Panther 1997, Panther & Thornburg 1998, 1999a, 1999b, 2000).

2. It is well known (cf. Donnellan 1978) that definite descriptions may successfully pick out the intended referent even if the description is literally false; e.g., *the woman over there drinking beer* may very well successfully identify the intended referent even if the woman in question is drinking apple juice, not beer. Similarly, when we use the phrase *hop on the bus* when intending to convey that we are taking the bus to some destination, we often do not literally "hop" on the bus – especially at a more advanced age.

[= help]' is not an adequate paraphrase of this idiom; the hand manipulates and produces things, not help; a more adequate gloss would be 'the activity that involves the hand as an essential component.' Such head-modifier paraphrases, we contend, are merely syntactic reflections of conceptual metonymic operations rather than being their underlying syntactic sources.

Another important question concerns the cognitive status of source and target of a metonymic mapping. As has been pointed out by Radden & Kövecses (1999: 19) and Warren*, in a metonymically interpreted utterance like *I like Mozart*, we refer not just to music but to music composed by Mozart; thus, both the source (*Mozart*) and the target (*Mozart's music*) are mentally present, although the latter becomes the *focus of attention* as a result of the metonymic process. In metonymies that are created ad hoc in specific communicative situations, the source is backgrounded but easily retrievable in the given context (e.g. *the ulcer in room 201* for the 'patient with an ulcer in room 201'). Even when the target concept is conventionalised in the lexicon as one reading of a polysemous lexical item, the source concept is still usually retrievable (e.g. *potbelly* for 'a person with a potbelly'). The link between the metonymic target and its source may however be severed in the course of history: For example, the English verb *implore* originally meant 'entreat with tears in one's eyes;' cp. French *pleurer* 'to weep'; nowadays, tears do not necessarily accompany the speech event of imploring, i.e., the source concept has become detached from the target concept, a development whose result Riemer* refers to as 'post-metonymy.'

To summarise, for the purposes of this chapter we regard metaphor as cross-domain mapping in complete accordance with Lakoff and Johnson's approach. As regards metonymy, we assume that it has at least the following properties:

(1) Metonymy is an intra-domain mapping.
(2) Metonymy is based on a contingent (i.e. conceptually non-necessary) relationship between conceptual entities.
(3) From 2 it follows that the link between a metonymic source and its metonymic target is in principle cancelable.

(4) Metonymy highlights the target concept, but the source concept is in general still recoverable.
(5) However, the source concept may become completely detached from the target, a development that results in a post-metonymy.

The above characterisation of metonymy is certainly not exhaustive, but it appears to be compatible with the uncontroversial cases of metonymy such as CONTAINER FOR CONTENTS, PLACE FOR INSTITUTION, PLACE FOR EVENT, RESULT FOR ACTION, PRODUCER FOR PRODUCT, and the like, and to exclude cases that are intuitively felt to be nonmetonymic (like the *tulip-flower* example above that exhibits a hyponymic relationship). Furthermore, this view of metonymy has the advantage of narrowing down the extension of the concept: If any conceptual relation were regarded as a potential basis for a metonymic process, the concept of metonymy would become vacuous.

It is well-known that metaphor and metonymy play an important role in the lexicon to create new meanings, i.e. polysemy (see Bartsch*). This phenomenon has been extensively studied for content words, but relatively little work has been done on the metonymic and metaphoric meaning extensions of "grammatical" elements such as derivational morphemes; notable exceptions are e.g. Jurafsky (1996) on diminutives, Ryder (1991a, 1991b, 1999) on *-er* formations, Górska (1994) on *-less* and *-free* suffixation, and Twardzisz (1997) and Dirven (1999) on conversion (zero derivation). One important goal of this chapter is to show that metaphoric and metonymic processes operate not only on the lexical bases of *-er* formations but also on the *-er* suffix itself. There are reasons to believe that bound morphemes do not behave differently from "ordinary" lexical items with regard to their potential to metaphorically and metonymically extend their meanings (see section 6).

The analysis of *-er* nominals that we put forth in Panther & Thornburg (2001) deviates from previous analyses in at least two respects: First, we argue against syntactically-based accounts like those of Bauer (1983: 285ff), Levin & Rappaport (1988), Rappaport & Levin (1992), and Beard (1995: 316), who claim that the occurrence of *-er* formations with verbal bases can be predicted by a single

syntactic principle: These authors claim that the denotatum of an *-er* nominal corresponds to the referent of the subject (the external argument in Levin and Rappaport's account) of the equivalent syntactic sentential paraphrase of the formation. This "generalisation" is, however, weakened by a considerable number of exceptions. For example, *laugher* has two readings: one that falls under the generalisation ('someone laughs') and a second interpretation ('some event makes someone laugh') that falsifies the generalisation, since the paraphrase 'some event laughs' for the second reading is impossible. Heyvaert (2001) also adheres to the subject nominalisation view of *-er* formations and claims that there is a systematic relationship between nonagentive *-er* words and middle constructions. The problem with this account is that there is only a partial correlation between nonagentive *-er* words and middle constructions. Several of Heyvaert's own examples cannot be used in middle constructions at all; e.g. *jotter, kneeler, stepper* have no corresponding syntactic paraphrases of the form *This N jots/kneels/steps well.* It seems therefore not to be a wise step to "derive" *-er* nominals from, or correlate them with, some underlying syntactic paraphrase.

Second, previous analyses have usually strictly separated verb-based *-er* formations from formations with nonverbal bases on the grounds that the latter are completely different in not being amenable to a syntactically based treatment or an account in terms of argument structure. This separation is even maintained by cognitive linguists like Mary Ellen Ryder (1999). Ryder argues that verb bases evoke fairly specific event schemas with a certain number of participants having specific roles that facilitate the task of finding the intended referent of an *-er* word. In contrast, she believes that noun bases evoke indefinite schemas that have to be supplemented by world knowledge and the context in order to be interpretable.

In our view the putative contrast between noun-based and verb-based formations is not as significant as Ryder and others assume. We have found that all *-er* nominals can be accounted for with the analytical tools available in cognitive linguistics, namely: (i) a general conceptual schema independent of the syntactic category of the *-er* base, (ii) two high-level conceptual metaphors, personification

and reification, and various metonymic processes that account for the polysemy of the *-er* suffix, and (iii) conceptual metaphors and metonymies operating on the base of *-er* formations. Our findings thus considerably weaken the traditional assumption that the nonverb-based *-er* nominals constitute an erratic if not "chaotic" category.

2. A cognitive approach to *-er* nominals

Although *-er* formations in present-day English constitute a seemingly heterogeneous collection of lexical items due to their extreme formal and referential diversity, a coherent picture can be constructed based on conceptual and functional principles. Following Langacker's insight (1991: 16) that "grammatical morphemes, categories, and constructions all take the form of symbolic units," we propose that the present-day *-er* suffix is a polysemous symbolic unit whose meanings are conceptually related through metaphoric and metonymic links.

We posit the central sense of *-er* to be the following: 'a human Agent who performs an action or engages in an activity to the degree that doing so defines a primary occupation.' This use of the *-er* suffix to designate humans by profession produces nominals with both referential and predicational functions. All other *-er* nominals – with their various senses and uses – can be most parsimoniously related to the central sense.

Given the central sense of *-er*, we assume that the semantic description of *-er* nominals must make reference to an idealised model of human actions and activities, which we call the Prototypical Transitive Scenario. The transitive scenario we posit contains the following components:[3]

(1) There is a setting, i.e. a *place* and a *time*, in which an event takes place.

3. This model of conceptual transitivity is also central to our analysis of subject incorporations (e.g. *snowfall, nosebleed*) in Thornburg & Panther (2000).

(2) The event involves two distinct *participants* that are in an *asymmetrical* interaction.
(3) One participant is an *intentionally acting human*. The other is *directly affected/effected* by the action.

The parameters of this multidimensional model are scalar, i.e. the scenario may be reduced and extended in various ways: It can be elaborated to include other participants, e.g. instruments; the participants themselves can vary in degrees of e.g. agenthood, humanness, or affectedness; and the actions and activities involved may vary with degrees of dynamism, contact, telicity, modality, etc. For example, *exterminator* evokes a dynamic action scenario having a potent Agent and highly affected Patients, whereas *surfer* simply profiles an Agent performing a relatively dynamic activity with no impact on a Patient. In contrast, *owner* evokes a relatively nondynamic scenario low in agentivity and affectedness; likewise *dreamer* is low in agentivity and lacks a second participant.[4]

3. *-er* nominals with object referents[5]

3.1. The central sense of -er*: Professional human agent*

Representative examples of *-er* formations having the central sense are: *teacher, baker, brewer, governor, manager, steelworker*, all of which fit the Transitive Scenario in that the referent is a highly agentive human being who pursues some professional activity or performs some action with a more or less strong impact on a Patient. Slightly less transitive, but still high on the conceptual transitivity scale, and less 'professional' are formations whose referents avocationally or habitually or characteristically engage in activities, such as *runner, jogger, skater, swimmer,* and *surfer* that do not involve a Patient, but

4. We regard the spellings *-er, -or, -ar*, which reflect distinct etymological origins, as irrelevant for a synchronic analysis.
5. For a more detailed and fine-grained analysis of *-er* formations the reader is referred to Panther & Thornburg (2001).

are 'activities' in the sense of Vendler (1967). Typically, in these examples, the professional/occupational or habitual, and therefore characteristic, activity or action named by the base is sufficient to evoke other participants identifiable in the scenario, e.g., *teacher* readily evokes students, academic subjects taught, settings for teaching, and materials used in teaching. One might therefore be tempted to say that the base *teach* is a "reference point" (see Langacker 1993) that allows mental access to other components of the teaching scenario. This view would entail that verbal bases in *-er* nominals metonymically trigger rich cognitive models (scenes, frames, scenarios, and the like). We are, however, reluctant to adopt the idea that the verbal base in *-er* nominals is a vehicle for metonymic mappings because doing so leads to an undesirable overgeneral notion of metonymy. We will therefore say that the verbal base evokes the whole scenario (with its concomitant participants) *directly* (i.e. non-metonymically), as illustrated with *teacher* in Figure 1.

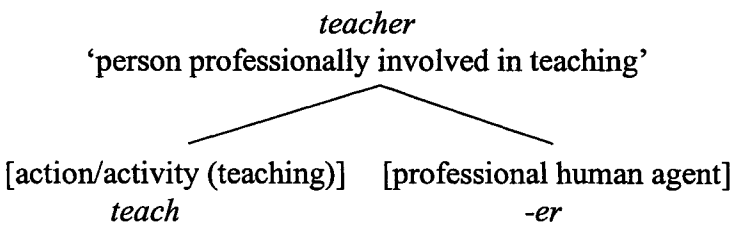

Figure 1. The central sense of *-er* illustrated: *teacher*

There are, however, numerous *-er* nominals with the central sense that have a nonverbal base.[6] In the case of *tinner, hatter, whaler, driftnetter, Wall Streeter, submariner, philosopher,* and the like, a professional or habitual action or activity cannot be directly evoked.

6. This *-er* formation type existed in Old English: Ryder (1999: 269) cites Kastovky's (1971) examination of three Old English dictionaries that yielded 50 denominal *-ere* formations among a total of about 300, the rest being deverbal.

These nominals are present-day equivalents of Old English nominals like *bócere* ('somebody who works with/on books, i.e. a scholar, scribe, or writer') in that they denote human Agents with regard to occupational activities – though their respective bases do not name the action the Agent performs. Rather, in many cases what is named in the base is a substance (*tin*), an affected (animate) object (*whale*), a created object (*hat*), an instrument (*driftnet*), a location (*Wall Street, submarine*), an abstract substance (*philosoph[y]*), i.e. a participant or an entity that is crucially involved in the professional activity. A *tinner* or a *whaler* is a person who does something to tin or whales; a *hatter* is a person who creates hats. In fact, we can even include in this class nominals like *philosopher* and *astronomer* whose truncated bases evoke an academic discipline. In a more abstract sense, philosophers and astronomers are human Agents who professionally direct mental action/energy onto an abstract substance (a scientific discipline), which may be regarded as an affected entity insofar as the discipline may be changed or redefined by the efforts of the Agent.

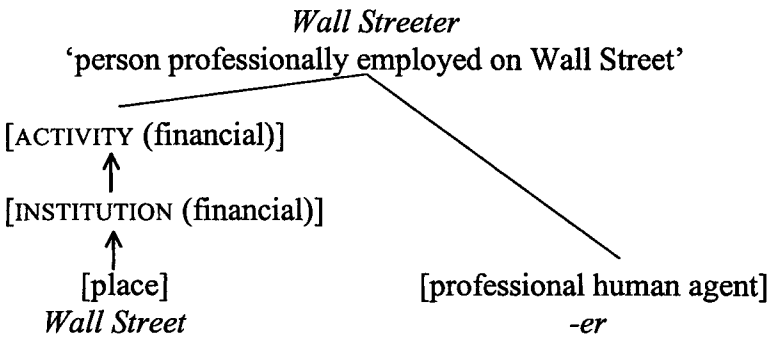

Figure 2. Metonymic extension of the base in *Wall Streeter*

We claim, then, that the above nominals with nonverbal bases are conceptually of the same type as the deverbal nominals with the central agentive sense – except that the nonverbal base is metonymically interpreted. Thus, with examples like *driftnetter*, *hatter*, etc., the denotatum of the base constitutes a reference point from which the oc-

cupational action or activity of the Agent is metonymically accessed. In Figure 2 we provide a schematic representation of *Wall Streeter* (ignoring many conceptual details for the sake of simplicity). The open arrows symbolise an operation from a metonymic source to a metonymic target.

A slightly more complex example in which both metaphor and metonymy interact to lead to the target interpretation 'activity (of Agent)' is the slang term *hoofer*, a term that denotes a professional dancer associated with popular culture (vaudeville, Broadway, etc.) but not usually with high culture (ballet, opera, etc.). We represent this sense creation in Figure 3: The *-er* suffix provides the meaning 'professional human Agent;' the nominal base provides access to the professional activity via metaphorical and metonymic mappings. As before, the open arrow represents a metonymic link. Below and throughout the remainder of the chapter a darker solid arrow symbolises a metaphoric mapping.

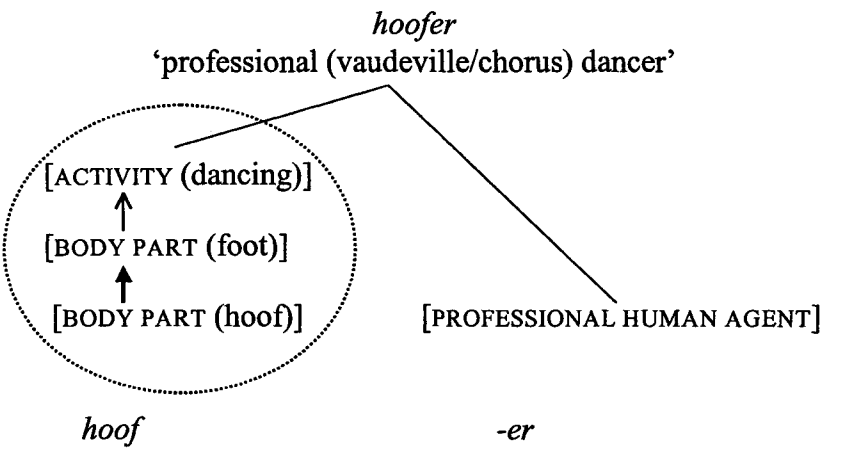

Figure 3. Metaphoric and metonymic structure of *hoofer*

The encircled portion of the diagram in Figure 3 contains a more complex conceptual structure that we elaborate in Figure 4 using a mode of graphic representation developed by Ruiz de Mendoza & Díez (*519ff).

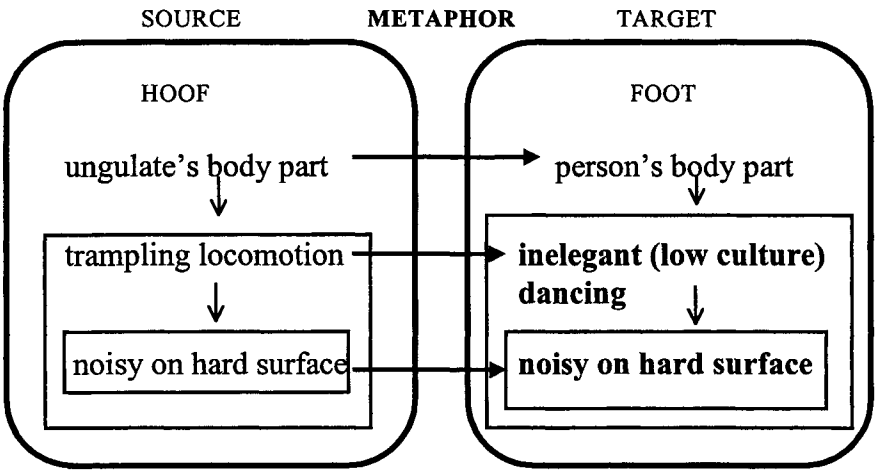

Figure 4. Elaborated conceptual structure of the base *hoof*

In Figure 4, the two rounded outer boxes represent the metaphorical source domain HOOF and the corresponding metaphorical target domain FOOT. (This correspondence is based on the high-level metaphor PEOPLE ARE ANIMALS.) Within the source domain, there is a metonymic elaboration of the concept HOOF, a body part of an ungulate (e.g. a cow), to the trampling locomotion of this animal.[7] This manner of locomotion in turn metonymically induces the expectation of noise if the trampling takes place on a hard surface. It is these metonymically evoked attributes in the source domain that are metaphorically mapped onto the target domain FOOT, thereby partially structuring this concept. This newly created conceptual material in the target domain is printed in boldface type, whereas the inherent conceptual material is printed in normal type. The ungulate's trampling is metaphorically mapped onto a human being's dancing and the noise produced by the trampling is matched by the noise engendered by the dancing feet on the hard surface of a stage. As a result of the metaphorical mapping the metonymic structure of the target do-

7. Recall that these metonymic elaborations are contingent, as defined in section 1.

main attains a conceptual structure isomorphic to that of the source domain. Figures 3 and 4 show that there is an intrinsic ordering of the metaphoric and metonymic operations. Figure 3 represents this ordering as a sequence where the metaphor A HOOF IS A FOOT precedes the metonymic operation FOOT FOR ACTIVITY (dancing), whereas Figure 4 represents the source domain (HOOF) of the metaphor as having a metonymically elaborated structure that is isomorphically mapped onto the target domain (FOOT). For more detailed discussions of the relative order and interaction of metaphoric and metonymic processes see Geeraerts (*454ff) and Goossens (*360ff).

To conclude the discussion of the central sense of *-er* nominals, we can make the following generalisation: *-er* nominals with a non-verbal base involve the operation of the high-level metonymy PARTICIPANT FOR ACTION/ACTIVITY, in which the term 'participant' is used to refer to some component in a scenario. That is to say, the metonymic source concept named in the base – i.e. an essential participant (in a professional action/activity) – licenses an inference to, or an evocation of, that same action/activity. In section 4.6. it will be seen that the same type of high-level metonymy found in the base may operate on the *-er* suffix as well.

3.2. Metaphoric extensions from the central sense

Whether animate or inanimate, nonhuman entities perceived to be like humans in some respect can be referred to via the high-level metaphor NONHUMANS ARE HUMANS, also known as personification.

3.2.1. Animals and plants

Animals and plants can be metaphorically construed to be like human Agents to a greater or lesser extent and can therefore be designated by *-er* words in terms of their characteristic actions. In fact, some domesticated creatures are referred to as "working" animals and it is thus not surprising that there are *-er* nominals denoting them by

naming in their base a "professional" action. Nominals denoting animals are e.g. *retriever, pointer, setter, biter, nightcrawler* 'worm,' *grasshopper*. Plants with human-like properties are *Venus fly-catcher, creeper, (late) bloomer*.

3.2.2. Inanimate objects

Inanimate objects such as automobiles and buildings are also sometimes personified as human agents with characteristic traits; two well-known examples are *gas-guzzler* and *skyscraper*. These highly conventionalised *-er* nominals conceptualise objects as if they were humans, habitually guzzling a liquid, or as being so tall that they "scrape against the sky."

3.3. Metonymic extensions from the central sense

Thus far we have dealt with *-er* nominals denoting professional human Agents (e.g. *teacher, Wall Streeter*), human referents more or less conceptually close to Agents (e.g. *owner, dreamer*) and to nonhuman referents metaphorised as human Agents (e.g. *retriever, gas-guzzler*). We now turn to those *-er* nominals with nonhuman object referents that have an Agent-contiguous role in the Transitive Scenario. These *-er* nominals designate Instruments of various types, Locations, and even Patients, a fact that may appear surprising at first sight. We will argue that these different senses of *-er* nominals are conceptually motivated, but will reserve our discussion of the *nature* of this motivation until section 3.4.

3.3.1. Instruments

As has been recognised (Ryder 1991a), a natural extension from Agent *-er* nominals are nominals that denote Instruments. Instruments seem conceptually related to Agents in an action scenario.

Some Instruments have agent-like properties, others are necessary or helpful in achieving certain goals of an Agent. Examples with verbal bases are *can opener, refrigerator, dishwasher, hairdryer, muffler, fender, bumper, distributor, beeper, pager, vibrator, screwdriver, sprinkler, tranquiliser, thirst quencher, ruler, multiplier,* and *divisor.* There are also nominals with nonverbal bases that have a clearly instrumental character like *three-wheeler, upper/downer* 'drugs,' *three-incher* 'kind of nail.' Just like Agents, these instrumental nominals with a nonverbal base undergo metonymic operations on the base.

As an example of an Instrument that involves both a metonymic and a metaphoric extension of the base, consider a colloquial designation for an antidepressant drug, *upper*, whose conceptual structure is diagrammed in Figure 5.

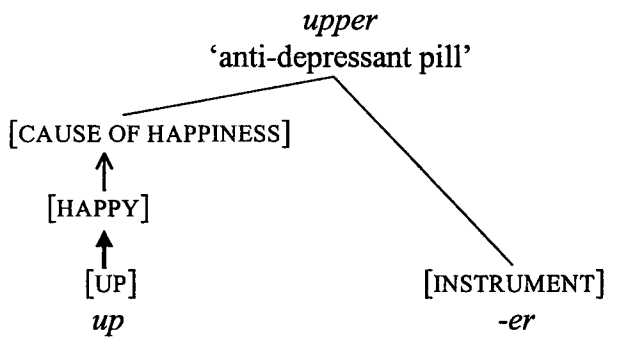

Figure 5. Metaphoric and metonymic structure of the base of *upper*

Upper involves the well-known metaphor HAPPY IS UP. The metaphorical target (HAPPY) is itself expanded by the metonymy EFFECT FOR CAUSE to the cause of the happiness (i.e. the active ingredients of the drug contained in the pill).

3.3.2. Quasi-instruments

There are a number of *-er* nominals that denote articles of clothing worn by an Agent in carrying out a particular action. Examples are

pedalpushers, clodhoppers, clamdiggers, stroller, muffler, loafers, sneakers, and *waders*.

We call these nominals Quasi-instruments because they seem conceptually related to Instruments. Their referents are not themselves sufficiently instrumental in bringing about the action or activity denoted by the base, but like Instruments they assist the Agent in carrying out the action. Thus, *pedalpushers* 'mid-calf length pants fashioned for bicycling' facilitate bicycle pedaling, *waders* facilitate wading in water. Of course these actions can also be accomplished without Quasi-instruments (which, strictly speaking, also holds for Instruments). As with Agents and Instruments, the bases of Quasi-instruments may be nonverbal. For example, the nominal *topside* forms the base for *topsiders* 'rubber-soled shoes designed to be worn for walking on a boat's top side.'

3.3.3. Purpose-locations

As noted in section 2, the Prototypical Transitive Scenario has a setting with the components Place and Time. Indeed we find *-er* nominals that denote a *place* where an activity is carried out by some (human) Agent, e.g. *sleeper, diner, crapper, shitter, bed-sitter, larder*. What makes these nominals conceptually contiguous to Instruments is the fact that they designate (sometimes large) objects that are designed for special purposes of human Agents. In this sense they are motivated extensions of the Instrument category. We note at this point that the setting component Time does not seem to be available as an *-er* referent. That is, *diner* and *sleeper* resist the respective readings 'time period for dining/sleeping.'

3.3.4. Purpose-patients and Valued-patients

So far we have seen that, overwhelmingly, *-er* words denote an Agent or an Agent-like participant, or an Instrument participant, and even Locations in the Transitive Scenario. Yet strikingly, *-er* words

in English may also denote affected entities (i.e. a Patient) in an action scenario. Examples are *cracker; fryer, broiler, roaster* 'types of chickens;' *steamers* 'clams;' *eater, baker, cooker* 'types of apples;' *sipper, slurper, gulper* 'types of drinks;' *reader* 'collection of readings,' *poster, mailer, scratcher* 'lottery ticket.'

At first sight it is puzzling to have both Agents and Patients as possible referent types of *-er* formations, given that affected entities (i.e. Patients) seem conceptually so remote from Agents. However, on closer inspection, it turns out that some *-er* Patients can be regarded as natural extensions of Instruments in the sense that they are designed for a special purpose (independent of whether the purpose is realised or not): Examples are *reader, poster,* and *scratcher.* Others may not be intentionally designed for a certain purpose but have inherent properties that make them suitable for certain purposes, e.g. *fryer* 'chicken young enough for frying,' *stocking stuffer* 'small gift suitable for Christmas stocking,' *fixer-upper* 'house suitable for being fixed up.' Such Patients, then, are conceptually fairly close to Instruments, which are also purpose-designed entities. Closely related to Purpose-patients are those we call Valued-patients, which fulfill a purpose in a person's value system, e.g. *keeper* and *holder. Keeper* may denote an entity that is subjectively construed as worthy of being kept (e.g. a piece of jewelry or even a human being via the HUMANS ARE OBJECTS metaphor, as in *Your boyfriend is a keeper*). *Holder* may denote a stock that could pay off in the future and should therefore be held.

3.3.5. True-patients

The participant in the Transitive Scenario furthest removed conceptually from Agent is what we call a "true" Patient. Examples seem to be relatively rare. Two such cases are *scrambler* 'scrambled egg dish' and *beater* 'beaten up (old) car.' These can be called True-patients because there are no special eggs for scrambling, nor are cars designed for the purpose of being beaten up. One could however argue that *scrambler* is a Purpose-patient in that the referent is inher-

ently suitable for the action named in the base. Under either analysis, *scrambler* along with *beater* can only be conceptualised as being in a resultant state after having undergone the action named in the base. True-patient *-er* formations seem to be the least productive type (though see section 6), which is not surprising given their conceptual distance from the Agent. Still, that they occur at all is motivated because they can be regarded as natural extensions from Purpose-patients.

3.4. Summary and discussion of -er *nominals with human and non-human referents*

In Figure 6 we present a simplified summary of our analysis in terms of a conceptual network of the meanings of human and nonhuman *-er* nominals in relation to the central sense of *-er* ('a human occupationally performing an action,' abbreviated in Figure 6 as 'Professional Human Agent'). The arrows between categories represent minimal conceptual links. The number of links from the central sense iconically reflects what we call the *conceptual distance* from the central sense. Again, darker solid arrows represent metaphorical mappings, i.e. those extending leftward from Professional Human Agent to nonhuman referents that are "like" human Agents; lighter open arrows represent metonymic links, i.e. those extending up/down and rightward from Professional Human Agent. The up/down metonymic links from Agent extend to other human referents (e.g. *dreamer, owner*) conceptually distanced from the central sense in terms of such scalar parameters as 'agentivity,' 'habitualness.'[8] The metonymic links extending rightward from the central sense lead to nonhuman participants in the Prototypical Transitive Scenario (see section 2) that are conceptually contiguous to the Agent participant.

8. Though these *-er* nominals denote humans (other examples are: *believer, idler, loner, left-hander, '56-er, widower, six-footer*) that are conceptually linked to the central sense, we have refrained from discussing them extensively for reasons of space and refer the reader to Panther & Thornburg (2001: section 3).

With the exception of the setting component Time, English exploits Instrument, Location and Patient participants for *-er* formation.

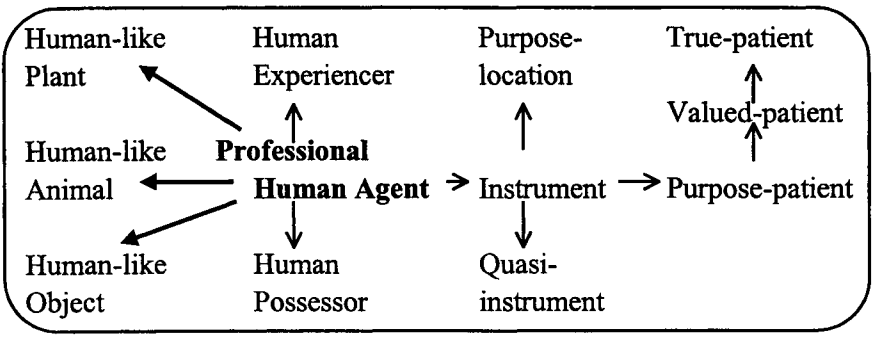

Figure 6. Object-level metaphoric and metonymic extensions from the central sense of *-er*

So far we have not discussed the assumption that the conceptual links postulated between e.g. human Agent and Instrument, or Instrument and Purpose-patient, are indeed metonymic, or whether those assumed between, say, human Agent and Animal are indeed metaphoric. The answer we want to justify in what follows is that, at least in part, the nature of the links is a matter of how a conceptualiser *views* them. Figure 6 is only one possible network but does not exclude other ways of accounting for the conceptual links.

Consider for example the "metaphorical relation" between human Agent and designations for certain (especially domestic) "working" animals. On the one hand, for many people, a retriever (breed of dog) is like a human being, capable of goal-oriented action and thus acting as an almost independent intentional agent. On the other hand, the connection between human and domesticated animals may also be conceptualised as a metonymic link. A retriever may be regarded as an (animate) Instrument used by humans for hunting purposes – just like a bottle opener is used for opening a bottle. If we assume that a cognitive model of human beings includes the information that they use tools, instruments, and means to achieve their goals, etc., then we can analyse the relation between human Agent and Animal using

Ruiz de Mendoza and Díez's (*497) terminology as a target-in-source metonymy.

Similarly, we argue that the relation between human Agent and Instrument can be regarded as either a metonymic or a metaphoric mapping. It is certainly quite plausible to regard the instrumental sense of *-er* nouns as a metonymic extension from the agentive sense. Given that humans use instruments in achieving goals, the same line of reasoning as above can be applied: Instruments are part of some sufficiently general human Agent model and one therefore can assume a metonymic mapping from a larger matrix domain into a smaller subdomain (again a target-in-source metonymy in the sense of Ruiz de Mendoza and Díez*). Instead of postulating a metonymy AGENT FOR INSTRUMENT one could also focus on the agentive nature of (at least) a subset of Instruments. An argument in favour of this position would be that, at least in English, Instruments can indeed often be used in the same kinds of constructions as human Agents; e.g., they can occur as the subject of transitive sentences with action verbs. One would thus be led to analyse Instruments as metaphorical Agents, with properties of the latter mapped onto corresponding properties of the former.[9] The Instrument *dishwasher* could thus be analysed as in Figure 7 or in Figure 8:

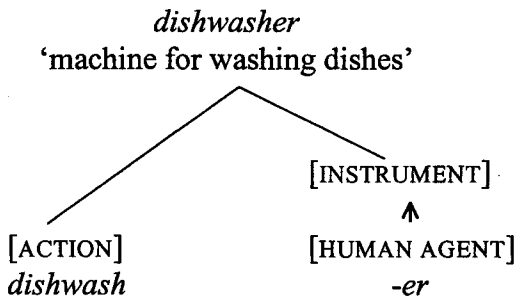

Figure 7. A metonymic analysis of *dishwasher*

9. The thesis that "many cases [of meaning generation] can be viewed as metaphor or metonymy, without the one way of understanding excluding the other" is also advocated by Bartsch (*71).

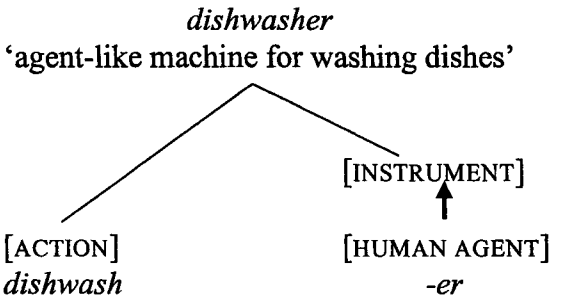

Figure 8. A metaphoric analysis of *dishwasher*

4. *-er* nominals with event referents

So far we have discussed only *-er* nominals that denote *objects* conceptualisable as components within an idealised action scenario, i.e., denotata that are Agents (and Agent-like), Instruments, Patients, etc. But a very interesting property of *-er* nouns is their capacity to denote not only *things* (humans, animals, plants, objects (concrete/abstract), substance) but also *events*. In sections 4.1 – 4.3 we will defend and illustrate the thesis that the conceptual link between things and events is a case of REIFICATION that is achieved by means of the EVENTS ARE OBJECTS metaphor, which provides yet more senses of this extremely productive suffix. We will show that the EVENTS ARE OBJECTS metaphor and its submetaphors allow specific conceptual roles in the Transitive Scenario to be mapped onto events. The result of this kind of mapping is that events themselves are metaphorically viewed as being like human Agents, Instruments, or Patients. There are, however, other event *-er* nominals that have no such semantic role specification, e.g. *kegger* 'beer party.' These are discussed in section 4.4. The referents of this type of event nominals are not conceptualised as metaphorical Agents, Instruments, etc., but merely denote events as such. Their senses are generated by the generic EVENTS ARE OBJECTS metaphor. In addition, these cases require complex metonymic elaboration of their bases for their interpretation.

In section 4.5 we summarise our analysis of event-level *-er* nominals. Finally, in section 4.6 we consider the question of whether there is a PARTICIPANT FOR EVENT metonymy, alongside the well-established EVENTS ARE OBJECTS metaphor, that operates on the *-er* suffix.

4.1. Agent/causer events

As an example of an "agentive" event, consider a suspenseful movie, i.e. a *thriller*. We assume that this narrative event is metaphorically likened to the human Agent in the Transitive Scenario. The base in nominals like *thriller* names the "action" that the agentive event "performs" on the experiencer. A simplified schema of this Agent event *-er* nominal is given in Figure 9:

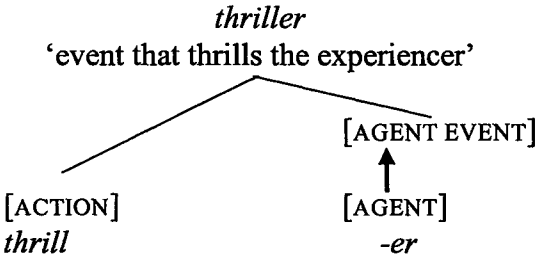

Figure 9. Metaphoric structure of *thriller*

Other *-er* nominals that exhibit the metaphor AGENT EVENTS ARE AGENTS, which is a submetaphor of EVENTS ARE OBJECTS, are *chiller*, *stunner*, *bummer* or weather events like *drencher*, *gullywasher*, *sizzler*, and *scorcher*.

Somewhat more complex are event nominals such as *groaner*, *howler*, and *laugher*. A groaner does not "groan you" in the same sense that a thriller "thrills you.' *Groaner* denotes an event, often a bad joke, which *makes* the experiencer groan. An analogous analysis applies to *laugher* and *howler*. It seems therefore that these formations involve an EFFECT FOR CAUSE metonymy; what they name in the base is the resultant effect (e.g. the activity of groaning) on the

experiencer of the event. Thus there is a metaphorical mapping from the Agent domain into the domain of causing event (coded by the *-er* suffix) and a metonymy that operates on the meaning of the base (an activity) and relates it to the cause of this activity. These metaphorical and metonymic processes are diagrammed for *groaner* in Figure 10.

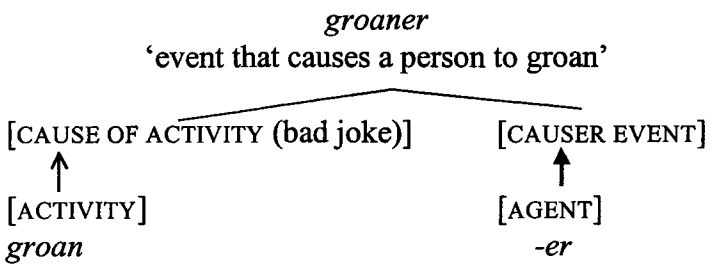

Figure 10. Metonymic and metaphoric structure of *groaner*

4.2. Instrument events

We have discussed the event *-er* nominals in section 4.1 above to illustrate how the EVENTS ARE OBJECTS metaphor allows us to conceptualise events as Agents or Causers in the idealised Transitive Scenario. But since many events, such as the narrative events of books and films, are intentionally designed to produce effects on the experiencers of these events, the boundary between Agent/Causer event and Instrument event is fuzzy. The movie *Ghost*, a *weeper*, may be conceptualised as a Causer event in that a (perhaps unintentional) effect on viewers is that they weep. But one might just as easily consider *weeper* (or for that matter, *thriller*) to be a movie that is *designed* to produce weeping and therefore appeal to a particular market share. In either case, as Agent/Causer event or as Instrument event, these *-er* nominals are motivated in our analysis.

We now look at some event nominals that have a clear instrumental function, i.e., they are designed for particular purposes. They involve the submetaphor INSTRUMENTAL EVENTS ARE INSTRUMENTAL

OBJECTS of the generic EVENTS ARE OBJECTS metaphor. Examples include *mixer*, *fundraiser*, *updater*, and *(season) opener*. The first three denote events that have the instrumental function to (metaphorically) mix males and females, raise funds, and update an audience, respectively. *Season opener* is an event that *performatively* functions to open the (concert, baseball, etc.) season. It is exactly parallel to an object Instrument such as *can-opener* (see section 3.3.1) in that the metaphorical mapping to the event level preserves the conceptual structure of the source domain. Note that, as elsewhere, the conceptual structure of some formations is more complex than indicated above. For example, a mixer is not only an event with the purpose of "mixing people" but, in addition, is thought of as a *means* to accomplish sociability (e.g. at a party).

4.3. Patient events

Finally, there are even a few examples where the EVENTS ARE OBJECTS metaphor has an object Patient as its source domain. Examples are *keeper* and *forgetter*. The word *keeper* 'some *thing* worthy of being kept' can be projected metaphorically onto the event level so that *keeper* denotes an experience worthy of being "kept' in one's memory or preserved, e.g. on a video-recorder. *Forgetter* can be used to characterise an immemorable event, e.g., *That movie? Terrible! A real forgetter!*, but is less likely to be used to denote an object worthy of being forgotten. These cases are thus parallel in their conceptual structure to the ones discussed as Valued-patients in section 3.3.4.

4.4. Event nominals with no semantic role specification

Finally, there is a class of event *-er* nominals whose referents have no specific roles in a Transitive Scenario; they merely denote an event as such. In these cases the event referent is metonymically accessed by the base, which names an essential component of the event referent (cf. the concluding remarks in section 3.1), such as a time or lo-

cation component, a subevent, an affected entity, a means to reach a goal, etc. Examples of this type includes *rear-ender, kegger, tail-gaiter, sundowner, breather, beaner, bender, in-the-parker* 'homerun hit within the baseball park,' *back-hander* 'tennis stroke.'

Many members of this class have nonverbal bases and are comparable to object-level *-er* formations with nonverbal bases discussed in section 3.1. For example, *rear-ender* evokes a car accident scenario; the metonym in the base names the affected entity in the event. *Kegger* denotes a beer drinking party, naming the essential item in its base. *Tailgaiter* is a kind of picnic in which the tailgate part of a car is used for a table. *Sundowner* is a cocktail party held at sundown. A more complex example is *beaner* 'a hit on the head,' which in its slang use has a metaphorical base meaning 'head,' the affected entity in the event denoted by *beaner*. We represent the overall conceptual structure of this nominal in Figure 11. Interestingly, *beaner* lacks an object-level interpretation, indicated by an asterisk in the diagram, but is nevertheless motivated by the OBJECTS ARE EVENTS metaphor. We consider the absence of an object-level interpretation as an accidental gap.

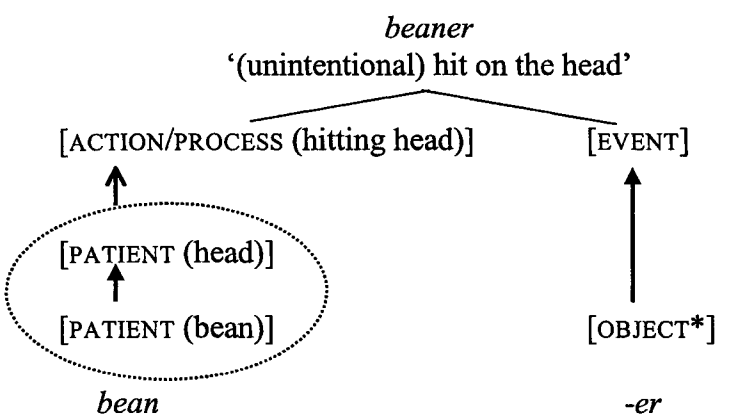

Figure 11. Metaphoric and metonymic structure of *beaner*

The encircled portion of the diagram in Figure 11 is elaborated in more detail in Figure 12.

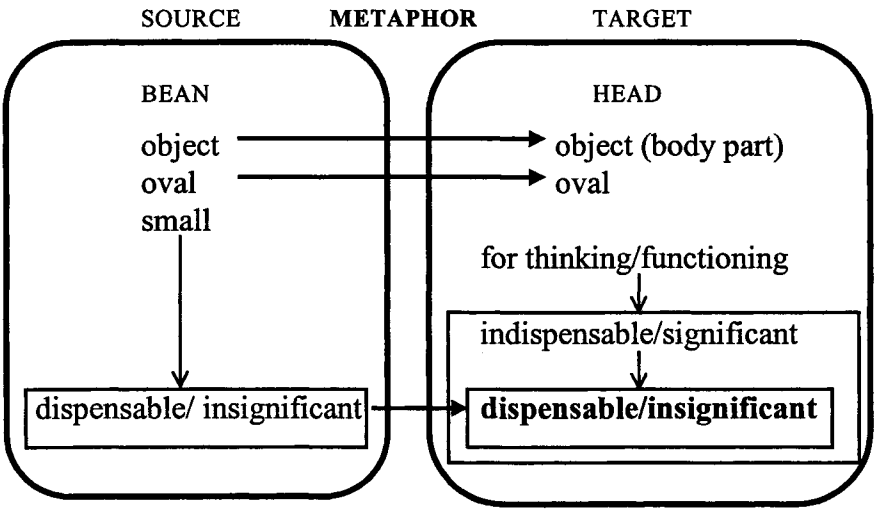

Figure 12. Elaborated conceptual structure of the base of *beaner*

Figure 12 (cf. Figure 4 for *hoofer*) depicts the metaphorical mapping from the source domain concept BEAN to the target domain concept HEAD. In the source domain one of the attributes of a bean, namely its small size, is metonymically linked to the attribute 'dispensable/insignificant.' (Compare a similar meaning in *peanuts* 'small; trifling amount of money.') It is this contingent attribute that is metaphorically mapped into the target domain, thereby providing a new structural element that is not part of the inherent structure of the target domain. This new property, represented in bold face, clashes conceptually with a metonymically derived attribute of HEAD, namely 'indispensable/significant,' which is considered to be a feature of human heads. This clash gives rise to humorous effects, not untypical of slang expressions that often rely on the conventional sense of a word to metonymically evoke its opposite (e.g. *bad* meaning 'good;' see Vosshagen 1999). Secondarily, one might therefore interpret the relation in the target domain between 'indispensable/significant' and 'dispensable/insignificant' as an antonymic metonymy induced by the metaphorical mapping.

In contrast to the above, there are event nominals with no role specification that have a verbal base. One such example is *bender*. As with the other examples discussed in this section, the interpretation of the event nominal requires metonymic elaboration of the base. The base in *bender* is a metonym for a subevent in the complex drinking-spree event, which requires one to bend one's elbow repeatedly. A simplified schematisation for *bender* is given in Figure 13.

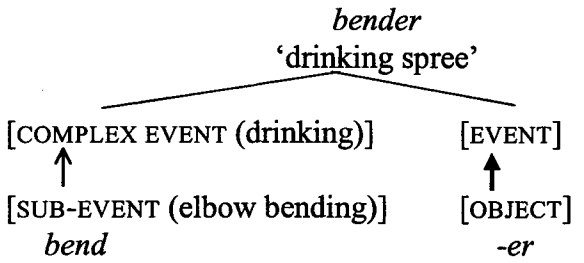

Figure 13. Metaphoric and metonymic structure of *bender*

Examples like *bender* instantiate an important point. Recall that in section 3.1., with regard to the central sense of *-er*, we made a distinction between *-er* nominals with verbal bases that *directly* evoke the professional/occupational scenario and those with nonverbal bases that *metonymically* access this scenario. Cases such as *bender* demonstrate that verbal bases are not immune to metonymic elaboration. Thus, we contend that the traditional dividing line that most researchers explicitly or implicitly draw between verb-based and nonverb-based *-er* nominals is not well-founded. Data like the above support our view that an account of *-er* nominals should include all formation types.

4.5. Summary of -er *event nominals*

We have shown that from the central sense of *-er*, a person professionally engaged in an action scenario, the denotational range of *-er* can be extended to the event level via reification, i.e. by means of the

EVENTS ARE OBJECTS metaphor. We assume that this metaphor is at work even in those cases where there is no corresponding object-level interpretation of the event-level *-er* nominal. We have demonstrated that remarkable structural parallelisms exist between object-level and event-level *-er* nominals: Agent, Instrument, and Patient functions can be found on both levels.[10] As to event-level nominals that have no metaphorically mapped semantic role, their understanding involves interpreting the base as naming a crucial object, setting component, or salient subevent that functions to metonymically evoke the target event. In the most general sense these metonymies could be regarded as PART-WHOLE metonymies. The meanings of such formations are often opaque and require extensive knowledge of cultural scripts. Figure 14 presents the main features of our analysis of event-level *-er* nominals. The open arrows between boxes represent conceptual contiguity (presumably metonymic) links, as in Figure 6.

4.6. -er *event nominals: Metaphor or metonymy?*

We now turn to the nature of the projection from the object level to the event level in the interpretation of *-er* nominals that, so far, we have characterised as a metaphoric mapping. As we pointed out in sections 4.1. – 4.3., there is a *structural resemblance* between human Agent and Agent/Causer event, between Instrument and Instrumental event, and between Patient and Patient event, respectively, that supports the claim that the mappings between the object domain and the event domain are indeed metaphoric in these cases. Moreover, we find *-er* formations that are systematically ambiguous between an object and an event reading. For example, an *upper* may refer to a

10. Another parallelism manifests itself in the exploitation of the EFFECT FOR CAUSE metonymy on both levels. Indeed, in many formations there is systematic ambiguity: e.g., *sleeper* can denote both an object (a sleeping pill) and a boring event; in both cases the base denotes the effect of an unnamed cause (see section 5).

drug (as illustrated in section 3.3.1.) but also to an event that makes one happy; a *howler* may refer to a person or an animal, but also to an event that causes howling; a *groaner* can be a human Agent that groans or a Causer event that makes people groan.

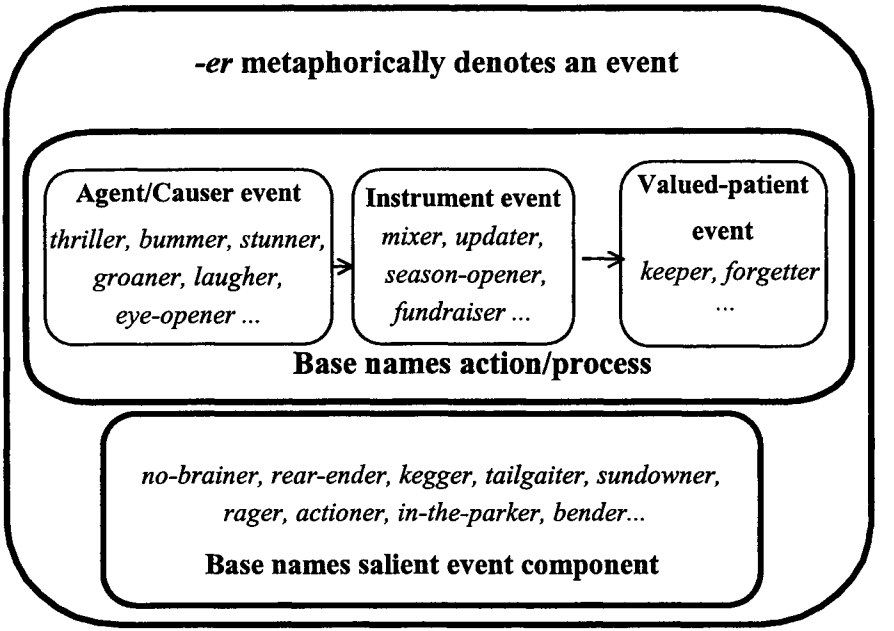

Figure 14. The extension of *-er* via reification to denote events

However, there seem to exist some cases where the event reading of an *-er* nominal does not seem to be motivated by a metaphor, but by a metonymy such as PARTICIPANT FOR EVENT, i.e., a participant crucially involved in an event may come to stand for the event itself. This metonymy, which has been argued to operate in other domains of grammar, e.g. predicative adjective constructions in English (see Brdar-Szabó & Brdar 1999 for an insightful analysis), seems to be operative in such *-er* nominals as *cliffhanger*, whose conceptual structure we represent in Figure 15.

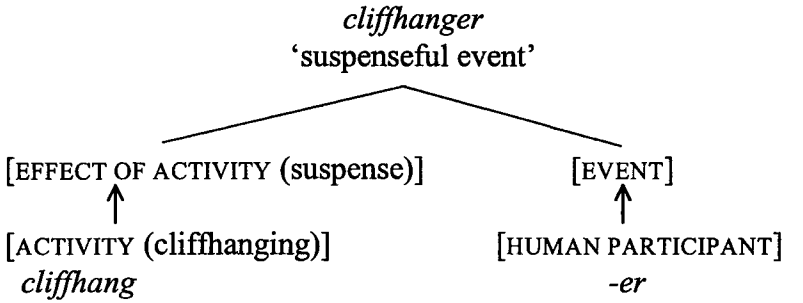

Figure 15. A metonymic analysis of the event structure of *cliffhanger*

It does not seem to make sense to regard the "literal" interpretation of *cliffhanger* 'human being hanging from a cliff' as being structurally similar to the target concept 'suspenseful event.' Instead, we propose that in this case the *-er* suffix provides a source concept HUMAN (EXPERIENCER) PARTICIPANT that is metonymically mapped onto the target concept EVENT, i.e., 'event that the human participant is crucially involved in.' The specific event is designated by the base *cliffhang-* and is elaborated metonymically by the CAUSE FOR EFFECT metonymy.

This example has been discussed in some detail to show that event readings of *-er* nominals are not wholly reliant on metaphorical mappings but can also be generated via metonymy. We cannot pursue the question here whether this is an isolated instance among *-er* event nominals (cf. *bodice ripper*). Nevertheless, conceptualising persons in terms of the events they are involved in is quite common. Witness the use of proper names to stand for the activities their referents are involved in as *He did a Napoleon for the camera* (see Gibbs 1994: 339ff).

5. A case study in polysemy

Thus far we have only mentioned the issue of polysemy of individual *-er* nominals in passing, in particular the ambiguity between the object and event reading of some items (e.g. *upper, groaner*). We now

want to demonstrate that many of the conceptual categories we have postulated manifest themselves in the various senses of single lexical items, lending support to our claim that the suffix *-er* has an array of conceptually related meanings. A particularly rich example for this purpose is *sleeper*, for which we consider several readings.[11] Figure 16 presents two central senses of *sleeper* 'one inclined to sleep' and 'one sleeping' (which seem to correlate with predicational and referential use, respectively), around which are arrayed four metonymic and three metaphoric extensions from the central sense.

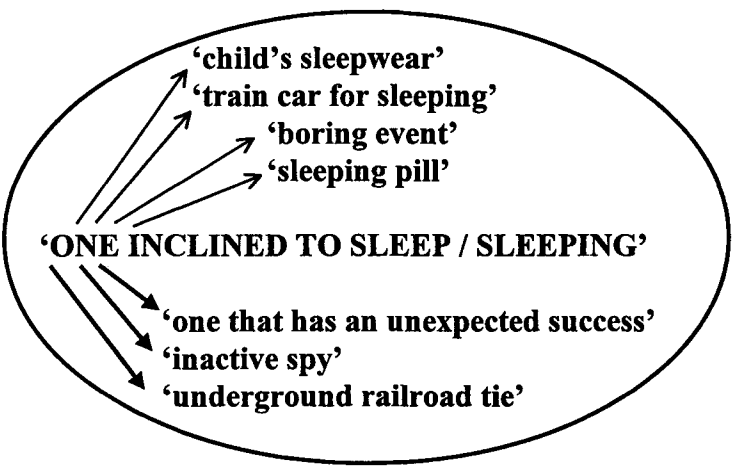

Figure 16. Some readings of *sleeper*

The point we want to demonstrate is that each of these meanings of *sleeper* can be matched with a particular conceptual category from the set of those represented in Figures 6 and 14; these matchings are schematically depicted in Figure 17 below. The reader must keep in mind that agentivity is a scalar concept (see section 2). With this proviso, we can associate the basic senses of *sleeper* with the category 'human Agent' although in this case a human that is certainly low on the scale of agentivity. Each of the extended senses is associated with

11. Wiesner (2001) provides additional senses, all of which can be accommodated in our analysis but are not included in our discussion for reasons of space.

its respective category label; many details of metaphoric and metonymic elaboration of bases must be omitted.

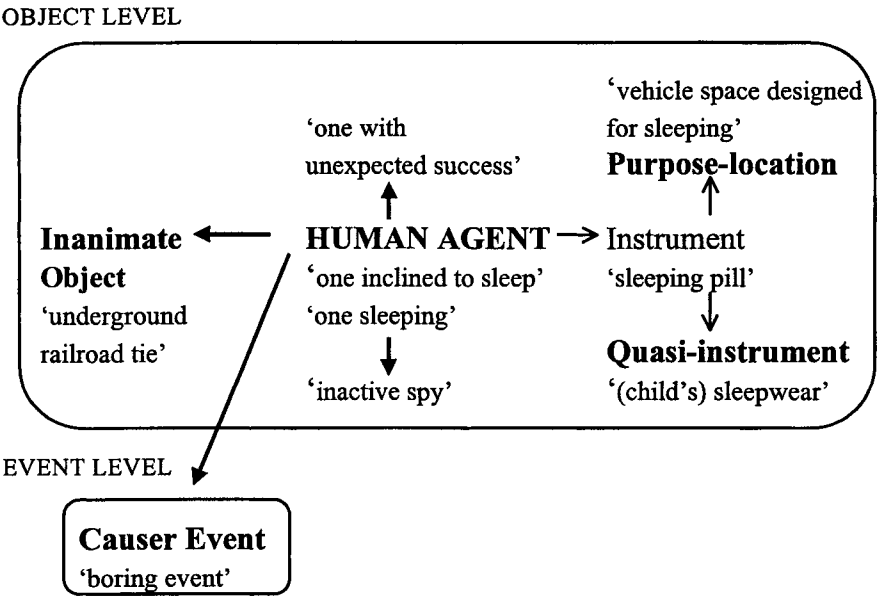

Figure 17. The polysemy of *-er* as manifest in *sleeper*

6. Remarks on the productivity of *-er*

In an account of *-er* nominals, we would be remiss if we did not remark on the huge number of formations in this morphological pattern – easily surpassing, for example, those of two rival agent nominalisers -ˈnt (spelled '-ant' and '-ent') and *-ist* – as well as the novel *-er* expressions one encounters almost daily. As cases of either morphological productivity (i.e. new forms typically not noticed) or morphological creativity (remarkable neologisms) – a distinction noted in Plag (1999: 13) – there are: *spammer* 'one who (occupationally) sends out *spam* ('unsolicited junk e-mail'),' *motor-noters* 'journalists who write about automobiles,' *back-bencher* 'lesser MP' but also 'model of car with a "bench" back seat,' *road-rager* 'one who ha-

bitually expresses rage while driving,' *Green-Earther* 'environmental activist,' *same-sexer* 'one disposed to homosexual behaviour,' *trench-coater* 'teenage nihilist group member,' *Gen-X-er* 'member of post-Baby Boom generation,' *pro-choicer* 'advocate of abortion rights' and on and on. In the same vein, one would not be surprised if the character Charley Walnuts in the popular TV series about the mob, *The Sopranos*, were referred to as the *knee-capper*, employed to shoot adversaries in the knees.

The productivity of a word-formation process is often linked to its *semantic coherence* (see Bauer 1983: 98), where semantic coherence is intended to mean 'semantic predictability.' The putative generalisation is: the more productive a derivational affix, the more predictable its meaning.[12] We argue that semantic coherence should not be understood in the narrow sense of predictability. Probably no one would contest that *-er* formations are highly productive. Yet, it cannot be predicted that e.g. in one reading of *weeper* the *-er* suffix has an event meaning and that its base denotes the effect of some causing event. But there is a certain likelihood that there are other formations of the same type, given the genericness of the EVENTS ARE OBJECTS metaphor and of the EFFECT FOR CAUSE metonymy – and indeed there are, as we have shown in section 4.1. We have amply demonstrated in the course of this chapter, that, though not strictly predictable, the polysemy of *-er* is semantically coherent, showing that the capability of *-er* to designate a wide range of referent types ((in-)animate and abstract objects, substances, events) and semantic role types (Agent, Possessor, Instrument, Location, etc.) is *motivated* by conceptual links to the central sense. Thus, it makes sense to broaden the meaning of *semantic coherence* to encompass 'motivated sense extensions,' with 'predictability' as the limiting case.

Bauer (1983: 99) also notes that "the degree of productivity varies according to the strictness of the limitation on the base." To this we add that productivity also varies according to restrictions (and the

12. Aronoff (1976: 388f) illustrates this hypothesis with the contrast between *-ness* and *-ity* nominalisations in English. According to Aronoff, the meanings of the former are highly predictable whereas the senses of the latter are conceptually much more complex (and consequently less predictable).

lack thereof) that are placed on the suffix. As mentioned above, the *-er* suffix has a variety of motivated senses that can be related via metaphoric and metonymic links to the basic sense. We have also shown that the base of an *-er* nominal can accommodate any *nonverbal* category, or even *phrasal group*, as long as the latter functions as a metonym for a particular target scenario. Likewise, there are no syntactic limitations on the *verbal* base of *-er* nominals; the only constraints on deverbal *-er* formations are conceptual. Verbal bases that do not contribute to a reading of the *-er* nominal in terms of the central sense or one of its metaphoric and/or metonymic extensions are unlikely candidates for this morphological pattern.[13]

This state of affairs for *-er* contrasts sharply with two "rival" agent nominalisers -ˈnt and *-ist*. Agent nouns in *-ist* were historically formed with Greek and Latin bases, some semantically linked to profession/occupation/skill, e.g., *geologist, cyclist, ventriloquist* and thus corresponding to the central sense of *-er* nominals – except that their non-verbal bases do not directly denote actions and activities, but require metonymic operations on the base analogous to *-er* formations like *tinner*. For example, in *novelist* (cf. Old English *bócere* and present-day *costumer*), *-ist* is identical in meaning and function to *-er*: Like *costumer*, *novelist* denotes a professional human Agent by metonymic extension of its nominal base, in this case the effected object in the professional action scenario. Clearly then, metonymic processes operate on bases of *-ist* Agent nominals. There are also *-ist* formations that denote adherents to religious faiths, philosophical doctrines, or ideologies that may correlate with certain behavioural dispositions (*Calvinist, deist, fatalist*) – a category that is also found in *-er* formations.[14] Despite the operation of metonymies on *-ist* bases, there seem to be virtually no metonymic extensions from the agentive *-ist* to denote conceptually contiguous components in an action scenario, such as Instrument, though perhaps *catalyst* could stand as such an example. As to the formal properties of, and con-

13. For a fuller discussion of unlikely *-er* nominals see Panther and Thornburg (2001: section 7.1).

14. A detailed account of such *-er* formations is given in Panther and Thornburg (2001: section 3.3).

straints on, *-ist* formations, there are sometimes corresponding verbs in *-ise*, e.g. *specialist, analyst*, and corresponding abstract nouns in *-ism*, e.g. *Calvinist, deist, fatalist*. More recently, one finds non-Latin/Greek nouns and even phrasal bases, as in e.g. *balloonist, semi-finalist, second adventist*. Yet *-ist* does not approach the productivity of *-er*. The resistance to native verbs in the base (*shootist* being a rare example) greatly curtails the ability of this suffix to denote human Agents by their actions and activities. Nor does metaphor seem to operate on Agent *-ist* formations to extend the range of referents from human Agent to "human-like" animals, plants, objects, let alone events.

Unlike -ist (but like -er) -'nt may denote not only a human Agent, e.g. servant, regent, president, attendant, proponent, claimant, resident, immigrant, participant, suppliant, defendant, protestant, accountant, litigant, penitent, but also an Instrument referent, e.g. (insect) repellent, relaxant, stimulant, irritant, emollient, expectorant, antifoggant, deodorant, coolant, and even Purpose-patient referents, e.g., ingestant, inhalant. Whereas *-ist* exhibits metonymic processes operating on the base (novelist) but not on the suffix itself, the converse seems to be the case for -'nt formations. Like *-ist*, -'nt formations prefer nonnative bases, but complementary to *-ist*, their bases tend overwhelmingly to be verbs, nonverbal bases in -'nt being rare, e.g. annuitant 'person connected to annuity' (cf. violinist). Whereas the productivity of *-ist* is curtailed by a dispreference for nonnative verbs in the base, the productivity of -'nt to denote human Agents is limited to mainly intransitive verb bases. Instrument and Patient referents of -'nt nominals, however, are grammatically restricted to transitive verb bases and further restricted semantically to denoting only chemical agents/substances, i.e. Instruments. As with *-ist* formations, those with -'nt do not lend themselves to metaphorical projection.

Our point in making this brief comparison of *-er* to two other agent nominalisers has been to account for the varying degrees of productivity among the three suffixes in terms of restrictions (or the lack thereof) on their bases and on their suffixes as well. As a consequence of various formal and semantic restrictions on *-ist* and -'nt

formations there is little, if any, polysemy in individual formations, in contrast to *-er* formations (e.g. *sleeper*). But more important for the purposes of this chapter, the comparison was also undertaken to reveal that the operations of metaphor are severely restricted with both -'nt and *-ist* formations; the operations of metonymy are also restricted in each case, though complementarily. Metonymy was shown to operate on the suffix -'nt (but not its bases); metonymy was shown to operate on the bases of *-ist* (but not on the suffix itself).

In contrast to these limitations on -'nt and *-ist* formations, *-er* nominals readily yield to the operations of metaphor and metonymy on the base (whether verbal or nonverbal) as well as on the suffix. To make the contrast very clear at this point, we briefly illustrate again the applicability of these two processes on both base and suffix of *-er* words with new examples. Consider e.g. *nutter*. The reading 'human being characterised by being insane (off his *nut*)' depends on a metaphorical expansion of the base via the THE HEAD IS A NUT metaphor, a submetaphor of the generic metaphor BODY PARTS ARE FRUITS/VEGETABLES that is exploited in many slang/colloquial expressions. The operation of metonymy on a base is evident in one sense of *breather* (usually collocated with *heavy*). Here the sense 'salacious telephone caller' depends on a metonymic expansion of the base via a MEANS ('breathe on telephone') FOR END ('sexual purpose') metonymy. As for the polysemy of *-er* itself, consider a second reading of *nutter* 'nut-filled cookie,' which derives from a metonymic expansion of *-er* from human Agent to Patient.[15] The event-level reading of *-er* in *breather* ('short rest period during which one catches one's breath') comes about via the EVENTS ARE OBJECTS metaphor operating on *-er* and at the same time the MEANS ('breathe') FOR END ('relaxation') metonymy in the base. Such a rich array of senses of *-er* formations is unrivaled in the potentially competing formations in *-ist* and -'nt.

Two new *-er* formations encountered by the authors for the first time in 2001 deserve special mention. They are *Hotwingers* and

15. There seems to be no attested agentive use of *nutter* 'one cracking nuts;' the entrenched *nutcracker* most likely blocks an instrumental reading of *nutter*.

Chippers. In accordance with Langacker's (1991: 48) claim that "novel instantiations are most commonly sanctioned by subschemas representing local rather than global generalisations," we can easily show that *Chippers* (the name of a French fry shop) exploits the relatively nonproductive subschema 'Purpose-location' (cf. *diner* in section 3.3.3) in the Prototypical Transitive Scenario as well as the very productive nonverb-base subschema for *-er* formations having Agent and Instrument referents. We can account for *Chippers*, then, as denoting a Purpose-location in which the *activity* of eating chips (i.e. 'French fries' in American English) is metonymically accessed from the base *chip* (in addition to the inflectional plural *-s*, which is dislocated to the right (outer layer) of the formation under a well-known morphological constraint). Similarly, *Hotwingers* 'barbecued chicken wings' exploits the relatively nonproductive 'Patient' subschema in the Prototypical Transitive Scenario and the very productive nonverb-base subschema for Agent/Instrument referents. From a print advertisement it is evident that *Hotwingers* is a brand name for a food product. Remarkably, in this example, both the base and the suffix denote one and the same referent, yet retain their distinct functions; as a nonverbal base, *hotwing(s)* provides metonymic access to the eating action the hotwings are intended to undergo. The suffix in *Hotwingers*, in denoting a designed Patient, imparts the sense that the denotatum is particularly suited (i.e. very tasty) for the implicated activity (see section 3.3.4 on Purpose-patients). Though we have argued above (section 3.3.5) that relatively lower productivity correlates with greater conceptual distance from the central sense of *-er*, i.e. as with Purpose-locations and Patients, these local subschemas in the general action scenario may interact with the very productive nonverb-base subschema to sanction creative innovations.

Two important points emerge from the discussion in this section: (i) bound morphemes may behave no differently from "ordinary' lexical items with regard to their potential to metaphorically and metonymically extend their meanings, and (ii) the productivity of the *-er* pattern is enhanced by its capability to exploit the operations of metaphor and metonymy. Our analysis thus supports the view that lexicon and grammar form a continuum of symbolic units.

7. Conclusion

In conclusion we quote Ronald Langacker (1991: 44), who assures us that "the picture offered by nominalisation is not one of total chaos and idiosyncrasy – there are indeed patterns to be discerned and characterised." The validity of his claim, we hope, is supported by our cognitive analysis of *-er* nominals, one that crucially involves the operations of conceptual metaphor and metonymy as the organising principles of this extremely productive word-formation process.

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Section 3

The interaction between metaphor and metonymy

Category extension by metonymy and metaphor[1]

John R. Taylor

Abstract

Most lexical items are polysemous, to a greater or lesser extent. A polysemous item associates a phonological form with a number of more or less discrete though related meanings, which cluster in a family resemblance category. A major topic in the study of polysemy, therefore, is the question of meaning relatedness, and how it is that distinct meanings come to be associated in the first place. This chapter looks at two of the most important processes whereby different meanings get associated, namely metaphor and metonymy. Metonymy and metaphor are familiar concepts of traditional rhetoric. Metaphor, especially, has been the object of much research by linguists and literary scholars, and there is a vast literature on the subject. The chapter begins, however, with the no less important phenomenon of metonymy.

Keywords: active zone, contextual modulation, deviance, modulated, modulation, family resemblance, frame highlighting, image schema, implicature, perspectivisation, polysemous, polysemy, pragmatics.

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1. Reprinted from *Linguistic Categorization: Prototypes in Linguistic Theory* by permission of Oxford University Press. The present text is a slightly revised version of Chapter 7 of my book. Much has been written on metaphor and metonymy since the book first appeared in 1989. Unlike in 1987, metonymy is no longer a neglected field of research, while the Lakovian theory of metaphor, which I adopt in the chapter, is currently undergoing revision in light of the theory of conceptual blends. Although this chapter would look somewhat different if I was to have written it in 2001, there is little that I would want to withdraw in light of subsequent developments. I have therefore made no attempt to incorporate these more recent developments, nor to include references to the post-1989 literature.

1. Metonymy

We may begin by considering the traditional view of metonymy. Traditional rhetoric defines metonymy as a figure of speech whereby the name of one entity e^1 is used to refer to another entity e^2, which is contiguous to e^1. This process of transferred reference is possible in virtue of what Nunberg (1978) calls a 'referring function.' There is a referring function which permits the name of a container to refer to the contents of the container, as when we say *The kettle's boiling.* Similarly, a referring function permits the name of a producer to refer to the product (*Does he own any Picassos?*, *Dickens is on the top shelf*). A subcategory of metonymy is synecdoche; here, reference to the whole is made by reference to a salient part: *We need some new faces around here.* Alternatively, the name of an institution may stand for an influential person or group of influential persons who work in the institution (*The Government has stated...*). Sometimes, multiple metonymies are in operation. When we talk of *negotiations between Washington and Moscow*, we are using the names of places to refer to important persons associated with institutions located in those places. Metonymy also permits the name of a token to refer to the type. The salesman who comments that *This jacket is our best-selling item* intends to convey, not that the particular jacket has been sold many times, but that jackets made to that design have sold well.

The metonymic expressions cited in the above paragraph are highly conventionalised. Nevertheless, the referring functions which make the metonymies possible are quite productive. One can in general use the name of a well-known creative artist to refer to the artistic creations of the artist. A government can in general be referred to by the name of the city in which the government is located. But the referring functions are not fully productive, in that not any product, for example, can be referred to by the name of the person who created the product. I could hardly say *Mary was delicious*, meaning by *Mary* the cheesecake which Mary made, in spite of the analogy between Mary's mixing and processing of ingredients to produce her cake and Picasso's mixing and application of colours to produce his paintings. Any given instance of a referring function needs to be

sanctioned by a body of knowledge and beliefs encapsulated in an appropriate frame. It is a widespread belief in our culture that the distinctive value of a work of art is due uniquely to the genius of the individual who created the work of art. No such unique relationship would normally be believed to hold between a cake and the person who baked it. Certain specialised situations do, however, permit the use of referring functions which are not sanctioned outside those situations. A waiter may comment to his colleague that *The pork chop left without paying*. Reference to a customer through the name of the dish which the customer ordered is possible because of certain features of the restaurant situation, in particular the fact that waiters interact with customers principally for the purpose of taking and delivering the customers' orders. Customer can be identified with respect to the dishes which they have ordered.

These examples suggest that the essence of metonymy resides in the possibility of establishing connections between entities which co-occur within a given conceptual structure. This characterisation suggests a rather broader understanding of metonymy than that given by traditional rhetoric. The entities need not be contiguous, in any spatial sense. Neither is metonymy restricted to the act of reference. On this broader view, metonymy turns out to be one of the most fundamental processes of meaning extension, more basic, perhaps, even than metaphor.

In talking about an entity, we frequently highlight different aspects of its constitution. Langacker (1984) refers to this as the 'active zone phenomenon;' certain facets of an entity are more 'active' in a conceptualisation than other aspects. When we *wash a car* we have in mind the car's exterior; when we *vacuum-clean the car* we highlight its upholstered interior; while to *service a car* focuses mainly on its moving parts (Cruse 1986: 52f). We would not, in these examples, want to claim that *car* is polysemous, merely that, in Cruse's terminology, the meaning of *car* is 'contextually modulated' (or, to use Langacker's terminology, that certain facets of the car become the 'active zone.') Note, for example, that we can easily coordinate the different uses, without any hint of that kind of incongruity known as zeugma (*They washed, vacuum-cleaned, and serviced the car*). Yet

the process of contextual modulation clearly contains the seeds of polysemy. Consider the examples *door* and *window*. Both doors and windows, like cars, may be conceptualised as unitary structures (*I bought a car*, *The room has two doors*, *The workmen delivered the window*). Alternatively, we can focus on the movable part of the structure (*Open the door*, *Close the window*), or on the aperture created when the moving part is opened (*He walked through the door*, *She put her head through the window*). Here, the contextually modulated meanings are beginning to acquire an independent status. Symptomatic is the potential ambiguity of *He walked through the door*. (Does *he* refer to a real person passing through the door aperture, or to a ghost passing through the solid structure?) Or consider *The sound of voices came through the door*. (Was the door closed or open?) As evidence for the emerging polysemy of *door*, Cruse (1986: 65) notes the zeugmatic effect of co-ordination (Also see Warren *118):

(1) We took the door off its hinges and then walked through it.

Zeugma also results from the co-ordination of different senses of *window*:

(2) I painted the window while she was standing in it.

The different senses of *door* and *window* illustrated above are related through metonymy, on the broader understanding of the term proposed above. A speaker of English has a good deal of common-sense knowledge about doors and windows. She knows, for example, about their usual shape, size, and manner of construction, and about their function and usual location. This kind of knowledge is held together in what we might call (with apologies for the pun!) our 'door' and 'window frames.' Different uses of *door* and *window* 'perspectivise' different components of the respective frames. It is perhaps significant that most speakers of English need to think twice before becoming aware of the polysemy of *door* and *window*. This is probably because the frame-based knowledge is so closely integrated, and the

background cultural knowledge that is presupposed is so much taken for granted.

There are countless instances in the lexicon of metonymic extension by the perspectivisation of a component of an integrated conceptual structure. I will mention a couple of examples. The first – the verb *close* – is based on Jongen (1985). The act of closing involves the manœuvring of some device with respect to a container, with the purpose of preventing access to, or escape from, the container. These two components of the act of closing (i.e. manœuvring the closing device and preventing access to a container) are so intimately associated – the second necessarily presupposes the first – that it probably takes a moment's thought to keep them separate. Yet the verb *close,* as well as its translation equivalents in many other languages, is used in two quite distinct ways, which reflect the conceptual distinction that has just been made. Firstly, *close* can designate the closing process in its entirety. In this case, the name of the container functions as the direct object of the verb, as in *close the box*, or, with a less prototypical container, *close the office.* But *close* can also refer only to the first component of the closing process, i.e. to the placing in position of the device which prevents access to (or escape from) the container. Here, the direct object of the verb is the name of the closing device, as in *close the lid, close the door.* In some cases, the semantic distinction is blurred. In *close your mouth,* is *mouth* construed as a container, or as the device which closes off access to a container? In other cases, there may be uncertainty as to which component of the closing process is implicated. Failure to close a container may be due to the non-availability of a closing device or simply to the bad fit of the closing device:

(3) I couldn't close the jar because I couldn't find the lid.
(4) I couldn't close the jar because the lid didn't fit.

A further illustration is provided by the word *mother.* As discussed in Lakoff (1987), a full understanding of *mother* needs to make reference to a number of different domains, including the nurturance, the genetic, the birth-giving, the marital, and the genealogical domains.

Not all uses of *mother* activate each of the domains to the same extent. Sometimes only one domain is involved. Thus (5) perspectivises the nurturance domain, while (6) – cf. Lakoff (1987: 76) – perspectivises the birth domain:

(5) He's looking for a girlfriend who'll be a mother to him.
(6) Necessity is the mother of invention.

When *mother* is used as a verb (*to mother a child*), the nurturance domain is again perspectivised while the other domains are eclipsed. One may mother a child of which one is not, in any literal understanding of *mother*, the mother. The verb simply means "treat with caring affection, as a mother." (Note that the analogous expression *to father a child* perspectivises, in contrast, only the genetic domain.)

Rather more interesting are cases of metonymic extension through what we might call the 'perspectivisation of an implicature.' Consider two of the meanings of the verb *leave*, as illustrated by the phrases *leave the room* and *leave something in a room.* The first sense designates the movement of an entity from the inside of an enclosed space; in this case, the direct object of *leave* designates the enclosure. But if one leaves an enclosed space, one distances oneself, by implication, from those entities which stay put. It is through a perspectivisation of this implicature that *leave* can also mean "not to take with one," i.e. "leave behind" (*I left John in the room*). The entity that is 'left' need not be located in an enclosed space (*I left my shoes outside*). Moreover, the act of leaving behind can be intentional or unintentional. In the latter case, *leave* comes to mean "forget to take with one" (*Where did I leave my car keys?*). The different senses of *leave* are chained together by a series of metonymic relations.

Another fine example of this phenomenon is provided by the French verb *chasser*. (Again, the example is from Jongen 1985.) In one of its senses, *chasser* means "pursue (an animal) with the aim of catching and/or killing it," i.e. "hunt." This sense is etymologically basic (< Vulgar Latin *captiare* "try to catch" < *capere* "catch"). Now, our common-sense knowledge of the world includes the information that if we pursue an animal, the animal will run away. A second

sense of *chasser* (i.e. "chase away") perspectivises this commonsense knowledge. Whereas the animal's attempt to run away was merely a troublesome aspect of hunting, we now pursue an animal with the aim of making it run away. Released from the hunting frame, this second meaning can now be applied to all manner of troublesome creatures, like insects, adult humans, and children.[2]

Given the rather broad definition of metonymy proposed earlier, it would be an easy matter to fill up the rest of this chapter by a further listing of examples. However, a topic of particular concern must be to identify general processes of metonymic extension. The question is important in connection with the need to constrain polysemous categories – a word cannot be extended to mean anything at all. It would, I think, be counter to the spirit of cognitive linguistics to attempt to formulate categorial rules for meaning extension, such that one would be able to predict with complete certainty which meaning extensions will or will not be possible in any particular instance. One may, however, search for common patterns of meaning extension, patterns which recur in case after case throughout the lexicon of a particular language, and in different languages.

I will therefore devote the remainder of this section to a discussion of some preferred patterns of meaning extension which are exhibited, especially, by prepositions. The overwhelming majority of spatial senses of *over* which were examined in such detail by Brugman (1981) (see also Lakoff [1987]) are related through metonymy; moreover, the metonymies in question are exhibited by other prepositions, as well. The polysemy of spatial prepositions is of special interest because of the rather abstract sense relations that are involved. Consider, first of all, the notions of path and place (cf. Lakoff & Brugman 1986). There is a natural metonymic relationship between the path followed by a moving entity and any one of the infinite number of points located on the path. The relationship is, in essence, an instance of the whole-part relationship traditionally referred

2. Interestingly, the senses associated with *chasser* – "pursue with the aim of catching," "pursue with the aim of chasing away" – are partially contradictory. The two senses can therefore not plausibly be related through similarity. What links them is the common conceptual frame.

to as synecdoche. It frequently happens that a linguistic form which designates a path can also designate a place:

(7) a. The helicopter flew over the city. (path)
b. The helicopter hovered over the city. (place)
(8) a. He drove by the post office. (path)
b. He lives by the post office. (place)
(9) a. The road passes under the railway line. (path)
b. The dog is under the table. (place)

A particularly salient point on a path is the end-point. Again, a linguistic form designating a path not infrequently also designates a place construed as the end-point of a path:

(10) a. He walked over the hill. (path)
b. He lives over the hill.
(place, construed as end-point of a path)
(11) a. He walked across the street. (path)
b. He lives across the street. (place)

Somewhat similar is the polysemy of goal and place; the one sense has to do with a static relation construed as the final point of movement, the other with the static relation tout court:

(12) a. We hung the picture over the sofa. (goal)
b. The picture hangs over the sofa. (place)
(13) a. I put the money in my wallet. (goal)
b. The money is in my wallet. (place)

Less frequent is the polysemy of place and source, as illustrated in (14) and (15):

(14) a. He came out of prison. (source)
b. He is now out of prison. (place)
(15) a. The child was taken away from his parents. (source)
b. The child now lives away from his parents. (place)

More usually, the source relation needs to be specially encoded, e.g. by the use of a complex prepositional phrase:

(16) a. The book is under the table. (place)
b. He put the book under the table. (goal)
c. He took the book from under the table. (source)

Another natural metonymic relation exists between what Talmy (1978) and Lakoff (1987: 428ff) refer to as mass and multiplex conceptualisations. An assembly of entities may be conceptualised, either in terms of its constituent members, i.e. as a multiplex, or as an undifferentiated mass. The alternative conceptualisations are related by the everyday experience that an assembly of individual entities, if viewed from a sufficient distance, is indeed perceived as an undifferentiated mass. A specific instance of this kind of relationship exists between a one-dimensional line and a series of points which constitute a line. We find that the same linguistic form can invoke both a continuous line and a linear configuration of entities:

(17) a. There were soldiers posted along the road. (separate entities)
b. The railway track ran along the road. (one-dimensional line)
(18) a. There were trees planted around the house. (separate entities)
b. There was a moat around the castle. (one-dimensional line)

A similar kind of relationship exists between a two-dimensional area and an assembly of entities located within an area:

(19) a. The child threw his toys all over the floor. (two-dimensional array of separate entities)
b. He spilled water all over the floor. (two-dimensional area)

– as well as between a two-dimensional area and the points making up a convoluted path which, in the limiting case, can completely 'cover' the area:

(20) a. The cat walked all over the floor.
(convoluted path 'covering' an area)
b. There was mud all over the floor. (two-dimensional area)

It is, of course, this relationship which helps to sanction the extension of *over* in the direction of "covering."

Place, goal, and path, as well as mass and multiplex conceptualisations, are *image schemas* (see below) which structure a conceptual domain. In the above examples, we have restricted our attention to the spatial domain. But the same image schemas also structure other domains, e.g. the domain of time.[3] Just as a thing can be located *at* a point in space, so also a punctual event occurs *at* a point in time. In both cases, the internal constitution of the entity is not at issue; both are conceptualised as zero-dimensional. As we have seen, a line may be construed as a series of points; analogously, a series of punctual events may be conceptualised as a single, temporally protracted event. A line may also be construed as the path followed by a moving point; similarly, a temporally protracted event can be seen as an event in progress, i.e. as an activity, the completion of the event being analogous to the end-point of a path. Significantly, verbs can be polysemous in the same way as prepositions. Thus a verb can denote the single occurrence of a punctual event, or a series of occurrences:

(21) a. The light flashed once. (punctual event)
b. The light flashed for half an hour. (series of punctual events)
(22) a. The boy kicked the ball. (once)
b. The boy kicked the ball for half an hour.

Similarly, the same linguistic form can focus on an activity (equivalent to a path) or on the termination of an event (equivalent to the endpoint of a path):

3. For the analogy between spatial things and temporal events, see Langacker (1987: 258ff).

(23) a. We walked in the forest. (focus on activity)
b. We walked home. (focus on end-point of event)

With these examples, we witness the application of spatial schemas to non-spatial domains. In this respect, we are already encroaching on the phenomenon of metaphor. It is to metaphor that we now turn.

2. Metaphor

Within the generative tradition, the essence of metaphor is captured by the notion of a violation of a selection restriction. The approach taken by Botha (1968) with regard to these violations is representative of a whole generation of linguists. Botha distinguished between novel, creative metaphors (which violate the semantic rules of a language), and established, or dead metaphors (which do not). Novel metaphors, Botha claimed, lie outside the study of a speaker's competence, and thus outside the scope of linguistics proper. Competence has to do with a speaker's 'rule-governed creativity,' not his 'rule-changing creativity' (1968: 200). By violating a rule, a speaker is in effect going beyond his competence, thus changing his grammar. But once a metaphorical expression has been created, the speaker's internalised rule system is thereby modified. Metaphor thus ceases to be an instance of deviance; one might even say, metaphor ceases to be metaphorical. The metaphorical sense of a lexical item is now listed in the lexicon along with its other 'conventional senses' (1968: 201). On the one hand, then, metaphor is declared out of bounds to linguistic semantics, otherwise it is assimilated to any other instance of polysemy/homonymy.

The view that metaphor lies outside the study of linguistic competence proper also underlies Searle's (1979) well-known account. The sentence in (24) is, if taken literally, semantically anomalous.

(24) Sally is a block of ice.

Ice (and *block of ice*) possesses the feature [-ANIMATE]; one cannot therefore predicate 'be a block of ice' of an entity (i.e. *Sally*) which is [+ANIMATE]. The sentence is only acceptable to the extent that a listener/reader can go beyond the literal meaning and construe the speaker/writer's intended meaning. To perform this task, the listener/hearer needs to supplement linguistic competence with proficiency in pragmatics. Searle's account thus presupposes a distinction between semantics and pragmatics, the former having to do with literal, or purely linguistic meaning, the latter with the context-dependent construal of intended meaning. Over the past decade or so, pragmatics has emerged as an important subdiscipline of linguistics, taking its place alongside the more traditional components of linguistic study, such as phonology, syntax, and semantics. Given the basic assumptions of the generative paradigm, the emergence of pragmatics as an independent object of study was perhaps inevitable. If language constitutes an autonomous cognitive system, then, given the self-evident fact that language is an instrument for conceptualising and interacting with the world, the need arises for an interface that links these otherwise independent systems. Pragmatics functions as precisely such an interface. In rejecting the notion of an autonomous linguistic faculty, cognitive linguistics necessarily removes the need for pragmatics as a separate branch of study. All meaning is, in a sense, pragmatic, as it involves the conceptualisations of human beings in a physical and social environment. As Bosch (1985) has argued, the understanding of *any* utterance requires an act of context-sensitive interpretation by the listener/hearer; metaphorical utterances, on this view, do not form a special set.

A devastating criticism of Searle's account of metaphor may be found in Cooper (1986: 68ff). I will restrict myself here to a few comments on the notion of metaphor as grammatical deviance. Four objections can be made. First, the supposed deviance of metaphor implies that competent speakers of a language ought to be able to 'demetaphorise' each metaphorical expression that they encounter, thereby restoring the expressions to full grammaticality. In practice, it is often difficult, if not impossible, to replace a metaphorical expression by a non-metaphorical equivalent and still retain the sense

of the original expression. Secondly, it is highly counter-intuitive to claim that anything as pervasive as metaphor should have to be accounted for in terms of rule-breaking: metaphor is "such a familiar and ubiquitous ingredient of speech that ... few stretches of everyday conversation would escape the presumption of censure" (Cooper 1986: 78). Furthermore, the very pervasiveness of metaphor argues strongly against the deviance hypothesis; being endemic, metaphor would eventually destroy the norm against which deviance is to be recognised as such. Finally, the question arises why any bona fide communicator should wish to do such a bizarre thing as intentionally to produce utterances which are grammatically deviant, only so that their conversational partner can mobilise all kinds of interpretative principles in order to arrive at the intended meaning. Why don't people say what they mean in the first place?

The cognitive approach to metaphor does not give rise to this conundrum, since metaphor is not understood as a speaker's violation of rules of competence. Rather, the cognitive paradigm, at least the one along the Lakoff and Johnson approach, sees metaphor as a means whereby more abstract and intangible areas of experience can be conceptualised in terms of the familiar and concrete. Metaphor is thus motivated by a search for understanding. It is characterised, not by a violation of selection restrictions, but by the conceptualisation of one cognitive domain in terms of elements more usually associated with another cognitive domain. It is thus not surprising that metaphor should abound in precisely those kinds of discourse where writers are grappling with the expression of concepts for which no ready-made linguistic formulae are available. Obvious examples are poetic, mystical, and religious texts. Metaphor plays an essential role in scientific enquiry, too (Hoffman 1985). A nice example is discussed at length in the opening chapter of MacCormac (1985). In their studies of cognition, psychologists, some more explicitly than others, have drawn analogies with the functioning of a computer; 'cognition' is the 'computation' produced by the 'hardware' of the brain operating under the control of the 'software' of the mind (1985: 9). Salmond (1982) also draws attention to a number of metaphors which underlie the pursuit of anthropology. The discipline of lin-

guistics provides many examples, too. Linguists in the Chomskyan tradition speak of *deep*, *shallow*, and *surface* levels of syntactic description, structures undergo *transformations* and are represented in the form of *tree* diagrams. It is normal, in cognitive linguistics, to distinguish between *central* and *peripheral* exemplars of a category; meanings are *chained* together to form *networks* with a *family resemblance* structure. These metaphors are more than just pedagogical aids. The conceptualisation of the subject-matter entailed by the metaphors constitutes the very essence of the theories in question.

It is not only in specialised discourse that metaphor abounds. As Lakoff & Johnson (1980) richly document, much of our understanding of everyday experience is structured in terms of metaphor. For an illustration we need go no further than the cluster of metaphors discussed in their opening chapter. Here, Lakoff and Johnson drew attention to the military source of the language we use in talking of intellectual argument. When taking part in an argument, we set up positions, we attack and defend and retreat, and we end up winning or losing. These metaphorical expressions are made possible in virtue of what Lakoff and Johnson call a 'conceptual metaphor,' namely ARGUMENT IS WAR. The domain of intellectual argument is understood in terms of war. Elements from the domain of war – things like attack, defence, retreat, etc. (note that it is not a prerequisite that people have had personal experience of war; they merely need to draw on conventionalised knowledge encapsulated in the war-making frame) – are projected on to the abstract domain of intellectual argument. The basic 'logic' of the source domain (i.e. war) is applied to a different area of experience, the target domain, i.e. argument. The process gives rise to a number of metaphorical entailments. Wars typically end in victory for one party, or at least in a truce. Thus an argument must end in victory, or, in the limiting case, in stalemate. An argument which ends up in amicable agreement has already ceased to be an argument.

Important themes of metaphor research within the cognitive paradigm have included the role of metaphor in word formation (Rudzka-Ostyn 1985), the metaphorical base of grammatical constructions (Claudi & Heine 1986), and the structural parallelisms between

source and target domains which facilitate transfer from one to the other (Rudzka-Ostyn 1988). A particularly interesting line of enquiry is suggested by Johnson (1987) and Lakoff (1987: 271ff). These scholars discuss the possibility that many areas of experience are metaphorically structured by means of a rather small number of image schemas. Amongst these image schemas are the following:

(a) Containment. The image schema evokes a container, with its inside and outside, in the domain of three-dimensional space. The image schema is applied metaphorically to a large number of non-spatial domains. Linguistic forms are conceptualised as containers *(put ideas into words, the contents of an essay, empty words*; see Reddy [1979]), as are emotional states *(be in love, fall out of love).*

(b) A journey and its component parts (i.e. origin, path, and destination, with possible obstacles and detours on the way). Life itself is frequently conceptualised as a journey (*My life isn't getting anywhere, He's come a long way, We're going round in circles*), as is the progress (i.e. moving forward) of society (*He's a progressive, She's ahead of her time, They're fellow travellers*).

(c) Proximity and distance. Once again, a schema based on spatial relations is projected onto non-spatial domains. Thus degree of emotional involvement and the possibility of mutual influence are understood in terms of proximity (*a close friend, a close adviser, keep one's distance*).

(d) Linkage and separation. Closely related to the proximity – distance schema is the schema of linkage and separation. Again, basically spatial notions can be applied to abstract relations. We *make contact* with people, we *keep in touch*, and we *break* social and family *ties*.

(e) Front-back orientation. This schema is applied, in the first instance, to the human body. The front of a human body is that side on which major sensory organs, especially the eyes, are located. The front also faces in the direction in which a human being normally moves. A particularly widespread conceptual

metaphor applies this schema to orientation in time. The future lies in front (*look forward to the future*), while the past is at one's back (*look back on the past*). Events, too, have fronts and backs. Many languages make no formal distinction between 'in front of' and 'before,' and between 'behind' and 'after.' What is in front of an event is what happens before; what is behind, happens after.

(f) The part-whole relationship. The whole consists of parts arranged in a specific configuration. The separation or rearrangement of the parts results in the destruction of the whole. Primarily, this schema is applied to discrete, concrete entities. Metaphorically, it can be applied to a range of abstract notions, for example, interpersonal relations. A married couple form a whole; on divorce they *split up*, or *break up*; later, they may *come together* again.

(g) Linear order. Primarily, this schema arranges objects in a one-dimensional line in terms of their increasing distance from an observer. Metaphorically, it can be applied to temporal sequence. What occurs *first* happens before, what comes *second* occurs later.

(h) Up-down orientation. Primarily, this schema has to do with spatial orientation within a gravitational field. We examine in detail some of its metaphorical applications below.

(i) Mass vs. multiplex conceptualisations. Some aspects of these alternative ways of viewing objects and events have already been mentioned.

A particularly intriguing aspect of the work by Johnson and Lakoff is the suggestion that these image schemas might be so deeply grounded in common human experience that they constitute, as it were, universal pre-linguistic cognitive structures. Many of the schemas clearly derive from the most immediate of all our experiences, our experience of the human body. The experiential base of containment is the human body with its surface separating the inside from the outside. The body, with its various parts which make up the whole, and with its front clearly distinct from its back, is also a per-

manent exemplar of the part-whole and front-back schemas, while our existence in a gravitational field provides the base for the up-down schema.

Let us examine more closely the metaphorical applications of the up-down schema in English, concentrating on the lexical item *high.* In its literal sense (see Dirven & Taylor 1988), *high* is characterised against the domain of three-dimensional space. There are two distinct spatial senses, extensional *high* (*high*^{1}), as in *high building,* and positional *high* (*high*^{2}), as in *high ceiling.* The first sense denotes the greater than average vertical extent of an entity, while the second denotes the above average location of an entity on the vertical dimension. The meanings are related through metonymy. If an entity is *high*^{1}, then its upper surface is *high*^{2}. It is the second sense of *high* which is subject to metaphorical extension in English.

In denoting the position of an entity in vertical space, *high*^{2} normally implies a zero point, or origin, from which vertical distance is measured, as well as a norm with which the high entity is implicitly compared. In many cases, the zero point is provided by ground level (as in *high telegraph wires)* or floor level (*high ceiling),* while in *high plateau* the zero point is sea level. In other cases, the zero point is provided by the domain against which the entity is conceptualised. A *high shelf* is located higher than the norm within the domain of, for example, a bookcase, a *high waistline* against the domain of an article of clothing, while in *high shoulders* the domain is the human torso. Possibly, it is the very flexibility of *high*^{2} – the fact that the zero point and the norm are selected according to the domain of the profiled entity – that renders the word so available to metaphorical extension.

Metaphorical extension becomes possible in virtue of conceptual metaphors which map the up-down schema on to other areas of experience. There are three major conceptual metaphors in English which involve the up-down schema. These concern the domains of quantity (MORE IS UP, LESS IS DOWN), evaluation (GOOD IS UP, BAD IS DOWN), and control (POWER IS UP, POWERLESSNESS IS DOWN). There are also one or two minor conceptual metaphors that map the up-down

schema onto sensations of pitch and smell, as shown in expressions like the *high notes* of a piano, and meat which *smells high*.

In accordance with the conceptual metaphor MORE IS UP *high* lends itself naturally to denoting position on a numerical scale. Examples include *high number*, *high temperature*, *high price*, *high speed*, *high blood pressure*, *high pulse rate*, etc. Here, the scale is the domain for the location of an entity (*number*, *temperature*), the zero point of the scale being the origin from which vertical distance is measured. More generally, the schema can be applied to degree or intensity, as in *high level of violence*, or sophistication and complexity, as in *high technology*, *higher education*, and *higher forms of life*. It will be observed that, for some of these domains, conceptualisation in terms of verticality is so deeply engrained in our consciousness that alternative, non-orientational modes of expression are scarcely available to us. How else can we express position on a scale of price or temperature, other than with *high* and *low*?

The second conceptual metaphor, GOOD IS UP, is the basis for a large number of expressions in which *high* carries a positive evaluation: *high standards*, *high quality*, *high opinion*, *high moral values*. In other expressions, *high* denotes a positive valuation of an emotional state, as in *high hopes* and *high expectations*. Connotations of enjoyment and liveliness may be found in *high spirits*, *high life*, *high jinks*. Some metaphorical uses of *high*, e.g. *high technology*, appear to fuse the two conceptual metaphors of quantity and evaluation. *High technology* is not only high on a scale of sophistication, it is also positively valued over *low technology*. In other words, MORE is often also BETTER. A fusing of the two metaphors may be felt in other expressions, e.g. *higher mathematics*, *higher education*, *higher forms of life*. (In *highbrow*, on the other hand, a greater than average intellect is not given a positive evaluation.) Sometimes it is difficult to classify a particular usage. In *get high on drugs*, does *high* refer to a value on a scale of brain stimulation, or does it imply a positive evaluation of a mental state, or both?

The third conceptual metaphor (POWER IS UP) maps the up-down schema onto power relations. A person or group with power is higher than those without power. Frequently, status in human society is con-

ceptualised in terms of the up-down schema: *high society*, *high class*, *high-born*, and, of course, the expression *high status* itself. Status within a more limited domain may also be denoted by *high*, as in *high command*, *high priest*, *high position in a company*. Generally, positions of higher status are valued positively (MORE POWER is usually BETTER). This is not always the case, however. Expressions like *high-handed* and *get on one's high horse*[4] imply a negative attitude towards real or assumed power.

Metaphor, as we have seen, consists in the mapping of the logic of one domain (usually a more concrete domain) on to another (usually more abstract) domain. At this point we need to inquire more deeply into the motivation of this transfer. What is it that permits the association of source and target domain? Why are power relations, for instance, conceptualised in terms of verticality, and not some other domain, such as left-right, front-back, or whatever? And what motivates the particular skewing of the mapping relationship? Why does the powerful end of the power scale get associated with high and the powerlessness end with low, rather than vice versa?

Traditionally, metaphor has been explained in terms of the similarity of target and source domains, or tenor and vehicle in earlier parlance. In their discussion of metaphor, Paivio & Begg (1981: 274) comment on the 'theoretical puzzle' of similarity. On what basis do elements in one domain come to be perceived as 'similar' to elements in another domain?

In some cases, at least, the possibility of mapping elements from one domain onto another domain is established through the co-occurrence of the domains within a particular area of experience. Consider the conceptual metaphor MORE IS UP. As you add objects to a pile, the pile gets higher. This experience establishes a natural association between quantity and vertical extent. Strictly speaking, the association is one of metonymy; if one adds objects to a pile, height is literally correlated with quantity. Only when the up-down schema

4. Some metaphoric expressions, like *get on one's high horse*, are mediated by very specific visual images. *Highbrow* is another instance. For the role of images, especially in the understanding of idioms, see Lakoff (1987: 451ff).

gets dissociated from the piling-up image and applied to more abstract instances of addition (as when one speaks of prices *getting higher*) does metaphor take over. The conceptual metaphors GOOD IS UP and POWER IS UP have a similar experiential basis (cf. Lakoff & Johnson 1980). Positively evaluated human attributes like life, health, and consciousness are typically associated with an upright posture. A person who is up is one who is alive, well, and conscious, while someone who is unconscious, ill, dead, or asleep is down. Similarly, a person with the power to control, influence, or physically overcome someone else is typically of greater bodily strength, and greater bodily height, than the other person. And in the course of a physical combat the one with the greater power finishes 'up' while the victim is left, literally, 'down.' Again, the relationship between verticality and the power domain is a metonymic one. Only when the relationship is generalised beyond the stereotypical situation can one speak of metaphor.

It is tempting to see all metaphorical associations as being grounded in metonymy. (This is the reason why I suggested, earlier in this chapter, that metonymy might be even more basic to meaning extension than metaphor.) This view has been shared by scholars as diverse as Eco and Skinner (Also see Radden*, Goossens*, Riemer*). Eco (1979: 77) surmises that all associations are first grasped 'as contiguity internal to semantic fields,' while Skinner (1957) postulated that verbal responses generalise from the stimulus to salient attributes of the stimulus, and to entities that are contiguous to the stimulus. Thus the verbal response 'eye' would generalise to such attributes as 'recessed,' 'oval,' 'near top (of head).' This particular cluster of attributes then facilitates the metaphorical extension from *eye* "organ of sight" to *eye* "aperture of a needle."

If it were the case that metaphor were grounded, ultimately, in metonymy, we would have gone a long way towards solving what Paivio and Begg called the 'theoretical puzzle' of similarity. There are, however, numerous instances of metaphor which cannot reasonably be reduced to contiguity. Particularly recalcitrant are instances of a subcategory of metaphor, synaesthesia. Synaesthesia involves the mapping of one sensory domain on to another. Exam-

ples include *loud colour* (where an attribute of the auditory domain is mapped on to the visual domain), *sweet music* (which maps a gustatory sensation on to the auditory domain), and *black mood* (colour transferred to an emotional state). It is doubtful whether attributes of these different domains get associated through metonymy. Neither is it plausible to propose metonymy as the basis for a mapping of the vertical dimension on to sensations of pitch *(the high notes on a piano)*[5] and smell *(the meat smells high)*.

Perceived similarity across different domains – of which synaesthesia is an example – was systematically studied by Osgood and his colleagues (e.g. Osgood et al. 1957). Osgood postulated a highly abstract 'affective reaction system' which was independent of any particular sensory modality. Three primary dimensions of the affective reaction system were identified: evaluation, potency, and activity. Conceivably, identical reactions on these dimensions to stimuli from different domains could provide the psychological basis for metaphor and synaesthesia. Yet, as Paivio & Begg (1981: 276) note, "when individuals use scales such as *fast–slow*, *hard–soft*, and *weak–strong* to rate such diverse concepts as MOTHER and DEMOCRACY, they obviously must do so in a metaphorical way." The theoretical puzzle of similarity remains.

The discussion so far has been restricted to examples from English. I would like to conclude with a cross-language comparison. English and the Sotho languages of Southern Africa provide an interesting contrast with regard to the understanding of certain bodily and mental experiences. In English a range of emotional and physiological states, especially those involving excessive arousal, such as impatience, anger, and sexual desire, are understood in terms of heat, cf. expressions like *get hot under the collar*, *lose one's cool*, *a bitch on heat*. (Anger metaphors in English are extensively discussed in Lakoff 1987: 380ff) The metaphors may well have an experiential base

5. One could argue that the correlation of high pitch with the high rate of vibration of the sound-producing body provides the metonymic basis for the conceptual metaphor. This correlation, however, does not form part of the world knowledge of the scientifically naive language user, and cannot therefore provide an experiential grounding for the metaphor.

in the physiological changes, such as raised body temperature and increased heart beat, which accompany states of arousal. The metaphors are thus, once again, grounded in metonymy. For speakers of the Sotho languages, on the other hand, 'being hot' is associated with a rather different range of experiences (Hammond-Tooke 1981). Briefly, any abnormal or unpleasant condition of the body or psyche is understood in terms of being hot: bereavement, physical pain, illness (not only fever), extreme tiredness, insanity, menstruation, pregnancy, childbirth, as well as (and here the Sotho understanding coincides with English) agitation, impatience, and anger. A person in one of these conditions has 'hot blood' which needs 'cooling' (e.g. with cold water, or with cold ash from a burnt-out fire). Furthermore, the person must be kept away from family and cattle, in case he infects these with his heat. These metaphors exist not only amongst traditional speakers, but also amongst urbanised Sothos, and they show up even in their use of English (Hewson & Hamlyn 1985). The experiential base of the metaphors is no doubt to be found in the physical environment of the speakers. Traditionally, the Sothos live in a hot arid plateau, where the search for water is a major concern. It is not unreasonable to suppose that, in this environment, heat gets metonymically associated with negatively valued states (HOT IS BAD) and coolness with positively valued states (COOL IS GOOD).

It is the grounding of metaphor in experience that has made it such a central concern of the cognitive paradigm. For structuralist linguistics, language was a self-contained system of signs, independent of the cognition and experience of its users. In contrast, cognitive linguistics strongly emphasises the non-arbitrary, motivated nature of language structure. Reference to the experiential base of metaphor thus stimulates meaningful discussion of a question that is often raised in connection with the arbitrary vs. motivated dichotomy, namely the relationship between language and culture. Since, on the one hand, certain experiences are presumably common to all normal, healthy human beings, while others are strongly conditioned by culture and environment, it comes as no surprise that we find both considerable cross-language similarity in metaphorical expression, as well as cross-language diversity. As an example of the former, one

might point to the widespread correspondences in the way unrelated languages conceptualise time in terms of space (see Taylor [1987] for a comparison of English and Zulu in this respect). Diversity can be expected if different language communities draw on different experiential bases in their conceptualisation of reality. Such is the case with the heat metaphors in English and Sotho.

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Metaphtonymy: The interaction of metaphor and metonymy in expressions for linguistic action*

Louis Goossens

Abstract

In this contribution an exploration is offered of the ways in which metaphor and metonymy interact in conventionalised expressions where linguistic action is the target domain.

Working from a contemporary British data base, expressions from three donor domains are investigated, (i) violent action (ii) sound (iii) body parts. It appears that two types of interaction predominate: what I call metaphor from metonymy and metonymy within metaphor. Metaphor within metonymy was found to be rare and metonymy from metaphor, though not impossible in principle, was absent in my data.

The paper ends with suggestions as to why this asymmetrical distribution should exist, a tentative classification into two basic types, and an invitation to further investigation.

Keywords: demetonymisation, linguistic action, metaphor from metonymy, metaphor within metonymy, metaphtonymy, metonymy within metaphor.

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1. Introduction

The purpose of this paper is to deepen our insight into the ways in which metonymy interacts with metaphor in figurative language. Although in principle metaphor and metonymy are distinct cognitive processes, it appears to be the case that the two are not mutually exclusive. They may be found in combination in actual natural language expressions. In that sense there might be room for the neologism in the title of this paper, for which I suggest the phonological realisation [mɛtæf'tɔnɔmi] to help the reader along if (s)he wishes to know whether the word is also pronounceable. It will be shown, however, that the interaction can take several forms, for which a single term may be misleading rather than helpful. In other words, I would like to assign *metaphtonymy* the status of a mere cover term which should help to increase our awareness of the fact that metaphor and metonymy can be intertwined.

To explore the interaction I have used a data base made up of stereotyped figurative expressions where the target domain is that of *linguistic action.* This data base is restricted and can therefore not be expected to provide an exhaustive account of the possible interaction patterns. On the other hand linguistic action is sufficiently complex and the data base exhibits enough diversity to allow us to come up with the main patterns, which in the final section of this paper will be put into a somewhat broader perspective.

In what follows I first remind the reader of a couple of basic insights into metaphor and metonymy (section 2) as well as into the target domain (section 3). Next, 1 provide a brief account of the data base and of the donor domains figuring in it (section 4). Sections 5, 6 and especially 7 constitute the bulk of the paper: in them I explore the different ways in which metaphor and metonymy go together for the three donor domains in the data base in succession. Section 8 surveys these findings and tries to come up with a few generalisations about the interplay between metaphor and metonymy.

2. Metaphor and metonymy

As a representative of the traditional approach to metaphor and metonymy, the definitions in Halliday (1985: 319–320) can be quoted. Note that in this view a distinction is made between *synecdoche* and *metonymy,* though, obviously, synecdoche is a subtype of metonymy.

(i) *Metaphor.* "A word is used for something resembling that which it usually refers to; for example, *flood ... poured in, ...* in *A flood of protests poured in following the announcement (a large quantity ... came in). ...* If the fact of resemblance is explicitly signalled by a word such as *like,* as in *protests came in like a flood,* this is considered to be not metaphor, but simile."

(ii) *Metonymy.* "A word is used for some thing related to that which it usually refers to; for example *eye ... in keep your eye on the ball* (gaze)."

(iii) *Synecdoche.* "A word is used for some larger whole of which that which it refers to is a part; for example *strings ...* in *At this point the strings take over* (stringed instruments)."

For an instance where synecdoche is viewed as part of metonymy, we can refer to Ullmann (1962: 212), who differentiates metonymy from metaphor as involving *contiguity* as opposed to *similarity,* where contiguity "includes any associative relations other than those based on similarity." Obviously, both Ullmann and Halliday concentrate on the use of *words,* whereas the focus here is on *conventionalised expressions.* These can be expected to exhibit complexities not to be found at the level of the single word, though clearly we are a long way from the extreme fusion that Jakobson (1960: 370) posits for poetry, "where similarity is superinduced upon contiguity, and metonymy is slightly metaphorical and any metaphor has a metonymical tint."

In cognitive treatments metaphor and metonymy are viewed as *conceptual processes* in which the notion of *domains* plays a crucial role. Lakoff (1987: 288), for example, offers the following definitions:

(i) " ... metaphoric mapping involves a source domain and a target domain. ... The mapping is typically partial. It maps the structure in the source domain onto a corresponding structure in the target domain"

(ii) "... a metonymic mapping occurs within a single conceptual domain which is structured by an ICM (= an Idealized Cognitive Model)."

In other words, the crucial difference between metonymy (as well as synecdoche) and metaphor is that in a metaphoric mapping two discrete domains are involved, whereas in a metonymy the mapping occurs within a single domain.

Given the difficulties that beset the crucial notion *resemblance* or *similarity* in the traditional approaches (see for example Cooper 1986: 14–15 and 184–186), I have tried in what follows to be in line with this cognitive approach. Obviously the hierarchy among cognitive domains, as well as their delimitation, which are important areas for exploration within cognitive linguistics anyway (see for example Langacker 1987: chapter 4), are important issues in this context. For the purposes of what follows we simply posit the existence of complex domains built up by the combination of other domains which themselves may either be complex or basic in the sense of Langacker (1987). It should also be expected in this view that the boundary lines between domains are often fuzzy, which is one of the reasons why metaphor and metonymy may interpenetrate.

3. The target domain: linguistic (inter)action

For discussions of the complexity involved in the domain of linguistic (inter)action, we refer the reader to Dirven et al. (1982), Verschueren (1984 and 1985) and Rudzka-Ostyn (1988). Without going into details, I would like to emphasise two aspects of this complexity here.

(i) In linguistic (inter)action a speaker produces utterances by means of natural language to make known his ideas, beliefs, wishes to one or more hearers who process those utterances and, in turn, may become speakers to do the same. *Talking about* linguistic interaction involves *secondary* speakers who produce utterances in which they *report to secondary* hearers what was said by *primary speakers to primary hearers.* Both primary and secondary speakers are equipped with their own beliefs and emotions and make use of specific linguistic forms as well as specific communication channels. All this produces a complex network of relationships and structures, which is nevertheless conceived as hanging together, in other words, as one complex conceptual domain.

(ii) As a complex domain, the domain of linguistic (inter)action intersects with (or: partially incorporates) several basic and non-basic domains, such as *sound, language, human actions, emotions, human cognition, perception,* etc. For a (tentative) schema we refer to Rudzka-Ostyn (1988: 510).

4. Data base and donor domains

4.1. Donor domains

We have studied the interaction of metaphor and metonymy in a data base of figurative expressions for linguistic (inter)action from three different donor domains which are fairly discrete (though there is a slight degree of overlap between them)[1]. They are *body parts, sound* and *violent action.* Let me give a brief characterisation of each of these in turn.

1. Obviously, these domains are just a few among many, see Vanparys 1995. On the role of metonymy in the so-called Conduit Metaphor (Reddy 1979) see Goossens 1994.

(i) Body parts
There appear to be a considerable number of figurative expressions for linguistic (inter)action which contain lexical items denoting parts of the body, more specifically of the human body. To the extent that certain human body parts are instrumental in linguistic (inter)action, we can expect there to be an intersection with the target domain, but evidently this does not hold for all of them. It should also be emphasised from the start that as a rule the body parts are not donor for linguistic action on their own. In the majority of cases the body part fits into a more complex domain or scene which has to be processed with reference to linguistic (inter)action in its own right.

(ii) Sound
An obvious restriction here is that *sound* is to be understood as sound that can be perceived by the human ear. Another one is that literal references to linguistic sounds (as in *shout* or *whisper)* are excluded. Otherwise it is also the case here that a given figurative expression usually relates to a donor scene for which a more specific characterisation than *sound is* required.

(iii) Violent action
Our third donor domain is that of *physical* violent action, which itself is a subdomain of the vast domain of human action. Again this is an important donor domain for linguistic (inter)action, not unexpectedly, given the connection with the *Argument-is-war* metaphor identified by Lakoff & Johnson (1980).

4.2. The data base

The data base consists of 309 items, distributed as follows:

- *Body parts,* 109 items; 86 verbials (i.e. verbs or expressions with verbs which, in turn, may contain nominals), 12 adjectivals (which also include some participial items) and 11 nominals

- *Sound, 100* items, all verbials
- *Violent action, 100* items, also all verbials.

The main source for this data base is *Longman's Dictionary of Contemporary English;* the material is predominantly, but not exclusively, British English. For the way the data were collected we refer to Vanparys (1995). The *sound* and *violent action* expressions also include a few items from other contemporary lexicographic sources; in actual fact I have used the data bases established by Van Deun (1988) (for the *sound* corpus) and by Govaers (1988) (for the items where *violent action* is donor). Note also that the *body part* data differ somewhat from the corpus used by Pauwels & Vandenbergen (1995) in spite of the common core.

Given the fact that these data originate from a contemporary dictionary/dictionaries which itself/themselves is/are based on an extensive data base, we can safely assume them to be representative of everyday metaphor and metonymy, and in that sense of the figurative language that the speakers of (mainly British) English "live by."

5. Analysis of the sound data

Van Deun (1988: 68-79) distinguishes the following sub-categories (according to the type of sound involved):

(i) *human sound* (27 items; *applaud, giggle, wheeze* and the like);
(ii) *animal sound* (43 items; *bark, cackle, purr, squeal*, etc.);
(iii) *non-human, non-animal, natural sound* (8 items; *blast, thunder*, etc.);
(iv) *artificial sound produced by musical instruments* (9 items; *blow one's own trumpet, harp on, pipe down*, etc.);
(v) *artificial sound not made by musical instruments* (the remaining 13 items).

As a rule the donor domain is clearly distinct from the target domain, there is a mapping from one domain onto another, hence we get pure metaphors. Typical examples are:

- *bark* "say something in a sharp loud voice": the loud, penetrating sound of barking dogs is mapped onto linguistic action where the sound is perceived as loud, harsh or sharp;
- *blow one's own trumpet* "say good things about oneself, perhaps immodestly, so that others will know them": the public and festive character of trumpet blowing, in combination with the added reflexive dimension, is mapped onto self-praise. To the extent that we may conceive of a scene in which the trumpet blowing is followed by a public statement in which the announcer "says good things about himself," we might accept a metonymic basis for the expression. Since such an interpretation is far removed from the prototypical scene of trumpet blowing, however, such a metonymic basis is very weak, to say the least.

The items in the first group, on the other hand, but only those, usually have a metonymic ingredient. Let us have a closer look at *giggle* "express by or utter with a giggle" as a paradigm case. A typical example would be (1).

(1) "Oh dear," she giggled, "I'd quite forgotten."

One interpretation is that she said this *while* giggling: in that case there is a synecdochic relationship; we express part for the whole, we have pure metonymy. Another way to interpret it is that she said this *as if* giggling; hence there is a crossing of domain boundaries, we have a metaphor.[2] The point is, however, that in this metaphorical interpretation, the conceptual link with the metonymic reading is still present. We denote a kind of speech that shares the light-heartedness

2. It may well be the case that some speakers would not be inclined to interpret (1) as metaphorical. This is only to be expected since this metaphorical reading is a non-conventionalised one. The illustrative importance of this instance relies on the fact that the metaphorical interpretation is a possible one for some speakers of English.

or the silliness, and perhaps even some physical features with giggling properly speaking: this is what I would like to call *metaphor from metonymy*. Figure 1 tries to visualise this.

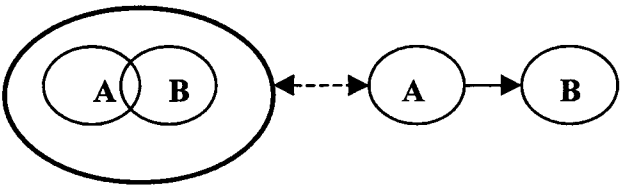

Figure 1. Metaphor from metonymy

On the left hand side of the figure two potentially discrete domains, A and B, intersect; they are fused in a single scene (the surrounding circle). On the right hand side, A and B are separated, but, as the broken arrow indicates, there remains a conceptual link with the scene in which the two are together. The double possibility (metaphor from metonymy or metonymy only) holds for most items in group (i) (19 out of 27). It follows that not unfrequently both the metonymy reading and the metaphor-from-metonymy interpretation could fit a given context: it is typical of these items that in context their interpretation will sometimes have to remain "undecided." Obviously for some of them the metaphorical reading is the natural one, for example, for *applaud* "express strong agreement with (a person, idea, etc.)," as in (2).

(2) These changes will be applauded.

An (exceptional) example of a *metaphor from metonymy* from the other groups is *snap at* "say or answer in an angry or rude way." The literal meaning denotes the quick closing of jaws, especially of an animal, for example of a dog. Since, however, human beings also have the capacity to close their jaws quickly and forcefully, and since this may occasionally accompany angry speech, the expression can also be said to have a (weak) metonymic basis. Note, for that matter,

that the donor domain for *snap at* can also be taken to be *violent (animal) action*, as well as *animal sound,* in actual fact *snap at* was also included in the violent action corpus.

In conclusion, we find that the donor domain *sound* gives rise to several metonymies, or metaphors from metonymy, precisely in those cases where sound hangs together with a human activity that can naturally co-occur with linguistic action. Typically, these items have a hybrid character, in that they are metonyms in some contexts, metaphors from metonymy in others and sometimes undecided between these two interpretations in actual contexts.

6. The violent action data

Physical violent action is sufficiently distinct from linguistic (inter)action not to overlap or coexist with it in the very great majority of cases. As a rule therefore the figurative expressions in our data base involve a mapping from one domain onto another, in other words, they are metaphors.

In the whole subcorpus of 100 verbials there were only six or seven items for which a metonymic ingredient can be suggested. All of these are of a type where the violent action *could* be accompanied by verbal action, for example, *throw mud at* "speak badly of, especially so as to spoil someone's good name unnecessarily." It is conceivable that people may combine the violent action with *shouting names,* which is linguistic action: this would be an instance of metonymy. The metaphorical interpretation can easily be established, however, without this metonymic backing. What this adds to our insight, is that metaphor from metonymy occurs with varying degrees of cognitive saliency; instances like the one discussed here provide us with the limiting case (it may well be argued not to be an instance of metaphor-from-metonymy at all). Another instance of this sort is *give a rap on/over the knuckles* "attack with sharp words," an item which also occurs in the body part corpus.

7. The body part corpus

7.1. Some further characterisation of the data

Before embarking on a discussion of the interplay of metaphor and metonymy, we first provide some further characterisation of the 109 items making up our data base. We do this from two points of view.

To begin with, the corpus can be subclassified according to different groups of body parts:

(i) 49 items contain a body part which could be instrumental in the speech act: 15 with *mouth,* 15 with *tongue,* 7 with *lip(s),* 3 with *breath* (not really a body part, but so closely associated with the body that we decided to include it), 2 with *jaw*, 2 with *throat,* one with *chin* and one with *voice* (an item for which the same remark holds as for *breath);*

(ii) 26 items contain a body part which is connected with the *head* but not potentially functional in the act of speaking (this includes the item *head* itself): 6 with *head* (I have listed here *tête-à-tête,* which is actually from French), another 6 with *ear(s)* (which, of course, may be instrumental in the perception of speech), 3 with *neck,* 2 with *nose,* 2 with *eye(s),* 2 with *brain,* one with *brow, eyebrow, cheek, hairs* and *profile;*

(iii) The *trunk* of the body is involved in items with *heart* (6), *breast* (2), *chest* (1), *bosom* (1), *belly*, (2), *back* (3) (15 in all);

(iv) 10 items are connected with the *hand,* including *hand* itself (6 times), *palm (1), finger (1), knuckles (2);*

(v) the leg or part of it are represented 7 times: *legs (1), foot/feet (4), knee(s) (2);*

(vi) finally, there are two items with *blood,* again a "body part" only in the loose sense of the word.

Secondly, it must be pointed out that the role played by the body part varies according to whether we have a verbial, an adjectival, or a nominal. In the case of verbials and adjectivals the body part is necessarily integrated into some broader scene. Nominals, on the other

hand, may be directly related to an aspect of linguistic action, though also here there may be a combination with another item, so that the body part is instrumental in a broader scene as well. As we shall find, this considerably increases the complexity with which metaphor and metonymy may interact.

7.2. Metaphor and metonymy in the body part corpus

General survey. Obviously, the data show up a considerable portion of what we may refer to as *pure* metaphors and metonyms. This is only to be expected, since in collecting the items the criterion was that they should be "figurative." As was indicated for the other two subcorpora, this results in a set of data which are predominantly metaphorical. The striking fact about the body part data therefore is rather that there are so many instances with a metonymic ingredient, i.e. either *pure metonyms* or *mixed cases* (where mixed implies that there is some interplay of metaphor and metonymy). Table 1 surveys the proportion of *pure metaphors, pure metonyms,* and *mixed cases* in the corpus. I have added the distribution over the verbials, adjectivals and nominals, because it is not insignificant.

Table 1. Distribution in the body part data

	Database	Verbials	Adjectivals	Nominals
	109	88	11	10
Pure metaphors	42	36	5	1
Pure metonyms	8	5	0	3
Mixed cases	59	47	6	6
- Metonymy in metaphor	(27)	(19)	(4)	(4)
- Metaphor from metonymy	(27)	(24)	(2)	(1)
- Special cases	(5)	(4)	(0)	(1)

In the context of this paper it is, of course, the mixed cases that are of interest; they will be explored under the following subheadings. Before proceeding with that discussion, let me draw the reader's attention to the high proportion of pure metonyms for the nominals as opposed to their complete absence for adjectivals. This hangs together with the fact that it is easier to select *entities* which are part of, or otherwise associated with, other entities as representatives for those other entities than it is to represent *properties* by partial or associated properties (where I take for granted that the categorial meaning for nominals is the denotation of entities and for adjectivals the denotation of properties). As will appear from the instantiations for the mixed cases, it is usually (but not always) the integration of a nominal element into the verbial or the adjectival that is responsible for the metonymic ingredient in an otherwise metaphorical context.

(i) *Metaphor from metonymy.* This pattern, which frequently occurs when the donor domain is (non-linguistic) human sound (see section 5), is also well represented in the body part data. In my analysis there are 27 items (24 verbials, 2 adjectivals, 1 nominal), i.e. practically one fourth of the data, that belong here. Again the boundary lines with pure metaphors and pure metonyms are sometimes a little hazy, hut there is no doubt that the great majority of those 27 can safely be assigned to this type. For all of them it is possible to use them metonymically, that is with reference to a scene where both the non-linguistic and the linguistic action reading are relevant, and it is that metonymic reading which is the basis for the metaphorical use. As a rule, however, there is an idea of transfer from a distinct scene; in other words, we get metaphors for which there is a link with their metonymic origin. In the following exemplification it will also appear that the relevant scenes have to be characterised in their own right; the body part is just an ingredient in a broader scene. This accounts for the fact that there is no significant correlation with any of the subgroups distinguished in 7.1. Let me provide a few instances now with a word of explanation.

– *Say something/speak/talk with one's tongue in one' s cheek* "say something and mean the opposite, especially in an insincere or ironic way."

The metonymic basis is a scene in which someone literally (and visibly) pushes his tongue into his cheek while saying something that he does not really mean; in this metonymic reading - unlike in the (admittedly improbable) literal interpretation - the tongue in the cheek is taken to be intentionally linked up with the ironic impact of what the speaker says. As a rule, however, we use the expression to express that the primary speaker says something *as if* he had his tongue in his cheek; there is a mapping from a donor scene onto the target scene. When we use it of insincere, rather than ironic speech, the expression is even necessarily metaphorical, at least to the extent that an insincere speaker does not want to give away that what is said is not really meant.

– *Beat one's breast* "make a noisy open show of sorrow that may be partly pretence."

Here the metonymic basis is the religious practice of beating one's breast while one confesses one's sins publicly.

– *Close-lipped* "silent or saying little."

Let me emphasise here that the metonymic reading and the interpretation as metaphor from metonymy can be expected to be equally frequent. *Close-lipped* can be paraphrased as literally meaning "having the lips close together" or as "having the lips closed;" when *close-lipped* is used to indicate that a person is literally silent, we therefore need the metonymic reading. If, on the other hand, we describe as *close-lipped* someone who is actually talking a lot, but does not give away what one would really want to hear from him, we have a metaphor (and given the saliency of the metonymic basis, a metaphor from metonymy).

A general point which should have emerged from the discussion is that the chances that metaphors from metonymy are used purely metonymically are variable. They are probably greater for items like *have a word in someone's ear* "speak secretly" or *raise one's eyebrows at* "express surprise, doubt, displeasure or disapproval (at)" than for *beat one's breast* or *put one's foot down* "speak or act firmly on a particular matter."

(ii) *Metonymy within metaphor.* In this pattern, which appears in the body part data only, we get metaphors (involving therefore a mapping from a donor domain A onto the discrete target domain B, which in our data evidently is linguistic (inter)action), but with a built-in metonymy. This metonymy involves the body-part which is a shared element in both domains (A and B). This situation can be pictured as in Figure 2, where the shared element, the body-part, is represented as x. Because of its different function in the two domains, it is differentiated as x and x^1 in the donor and recipient domain.

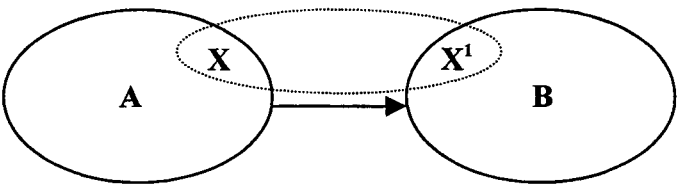

Figure 2: Metonymy within metaphor

Note that this representation does not yet give us the whole story about the shared item x/x'. A couple of examples will show that as a rule it functions metonymically in the target domain only, whereas it is interpreted literally or (more often) (re)interpreted metaphorically in the donor domain.

– *Bite one's tongue off* (informal) "be sorry for what one has just said," typically in contexts like (3).

(3) I should/could bite my tongue off.

Here *tongue* can be processed literally in the donor scene. Because of the counterfactual contextualisation this donor scene can be one that does not directly tie up with everyday experience. Perhaps the best way to characterise it is in terms of self-punishment, where the punishment hyperbolically involves a rather unlikely kind of self-mutilation. Mapping this onto linguistic action we get something like "depriving oneself of one's ability to speak," where the metonymy is from *tongue* to the *speech faculty* as a whole. It is this metonymy that motivates the choice of *tongue* rather than *finger,* for example (as a result a similar expression like *I could have kicked myself* does not specifically denote linguistic action). The hyperbolic nature then generates an implicature in the Gricean sense along the lines of "I'm terribly sorry for having said something so foolish, rude, or the like."

– *Shoot one's mouth off* "talk foolishly about what one does not know about or should not talk about."

The donor domain is the foolish or uncontrolled use of firearms: the foolish (and therefore potentially, though not intentionally, dangerous) use of a gun is mapped onto unthoughtful linguistic action. By integrating *mouth* into a scene relating to the use of firearms it is reinterpreted as having properties of a gun in the donor domain; this is the metaphorisation in the donor domain. In the recipient domain, however, there is a first level of interpretation which amounts to something like "using one's mouth foolishly," in which *mouth* is a metonymy for *speech faculty.* Again the significance of the metonymy becomes clear, if one replaces *mouth* by parts of the body which are less or not functional in the act of speaking (such as *nose* or *eyes).* Hence an utterance like (4) comes to mean "Don't say anything rash."

(4) Don't shoot your mouth off.

– *Catch someone's ear* "catch someone's sympathetic attention or notice" as in (5).

(5) She caught the minister's car and persuaded him to accept her plan.

This invokes a scene of an entity (animal, bird, insect, or even human being) running or flying around which one tries to get hold of. From the point of view of the donor domain *the minister's ear* has to be reinterpreted (metaphorically) as an entity on the move; in the target domain it is used metonymically for the minister and for the minister's attention. Note, by the way, that in this instance (as was pointed out by one of my anonymous reviewers) an alternative interpretation as metaphor-from-metonymy should be considered: besides its literal meaning, *catch someone's ear* can be taken metonymically to designate the more complex process of getting someone to listen; this metonymy can be the basis of a metaphor-from-metonymy. The greater relevance (at least for me) of the metonymy-within-metaphor interpretation hangs together with the possibility of a metaphorical interpretation of *catch X* as well as the cognitive salience of the *ear-(linguistic) attention* metonymy.

Again, the pattern is comparatively frequent in this subcorpus: nearly one fourth of the items are of this type. With two or three exceptions they are all verbials where the body part is involved in a broader scene. Note also that here there is a very strong correlation with the body parts that can be functional in linguistic action: all instances come from groups (i) and (ii).

(iii) *Demetonymisation inside a metaphor.* There is at least one instance of what can be described as a demetonymisation inside a metaphor: *pay lip service to* "support in words, but not in fact; give loyalty, interest etc. in speech, while thinking the opposite."

At first sight this may seem to be another example of metonymy within metaphor. *Paying* suggests a scene of discharging one's debts; that scene is the "embedding metaphor." *Lip service* is "service with the lip(s)," where *lip(s)* stands for *speaking,* which is a metonymy (one with a biblical origin, see Goossens (1993), but no doubt "secularised" for most speakers of English today). However, to make the figurative expression work, we have to expand our paraphrase for *lip*

service into "service as if with the lips only;" the part is dissociated from the whole for which it was made to stand in the earlier processing stage, it is "demetonymised."

(iv) *Metaphor within metonymy.* Also this type is represented by one instance only: *be/get up on one's hind legs* "stand up in order to say or argue something, esp. in public."

The peculiarity about this item is perhaps best revealed if we leave out *hind: being/getting up on one's legs* with reference to "standing up in order to say something in public" is metonymic, there is an overall scene of somebody standing up *and* saying something publicly. The addition of *hind* forces us to reinterpret the expression in terms of an animal standing up. This suggests a greater effort, an event which attracts more attention. At the same time there is a bathetic effect, because a human being is interpreted as being involved in the pseudo-achievement of standing on two legs. One may, of course, also argue that the addition of *hind* makes the expression as a whole metaphorical; it is only to the extent that we process it with an awareness of the metonymy, that it is more adequate to view this as a metaphor embedded into a metonymy.

8. Some further perspective

The foregoing analyses have given us an initial, though not fully representative, picture of the ways in which metaphor and metonymy can interact. Let us first review the patterns that were observed. 1 list them with an indication of the frequency with which they occurred.

(i) *Metaphor from metonymy.* This was a frequent type in the figurative expressions where the donor domain is human (non-linguistic) sound, and well represented in the body part data. The main point here is that underlying the metaphor there is an awareness that the donor domain and the target domain *can* be joined together naturally in one complex scene, in which case they produce a metonymy, of course. The actual contexts into

which these items fit will be decisive for the interpretation as either a metonymy or a metaphor from metonymy, with, of course, a fuzzy area where it is difficult to decide which of the two is the more relevant interpretation.

(ii) *Metonymy within metaphor.* Although less frequent than (i) in our data base, this pattern was also quite current, be it only in the body part corpus. The typical case for (ii) is that a metonymically used entity is embedded in a (complex) metaphorical expression. The metonymy functions within the target domain. As we found out in the instances we analysed, this often, but not necessarily, goes together with a metaphorical reinterpretation of the relevant entity in the donor domain.

(iii) *Metaphor within metonymy.* This type is extremely rare in our data and I assume that it is rare in general. Probably this hangs together with the fact that if we embed a metaphor into a metonymy, it tends to "metaphorise" the whole expression. It is only in instances where the metonymic reading remains relevant (as in *be/get up on one's hind legs,* which was discussed above) that this pattern occurs.

(iv) *Demetonymisation in a metaphorical context.* This is also an exceptional type. In the example we found *(pay lip service to)* it turned out that the metonymic reading *(lip* for *dishonest talk)* was relevant, but that at the same time the overall metaphorical context favours an interpretation in which the metonymic extension is abandoned ("service by means of the lips only").

These findings raise a couple of questions which I will briefly go into next.

First, we may wonder whether the mirror image for type (i) is possible, i.e. *metonymy from metaphor.* I would like to suggest that it is, though it is rather difficult to conceive and therefore very rare. Let me try to construct an example with an item which occurred in my discussion of the sound data in section 5. I pointed out there that *blow one's trumpet* is an instance of metaphor because it is difficult to conceive of the scene of trumpet blowing and that of self-praise as being combined. Suppose, however, that the two *do* occur together

and that we use an utterance like (6) to describe this (admittedly unlikely) scene.

(6) Remarkable, the chap is blowing his own trumpet!

In such a case we would be forced to become aware of the metonymic interpretation, but to the extent that in its metaphorical reading the expression is highly conventionalised, we will process it as a metonymy from metaphor.

This leads to a second question. Why is it that metaphor from metonymy is quite current, whereas it is difficult to come up with good instances of metonymy from metaphor?

Let me repeat in this context that for metaphor we map an element from a donor domain onto an element of a *discrete* recipient domain. For a metonymy the mapping is from an element A to an element B within the *same* (structured) conceptual domain. Metaphor from metonymy implies that a given figurative expression functions as a mapping between elements in two discrete domains, but that the perception of "similarity" is established on the basis of our awareness that A and B are often "contiguous" within the same domain. This frequent contiguity provides us with a "natural," experiential, grounding for our mapping between two discrete domains.

Going from metaphor to metonymy is conceptually more difficult, because here it is implied that the two domains are in principle discrete. The case where the mapped elements in a basically metaphorical expression can be interpreted as belonging to the same (complex) domain is rare as it were by definition, because, if it were frequent, we would automatically get a metaphor from metonymy.

This does not yet explain why metonymy *within* metaphor occurs frequently, but not metaphor within metonymy. In both cases we get a complex mapping, where for metonymy within metaphor a metonymic mapping is inserted into a metaphoric one and for a metaphor within metonymy a metaphor becomes an ingredient in a metonymic expression. As will have become clear from the discussion of the examples in section 7.2., metonymy within metaphor is possible only if in the donor domain the element which becomes me-

tonymic in the recipient scene can either be processed literally or be reinterpreted metaphorically. In other words, the metonymy is integrated into the metaphor, but the metaphor maintains itself, it is not "destroyed" by the integrated metonym. In the case of a metaphor within metonymy, on the other hand, at least in the single example we have found in our data *(be/get up on one's hind legs)* the addition of an element from a discrete domain *(hind* in our instance) tends to metaphorise the whole expression; it is only by virtue of the strong cognitive salience of the metonymic alternative *(be/get up on one's legs)* that the complex interpretation as metaphor within metonymy becomes relevant. A metaphor inserted into a metonym would seem to metaphorise the whole, whereas a metonym integrated into a metaphor does not appear to have the power to metonymise the metaphor.

Finally, I would like to suggest that "metaphtonymies" can be assigned to two basic types, which I shall label *integrated metaphtonymy* and *cumulative metaphtonymy* respectively.

By *integrated metaphtonymy* I mean the type in which in one and the same expression a metonymy and a metaphor are combined. This category includes metonymy within metaphor and metaphor within metonymy. *Cumulative metaphtonymy* implies that a metaphor is derived from a metonymy or vice versa. This is the case in metaphor from metonymy (where the end product is a metaphor), as well as in the apparently rare instances of metonymy from metaphor (where the result is a metonym).

Rounding off, we found that there are two current patterns for the interplay of metaphor and metonymy. One in which the experiential basis for the metaphor is a metonym, yielding what we called metaphor from metonymy. The other pattern is the case in which a metonym functioning in the target domain is embedded into a metaphor: metonymy within metaphor. The other types of 'metaphtonymy' are a lot more difficult to conceptualise, and (therefore) exceptional. Obviously, the generalisability of these findings will have to be verified with figurative expressions for other domains than linguistic action.

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Postmetaphtonymy: A postscript

This is not an attempt, dear reader, at coining yet another term to deal with metaphor and metonymy; rest assured. The idea is to confront my own insights with those of N. Riemer's* insightful contribution. My hope is, to paraphrase a French expression[1], that some new light on the processes of meaning extension that both of us are concerned with may be the outcome of this confrontation.

Clearly, there is a lot of common ground in our two papers (mine being the 1990/1995 contribution entitled 'Metaphtonymy'*, perhaps even more than Riemer seems to suggest at times. I agree that metonymy and metaphor are basically different processes, that they are essentially cognitive in nature, i.e. that they not only involve a transfer of 'terms,' but necessarily a transfer of 'ideas.' I also endorse the view that conventionalisation often weakens the impact of the (cognitive) motivation which underlies a particular metonymic or metaphorical transfer to the point where for speakers of a later language stage (possibly just a later generation, or even contemporaries with a different experiential background) the original idea behind a transfer of terms may be lost. In addition, there is no doubt that Riemer accepts that metonymy and metaphor may be intertwined at times, as the concluding sentences of his contribution make amply clear.

More importantly for the purposes of this postscript, Riemer challenges my view that what he calls postmetonymies could be described as 'metaphors from metonymy.' His point is that the metonymy does not turn into metaphor, but directly shades off into a conventionalisation beyond the original metonymic meaning, in the sense that the metonymic basis is phased out. For a transparent discussion some exemplification is in order.

Since he only deals with conventionalised instances the initial instance in my 1990/1995 paper, repeated here as (1), would be somewhat marginal to his argumentation.

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1. "Du choc des opinions jaillit la vérité." The original is reported to go back to C.P. Colardeau (1732-1766) and is even fuller of (enlightened) rhetoric "Du choc des sentiments et des opinions La vérité s'élance et jaillit en rayons."

(1) 'Oh dear,' she giggled, 'I'd quite forgotten.'

I would nevertheless like to include it in the discussion, if only to demonstrate that in non-conventionalised instances there *is* such a phenomenon as metaphor from metonymy. In (1) the metonymic reading is that she said something *while* giggling; one component of the complex speaking and giggling scene, viz. giggling (expressed by *giggled*) is used to denote the whole. In the metaphorical processing (1) is taken to refer to a situation in which she said something in a very light-hearted tone, without actual giggling, hence *as if giggling*; the similarity between the light-heartedness of giggling and that of her way of saying things is what motivates the metaphor. Even if this metaphorical interpretation is not obvious for some speakers (which is only to be expected given the non-conventionalised character of the expression), it is a possible one for others. If it is, a reading of (1) without first-hand knowledge of what happened specifically (did she actually giggle or was it just a very light-hearted utterance?) may involve either a metonymic or a metaphorical interpretation. It is in this sense that I would claim that metonymy and metaphor can be said to be intertwined, in spite of the fact that in principle metonymy and metaphor are distinct processes. On the other hand, if we resort to the metaphorical interpretation, we remain aware that the more obvious metonymic reading is the basis of the metaphorical one, hence metaphor from metonymy. There is a possible reading in which metaphor is at stake, but the salience of the metonymic interpretation is considerable enough to make us process the metaphor as being grounded in a metonymic antecedent. Since conventionalisation does not play a part, however, the instance would not come under Riemer's postmetonymy (let alone under postmetaphor).

Let us turn then to a conventionalised 'trope' as exemplified by (2), an instance which Riemer picks out of my set of examples to argue his case.

(2) beat one's breast

What happens here, he says, is that an original metonymy, which builds on the potentially dishonest religious practice of physically beating one's breast in public confession, gives rise to a conventional phrase, meaning 'make a noisy, open show of remorse/grief that may be partly pretence,' where for some speakers at least the religious practice may no longer be familiar, so that the processing of the conventionalised phrase works directly, without awareness of the metonymic basis, let alone of a metaphorical interpretation with a metonymic origin. Therefore, Riemer argues, we do not get a metaphor from metonymy here, but only the loss of the metonymic basis as a result of the conventionalisation process. I would like to make two remarks to this. The point that conventionalisation may obscure the metonymic (or metaphorical) basis of a given expression I wholeheartedly agree with. That *beat one's breast* could not be considered to be a metaphor from metonymy, at least during one stage of its linguistic history, is another matter. Take a (constructed) use as in (3), for example, where we take it that no physical act of beating his breast on the president's part was involved.

(3) Have you seen the president beating his breast on the television?

My understanding, and, I am confident, that of a considerable number of other speakers of English, would be that the scene of public religious confession (the donor domain) is mapped onto something like 'public, possibly dishonest, expression of grief' (recipient domain), the similarity between the two scenes being rather obvious, even if they are sharply distinct. This would therefore be a case of (conventionalised, it is true) metaphor. To the extent that I am aware that the expression must also be (or have been) applicable to 'religious' events (in which people actually touch their breast), this metaphor has a metonymic basis. Hence, my position remains that this may be interpreted as a metaphor from metonymy, allowing for the possibility that for some speakers the cognitive basis for the metaphor (and the metonymy) may have been lost. Whether I would want to call it a frozen metonymy or a frozen metaphor is not really the

issue, perhaps I would prefer frozen metaphtonymy, given the fact that both metonymy and metaphor have played a part. The important point is that before the stage where the conventionalisation might have progressed so far that certain speakers (hearers) are no longer aware of the metonymic basis, there must have been a shift to metaphorical uses in which there is an understanding that the religious practice is donor domain for the recipient scene 'make a public, possibly dishonest show of grief (without breast beating).' Most of the instances which are discussed in my paper are of this kind.

But this is not the whole story. Riemer (* 395) is also concerned with instances like (4) (his (2)).

(4) The enthusiastic Greeks strike up a chant
(OED *strike* 87c vt. 1890 begin to play or sing (*strike up*))

'Strike up' is paraphrasable here as 'begin singing,' in which *up* is open to both a literal interpretation (the chant is rising up from the singers) and a metaphorical one (*up* is mapped onto 'activity,' as opposed to *down*, which is used to code 'inactivity,' as, for example, in *break down*, *run down*). Riemer's concern, however, is with the presence of the verb *strike*. Since chanting does not involve 'P/I' (= Percussion and Impact, an essential ingredient in the literal meaning of *strike*), the presence of the verb *strike* is initially hard to explain. But then an earlier instance in the OED (from 1562–75) does provide him with the necessary metonymic origin (his instance (3), quoted here as (5)).

(5) With a pot of good nale they stroake vp theyr plauditie
(OED *strike* 87c vt. 1562–75 begin to play or sing (*strike up*); *plauditie*: round of applause)

"The explanation of the extension is thus found in metonymic factors, but the postmetonymic context has overshot the original motivating context because there is no longer a P/I event involved." (*396) I find the case for a metonymic origin of *strike up* in the sense 'begin singing' convincing, although one might think of metonymic

contexts which are closer to (4) than the sixteenth-century instance from the OED. *Striking up a chant* may be accompanied by a chant leader making an actual striking movement on a drum, for example, or just a striking movement in the air (without actual impact on something else). Again, an *as if* reading here might be interpreted as metaphorical with a clear connection with the metonymic origin. But I admit that such an explanation is somewhat speculative, and that perhaps the significance of this type of example lies elsewhere, as may be illustrated more clearly with an instance like (6), quoted from the *Longman Dictionary of Contemporary English*, i.v. *strike up*, sense 2.

(6) They struck up an acquaintance (with each other) on the plane.

Here *strike up* can be equated with 'begin.' In all probability (6) builds on instances like (4) and can thus (ultimately) be traced back to a metonymic origin. On the other hand, the contribution of *strike* in this context points to the development of a vaguer, more schematic meaning than its original (literal) one: it would seem that *up* contributes the meaning component 'newness of the initiation,' whereas *strike* is responsible for the agentive involvement of the subject and the suddenness of the initiation. I take it that this is what Riemer wanted to lay the finger on. In spite of the metonymic origin, there is a conventionalisation process which changes the meaning contribution of *strike* in such a way that the link with its original meaning, which was salient in the original metonymy (and, I would add, in clear instances of metaphor, whether they be 'pure metaphors' or 'metaphors from metonymy') is no longer operative. Obviously, this vaguer, more schematic sense may show up in other instances in which *strike* is used, perhaps even with greater schematicity, as in (7), where the agentive involvement of the subject is becoming less relevant.

(7) I've struck on a plan (= 'discovered,' also from *Longman Dictionary of Contemporary English*, i.v. *strike on/upon*)

To conclude, let me summarise my position on the issues raised by Riemer. (i) Original metonymies may change character to become metaphors in which the continued conceptual link with the original metonymy justifies a characterisation as metaphor form metonymy. (ii) Conventionalisation may obscure the link with the original metonymy that gave rise to a given expression. This is, of course, also the case for original metaphors, or for metaphors from metonymy. (iii) The complex pattern of meaning extension for certain symbolic items, especially high frequency ones, may be such that their meaning contribution becomes more schematic, so that the link with their most basic (or original) meaning gets obscured, and that the link of certain meaning developments which may be partially connected with earlier metonymies (or metaphors) becomes less salient or is completely lost.

When is a metonymy no longer a metonymy?

Nick Riemer*

Abstract

This paper considers metaphor and metonymy in verbs whose meaning centres around the idea 'hit' ('percussion/impact' or 'P/I' verbs). It proposes two new categories to understand metaphor and metonymy, specifically as they relate to conventionalisation and generalisation: *post-metonymy* and *post-metaphor*. Post-metonymies are originally metonymic semantic extensions which have been generalised and conventionalised so that they no longer depend on the presence of P/I in their referent: their contexts of use have 'overshot' the domains of their original appropriateness. Post-metaphors, likewise, are originally metaphorical applications of P/I expressions in which there is no longer any connection to P/I, but which continue to convey the meaning originally instantiated by the metaphor. The importance of metonymy or metaphor as the explanation of a semantic extension therefore remains unchanged when the extension becomes conventionalised, and the lines between metonymy and metaphor are not blurred solely because the original motivation of a meaning has disappeared.

Keywords: conventionalisation, demarcation, generalisation, hyperbole, metaphorisation, metonymisation, post-metaphor, post-metonymy, semantic extension, understatement.

1. Introduction

Metaphor and metonymy figure prominently in most discussions of meaning relations as the primordial mechanisms of semantic exten-

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sion[1] from a 'basic' or 'root' meaning to an 'extended' or 'polysemous' one (on the question of the universality of 'metaphor' as a cognitive operation see Hobart (1982: 55–6); for an interpretation of metaphor and metonymy as the end-points of a continuum of mappings, see Radden*). But whereas the history of rhetoric and semantics has enshrined the division of meaning extensions into (at least) these two processes, the precise lines on which the division should be made, and the exact characterisation of the terms 'metaphor' and 'metonymy' themselves, still remain far from agreed (on the so-called 'demarcation problem' for metaphor, see Cooper 1986 and Barcelona 2000; on metaphor see Lakoff & Johnson 1980, Johnson 1981, Ricoeur 1981: chap.6 and 1975, Gumpel 1984, Mac Cormac 1985, Turner 1987 and 1990, Lakoff & Turner 1989, S. Levin 1977; on metonymy see especially Taylor*, Jakobson*, Ullmann 1972, Langacker 1987: 271–274, Lakoff 1987: chap. 5, Kövecses & Radden 1998 and Panther & Radden 1999).

The prevailing uncertainty over the boundary between the terms is a result of the fact that the two processes are mutually implicated to a very high degree, co-occurring as alternatives for the description of single extensions to such an extent that the postulation of two separate factors can seem forced. This paper approaches the question of metaphor-metonymy interaction in the lexical domain of 'percussion/impact (P/I) verbs' (Riemer 1999) – that is, verbs whose meanings centre around the idea 'hit.'[2] Examples will be drawn from English (principally from quotations from the OED) and from an indigenous language of central Australia, Arrernte (Henderson & Dobson

1. Nerlich & Clarke (1992: 137) offer an explanation of why metaphor and metonymy are the most basic procedures of semantic extension: in order to maintain comprehensibility, a speaker must not be arbitrary in assigning a new meaning to an established term. Metonymy and metaphor represent the most obvious ways to extend the meaning of words without making them incomprehensible: a word is used to signify either a neighbour of its old meaning (metonymy) or one which resembles it (metaphor).
2. No claim is made for the cognitive reality of "P/I verbs" as a "natural class" within the lexicon. The establishment of the category serves only to name the verbs on which the current study is based: an arbitrary selection of verbs would have been equally legitimate.

1994). Quotations from Arrernte (labelled AS) will be drawn from my own field notes. Although the theory presented here arose from a desire to adequately describe semantic relationships in these languages and is therefore thoroughly empirical in spirit, the bulk of the paper is devoted to a treatment of the concepts of metaphor and metonymy in themselves. This, far from being a merely academic exercise, clarifies the nature of the processes and generalises over a set of familiar cases to which the innovative features of the theory apply. The relative scarcity of examples cited should therefore be taken as a result of the paper's methodological orientation, and not as an index of the rarity of the phenomena described.

2. The demarcation problem

Recognition of interaction between metaphor and metonymy has now become commonplace in semantics. For example, Warren (1992: 94ff) documents interaction between metonymy and metaphor in semantic extension, and Goossens* demonstrates how the two are jointly bound up in semantic extensions in the domain of linguistic action; his theory will be an important reference point for our discussion. Where the account offered below will differ from Goossens' and similar approaches is in its response to the commonly acknowledged fact that a very large number of extended meanings are not amenable to characterisation as either exclusively metaphors or exclusively metonymies with respect to the root meaning. Whereas this situation leads Goossens to postulate a set of essentially *combinatory* processes collectively named 'metaphtonymy' and covering 'metaphor from metonymy,' 'metonymy within metaphor,' 'demetonymisation inside a metaphor' and 'metaphor within metonymy,' the present account suggests that some extensions, rather than being amalgams of the two processes, as they are for Goossens, are *neither* any longer true metaphor *nor* true metonymy, but rather post-metonymy and (more rarely) post-metaphor, and that the relations governing these types of extensions are not, as for Goossens, combinatory ones, but rather conventionalised/generalised and 'post-categorial' ones.

The full force of these terms will be explained presently, in the context of a survey of some of the important points in the treatment of metaphor and metonymy in linguistics, in which I will try to show how the ideas of post-metonymy and post-metaphor can give an alternative to some of the perhaps less clearly formulated aspects of the current state of metaphor/metonymy research.

The terms 'metaphor' and 'metonymy' first appear in classical rhetoric: Aristotle defines metaphor as 'the application [to something] of the name of something else' via various processes of analogy (*Poetics* 1457b). Similarly, in several early writers like Quintilian and Bede metonymy is defined in a way that accords it a superordinate status over possible types of meaning relation: following the word's etymological meaning it was simply described as the substitution of one 'name' for another (see Bredin 1984: 46). The tropes thus start their lives without the strict differentiation that subsequent analysts imposed on them – a result of the fact that they share a central feature: in both, properties of one idea, or of one linguistic sign, are attributed to another (cf. Lakoff & Turner 1989: 103–106; Radden & Kövecses 1999). But the particular attention paid to the role of metaphor in the second half of the twentieth century (for a useful summary see the introduction of Johnson 1981 and the papers in Ortony 1993), has only served to sharpen the need for a fuller recognition of the role of metonymy, a recognition which is now in full swing (Radden & Kövecses 1999; Panther & Radden 1999; Barcelona*, 2000; Radden*, 1999). The present paper suggests, however, that a little more ground needs to be covered if the full force of metonymy as a mechanism of semantic extension is to be appreciated.

Like synecdoche, the substitution of part for whole that is its close relative in the traditional classification of tropes (Seto 1999, Taylor*), metonymy is the class of extensions based on an interrelation between closely associated terms – cause and effect, possessor and possessed, and a host of possible others (cf. Bredin 1984: 48 for a list). These can be subsumed under a unitary definition as extensions based on a more generalised 'contiguity.' Such a formulation of metonymy can be traced back to the *Rhetorica ad Herrenium*, attributed to Cicero, and is found in many central modern figures like Ullmann

1972: 212, Jakobson* and Jakobson & Halle (1980: chapter 5). For discussion of the contiguity account of metonymy, see Geeraerts (1997: 97), which considers the relationship between contiguity and semantic domain, as well as Dirven*, Warren (1992: 64ff), Kövecses & Radden (1998: 58), Seto (1999) and Feyaerts (2000: 62–64), to name only a few of the possible sources. Whereas early theorists like Quintilian and Bede had seen no essential difference between metaphor and metonymy, the realisation of a need to recognise the distinct role of contiguity-based effects marks the first phase of an encroachment by metonymy as the interpretative principle onto territory previously accounted for as metaphor, an encroachment which the work of an increasing number of modern investigators can be seen as continuing. In spite of the prominence of metaphor as a subject of interest in linguistics and rhetoric, increasing notice has been given to metonymy as the explanatory principle for a large number of meaning relations (see especially Goossens* and the contributions in Barcelona 2000). Gibbs (1993: 275), for example, seeks to provide an antidote to the view of metaphor as master-trope, while Taylor* acknowledges the recognition that metonymy is 'no less important' than metaphor as a mechanism of meaning association (1995: 122), and discusses the possible grounding of metaphor in metonymy (*342, 1995: 139), as Eco had done previously (1979: 68). In a similar vein, the Belgian rhetoricians calling themselves 'Group μ,' allied with a rather different tradition of language studies, analyse metaphor as the product of two synecdoches (1981: 107–109).

This historical shifting of the boundary between metaphor and metonymy has not resolved all the ambiguities, however, and the distinction between metaphor and metonymy is still not entirely clear (cf. Cooper 1986). At this point, therefore, it is worth stepping back to appreciate where the ambiguities in the concepts might lie. Some of the lack of clarity in the discrimination of the ideas has been made very explicit in discussions of semantic extension, while other areas of ambiguity have not, to my knowledge, been given the weight they deserve.

There are two essential ambiguities in the demarcation of metonymy from metaphor. The most commented upon area of disagree-

ment concerns the relation between metonymy/metaphor and semantic domains: according to some investigators, metonymies should be identified as intra-domain (or, for Croft* intra-domain *matrix*) transfers, metaphors as inter-domain ones (Turner 1987: 21; Lakoff 1987: 288; Lakoff & Turner 1989: 103–104; Goossens *351–352; 1990: 325; cf. Kronenfeld 1996: 7, 9; Radden & Kövecses 1998 and 1999). For others, however, identity of domain is an independent parameter from the distinction between metaphor and metonymy (Wilkins 1996: 274, Feyaerts 2000). The point of view adopted here is that it is unwise to use identity versus difference between the semantic domains involved as a basis for the differentiation of metaphor and metonymy: the determination of the two should not be based on considerations of semantic domain in the absence of independent means of delimiting these, because one's definition of semantic domain would be crucial for the classification of a meaning transfer as one or the other (the same point is made by Feyaerts 2000: 62–64). Further, in section six below, I present evidence of how a misleading interpretation arises for certain semantic extensions if one adheres to an inter-domain/intra-domain principle of differentiation.

The second ambiguity attaches to all metonymies in as much as they are contiguity-based extensions, but it applies very noticeably when they affect morphemes which, like P/I terms, denote events, be they nouns or verbs. In a metonymic extension of P/I vocabulary, the meaning of a word changes to denote some 'contiguous' aspect of the circumstances of the act of percussion on a particular occasion, whether this is a constituent of the verbal event itself, or part of the wider physical and/or psychological-intentional 'frame' (domain, ICM) in which the event takes place. At face value, this characterisation of metonymy unambiguously seems to delimit a certain class of events metonymically related to the P/I scenario. Some thought, however, will show that this notion of contiguity is open-ended (in a way about to be characterised), and it will become obvious that this open-endedness has serious consequences because it directly challenges the separability of metaphor and metonymy as different categories of semantic extension.

The open-endedness of metonymy consists in the fact that no principled line can be drawn between two different types of relation: firstly, the relation between events which are not part of a P/I event 'itself' but which are nevertheless 'contiguous' to it (traditional metonymies), and that between events which are neither part of the original P/I event itself, nor 'contiguous' to it in the traditional metonymic sense, but which have some other relation (like 'similarity') to the P/I event proper (traditional metaphors). The reason for this is as follows. In a verbal domain like P/I, the type of contiguity that is encountered obtains between points in a chain of causation in time (considering a *hit-wound* metonymy such as that found in English expressions like *badly hit*, for example, we say that the act of hitting is 'contiguous to' the act of wounding, with the contiguity forming part of the cause-effect relation). But the events being related in a P/I scenario are *possible* rather than actual: given that wounding is not always the sequel to hitting, does a word for 'hit' that is extended to 'wound' still count as a metonymy even where it is used for wounding not caused by an act of P/I? This dilemma does not arise with many of the noun metonymies typically used to define the concept. In the case of a metonymy in which the word for 'finger' is extended to the meaning 'hand,' for example (cf. Wilkins 1996), the referents of source and target meanings are always contiguous. But the fact that the contiguity between *hit* and *wound* is not necessary, but only possible, gives rise to indeterminacy between metaphor and metonymy because an act of wounding that is not caused by an act of hitting, but which is nevertheless conveyed through a verb meaning 'hit,' is open equally to description as a metaphor or a 'metonymy-metaphor' (the verb construes the wound *as though* it were the result of an act of hitting) or as a metonymy (wounding can be the result of hitting).

To take another example, consider the following use of *kick*:

(1) They had a disagreement and the landlady kicked him out of the house.

In this sentence *kick out* means something like 'force to leave, expel.' Should this extension be considered as a metonymy or a metaphor? As a matter of fact, what happened in (1) was that the woman made the man leave the house. This was probably achieved by a variety of means (shouting, verbal threats, putting the man's belongings on the street, etc.) which may or may not have involved actual kicking. Even if actual kicking was involved, this was probably not enough on its own to force the man's departure: it is a rare person who can be kicked out of a building in the way that some smaller object like a ball can be, and only someone exceptionally persistent and aggressive would kick a person so hard and so continually that they would leave in order to protect themselves. Whatever the details of the scene were, the expression *kick out* is appropriate because it allows us to understand that as a result of some forceful action on the part of the woman, the man was made to leave, probably by coercion. In achieving this, the expression has clear metaphorical qualities: the situation is conceived of as similar to a real act of kicking in respect of both its result (the fact that the man ended up outside), and the relationship of control between the landlady and the man. *Kick out* also specifies the particular type of control relationship between the participants: even though the woman had power over the man, in that she could make him leave, this was only possible as the result of an action of some force, expressed through the choice of the verb *kick* instead of the more general *move* or *take*. Because of these metaphorical qualities, (1) would be appropriate even where the kicking out is achieved against the man's will but solely by non-physical means – through an eviction order, for example.

But *kick out* is just as clearly metonymically related to the meaning 'make leave,' since kicking could well figure as one aspect of an attempt to expel someone from a house. In this case, the extended meaning of the verb – 'force to leave, expel' – can be seen as the partial effect or the full intent of the verb's basic meaning, a cardinal metonymic relation. This metonymic connection exists even where the context is completely non-physical, as in the case of an eviction order, since the physical P/I source meaning of *kick out* 'cause to leave by kicking' is inherently activated by the simple presence of

the verb *kick out* itself, which makes available the knowledge that someone could be expelled (partly) as the result of a kick. It is this continuing salience of the verb's basic meaning that legitimates a treatment of the extension as metonymic. The idea of physical kicking invoked by the use of the verb *kick out* is therefore present even in non-physical contexts where no real kicking takes place, so that metonymic factors can never be ruled out of a description of the extension (which would be a concept metonymy of the type 'FORM_A-CONCEPT_A FOR FORM_A-CONCEPT_B' according to the typology in Radden & Kövecses 1999).

As another example of the indeterminacy between metaphor and metonymy, consider the sentence discussed by Barcelona (2000: 37), 'to keep my *hand* in, I practice the piano on a regular basis.' This can be seen as both a metaphor and a metonymy. Metaphorically, *keeping one's hand in* stands for the more abstract and complex concept of *remaining practised*, which involves an ensemble of actions not just limited to the pianist's manual skill, but inextricably bound up with her mental and aesthetic competencies. This is a prototypical instance of the substitution that characterises metaphor: the concrete concept of maintaining manual contact with something is used to express the more abstract, complicated and hard to define one of maintaining a particular (intellectual, musical) skill (cf. Sweetser 1990). But it is also a metonymy, because the use of the *hands* is a central part of the type of skill being maintained, and thus metonymically connected to the entire ensemble of actions through the part-whole relationship. In these and similar examples, therefore, metonymy and metaphor seem to be equally involved and it is *prima facie* unclear where the division between them should be placed.

It is possible to generalise about why this indeterminacy between metonymy and metaphor exists. Given that in metaphor a 'target' concept – for instance 'making someone leave the house' – is understood as equivalent to a 'vehicle' – for example 'kicking them out' –

this equivalence has to be grounded in some feature of the vehicle.[3] Notice that the ground or justification of the equivalence need not be just one feature: mostly, in fact, this is not the case. Literary metaphors provide a limiting case in this respect. In the literary metaphor 'What's this flesh? A little ... fantastical puff-paste' (John Webster, *The Duchess of Malfi*, IV ii) there is not one or two, but many points of equivalence between vehicle and target, and this multi-equivalence is characteristic (although perhaps to a lesser extent) of non-literary metaphor as well. Since any point of equivalence corresponds to some element related to or part of the vehicle concept, this opens the way for interpretation of the connection between target and vehicle as a metonymic extension from the vehicle concept itself (a similar point is made by Barcelona 2000: 34). For example, in the domain of percussion and impact, any feature of a percussion event taken as the ground of the metaphorical comparison is equally open to interpretation as metonymically connected to the P/I event itself, thereby validating interpretation of the metaphor as a metonymy. In the use discussed above, in which the act of making someone leave a house (the target of the metaphor) is treated as *kicking* them *out* (the metaphorical vehicle), it is the very fact that kicking someone out of the house is a possible way of making them leave that means that these two events can be related metonymically, namely by the cause-effect relation. This allows what was previously understood as the target of the metaphor – a person being made to leave the house – to be equally well understood as metonymically related to the original P/I event.

3. In this discussion, the terms 'vehicle' and 'ground' are used in the sense of Richards (1936: 96, 117); 'target' is used instead of and in the same sense as Richards' *tenor* (1936: 96). The target of a metaphor is the concept which is being metaphorically conceptualised – "the original idea" – as Richards describes it (ibid.), the 'vehicle' is the concept onto which the target is mapped, and the ground of the metaphor is the homology between vehicle and target which makes the mapping possible.

3. The account in Goossens (1990) and 'post-categorial' extension

This sort of interaction between metaphor and metonymy is discussed by Goossens (1990*, 1995) under the rubric *metaphtonymy*, which is a cover-term for four separate processes, 'metaphor from metonymy,' 'metonymy within metaphor,' 'demetonymisation inside a metaphor' and 'metaphor within metonymy.' The process that most concerns us is metaphor from metonymy, which, in Goossens' framework, is the category of interaction that causes the most ambiguity. Goossens discusses a number of metaphors from metonymy in conventionalised or stereotyped figurative expressions for linguistic action, which all receive similar treatment. We can content ourselves with a single example, the idiom 'beat one's breast,' meaning 'make a noisy open show of sorrow that may be partly pretence' (Goossens *362; 1990: 332). This is a metaphor because it expresses one scene – the metaphor's target – in terms of a conceptually quite different scene, here a physical act. (Note that by the widespread criterion of inter-domain mapping this is not, in fact, a metaphor at all: no homology is created between the different internal constituents of the act of making an open show of sorrow and the act of breast beating, so mapping cannot be said to be involved; this point is taken up below). But there is a metonymic basis for the extension in the religious practice of beating one's breast while making a public confession: this context brings the vehicle and target concepts together, allowing the scenes to be related in a way that is metonymic rather than metaphorical. Typically when the expression is used this bridging context is not actual and the domains of confession and breast-beating are separated: hence, for Goossens, the expression should primarily be seen as a metaphor, but one in which metonymic factors are crucial. Goossens presents other examples of metaphor from metonymy, demonstrating that this phenomenon is very characteristic of semantic extension.

This highly successful attempt to find metonymy lurking under metaphorical beds is part of the trend in linguistics and rhetoric to reverse what Bredin (1984: 45) calls 'metaphor's rise to power' as

the pre-eminent figurative device postulated to explain semantic relations. The argument of this section, however, is that this process of remetonymising metaphor needs to go one step further if a maximally coherent and illuminating picture of the tropes is to be achieved.

Much ambiguity between metaphor and metonymy, including even that found in otherwise salutary Goossens-like approaches, stems from an overly general conception of metaphor, the characterisation of which we will now consider. In general, two possible approaches can be seen to the classification of metaphor, each of which focusses on a different aspect of the concept. The first approach can be termed the substitution theory (which not only applies to metonymy, but also to metaphor) and can be described as the idea that for something to qualify as a metaphor there must be a substitution[4] of one concept for another: this lies behind the root meaning of the word *metaphor*, 'transfer' or 'carrying-over,' and corresponds to the subpart of the definition of metaphor that specifies that in a metaphor one entity (meaning, concept) is substituted or "used" for another. The second part of the concept of metaphor specifies the particular nature of this substitution: metaphor is a transfer between two ideas *that are in some way similar*, in other words where one idea resembles the other. Problems encountered in some current metaphor theory may derive from too much reliance on the first part of the definition and not enough on the second: 'metaphor' is often simply used of an extension where there has merely been a substitution of one term for another when the substitution is not obviously metonymic. An example of such an expression would be 'strike an agreement,'

4. Traces of the substitution theory of metaphor are found throughout its history: cf. A. Day, *The English secretorie*, 1586 (1625), II, 77: "*Metaphora*, which is, when a word from the proper or right signification is transferred to another neere vnto the meaning." (OED: *metaphor*). The lack of specification of just how one meaning is "near to" another allows metaphor simply to be understood as substitution: metaphorical meanings that are not sufficiently close to the "literal" meaning will presumably not be recognised as metaphors in the first place, so that successful substitution can become the criterial feature defining metaphor, with the means that achieve this remaining unspecified.

where *strike* has been substituted for *make* or *reach*, and there is no obvious metonymic link between the meanings of the two verbs.[5] This 'substitution theory' seems to be what lies behind Goossens' decision to label *beat the breast* as a metaphor.

A second approach to the characterisation of metaphor, more closely associated with the cognitive tradition in linguistics, concentrates on the second part of the definition, the ancient idea that metaphor is based on resemblance between vehicle and target concepts. The resemblance theory of metaphor, founded on Aristotle (*Poetics* 1457b), focusses on metaphor as a cognitive device – like charts, maps, diagrams and realistic paintings – which acts as a model to express the nature of otherwise hard-to-conceptualise ideas. This view of metaphor as a deep-seated cognitive process is, of course, at the foundation of many well-known theories of metaphor such as those of Lakoff & Johnson (1980), Lakoff & Turner (1989), Turner (1987) and Sweetser (1990). Under these approaches, metaphors are (cross-domain) mappings characterised by tight structural correspondences between vehicle and target where specific features of the vehicle can be linked to specific features of the target. To revisit a celebrated example, Lakoff can precisely identify the connections between a target concept, love, and the metaphorical vehicle used to conceptualise it, the image of a journey. In the following paraphrase, originally from Lakoff (1993: 208), the capitalised concepts in the target domain correspond to those in the vehicle domain:

> Two TRAVELERS are in a VEHICLE, TRAVELLING WITH COMMON DESTINATIONS. The VEHICLE encounters some IMPEDIMENT and gets stuck, that is, becomes nonfunctional. If the travelers do nothing, they will not REACH THEIR DESTINATION.
>
> Two LOVERS are in a LOVE RELATIONSHIP, PURSUING COMMON LIFE GOALS. The RELATIONSHIP encounters some DIFFICULTY, which makes it nonfunctional. If they do nothing, they will not be able to ACHIEVE THEIR LIFE GOALS.

5. In fact, a metonymic link can be proposed; it resides in the social practice of *striking hands* on a bargain

This mapping is an instantiation of the event structure metaphor, a high order conceptual mapping of event structure onto the idealised cognitive models of space, motion and force (Lakoff 1993). In this instantiation, lovers correspond to travellers, the love relationship corresponds to the vehicle, and the lovers' common goals correspond to their common destinations on the journey. The mapping is found in many common English metaphors for love and the situation of lovers, especially in times of difficulty: a relationship is *stalled*, lovers cannot *keep going the way they've been going*, they *must turn back*. Alternatively, the participants in the relationship may say 'look *how far we've come*,' 'we can't *turn back now*,' 'we're at a *crossroads*,' 'we may have to *go our separate* ways' (Lakoff 1993: 206). This metaphorical means of conceptualising the relationship makes available a concrete means of expression in which it can be discussed.

But such mappings are, according to Lakoff, more than purely a matter of language: the fact that one linguistic expression has been substituted for another is a necessary but not a sufficient condition for metaphoricity. This view of metaphor is 'thoroughly at odds with the view that metaphors are just linguistic expressions' (Lakoff 1993: 209). A metaphorical mapping allows knowledge about the metaphor's source domain to be applied to the target in a way that fundamentally determines or influences the conceptualisation of the target: metaphor is thus first and foremost a cognitive operation, and only derivatively the name for a certain class of linguistic expressions. This cognitive view of metaphor is compelling because it provides a clear definitional view of what constitutes a metaphor – it is a mapping between two concepts – while motivating this definition from functional considerations about cognitive processes so that it does not arise as merely an arbitrary matter of stipulation.

Let us see how this perspective applies to Goossens' example of a metaphor – specifically, a metaphor from metonymy – the use of "breast beating" to denote a particular sort of hypocritical public confession. What we see is that this is not really a metaphor at all in the above sense, but only a substitution with no relation of resemblance between target and vehicle concepts. There is no homology between

breast-beating and confession in terms of a mapping of elements of the one onto the other (as there is for example between *head* and 'top' in the expression *head of the queue*): the only link between the vehicle and target is the original metonymic one, namely the fact that breast-beating accompanied confession. There is no conceptual mapping that accompanies the extension: it is not as though the elements of the confession scenario can be mapped onto elements of the breast-beating one, as is possible with extensions correctly analysed as metaphor. The only thing that licenses the meaning 'confess publicly' is the original metonymic context; the meaning has subsequently become reinterpreted and conventionalised so that it can be applied even in contexts where it is not appropriate – that is, in contexts where there is a publicly made confession unaccompanied by breast beating.[6] The usage is clearly an extended rather than a basic sense, because its constituent words do not have their usual meanings: what we have is a clear case of a non-literal meaning, but one that is neither a metaphor in the above sense, nor, any longer, a metonymy. Its use is conventionalised, but this does not make it a metaphor. Rather, the only explanatory principle to which we can appeal to account for the link between breast beating and public confession is a metonymic one, only it is not a full metonymy, but a metonymy that is no longer manifest in most of the occurrences of the figure, where no breast beating will occur. To bring out these considerations, I propose that expressions like *beat one's breast* are best thought of

6. There may be "metaphorical" considerations that underlie the original social practice of breast beating, but these do not make the linguistic expression a metaphor. The breast or chest is characteristically viewed as the seat of the psyche, so that the act of beating it is appropriate for an act of remorse over confessed information. But the expression 'to beat one's breast' seems to run in precisely the opposite direction to other expressions associating the chest and disclosure of information. In 'getting something off one's chest,' for example, there is the image of the disclosed information moving *away* from the chest, precisely the opposite of the present expression, where the focus is on the chest as the target rather than the source of the verbal action. I take it therefore that *to beat one's breast* does not participate in conventionalised linguistic metaphors of disclosure of information, and that its source is purely metonymic and found in the actual social practice.

as neither full metonymies nor metaphors, but as *post-metonymies*, where these are defined as originally metonymic semantic extensions which have been reinterpreted and conventionalised/generalised so that their use goes beyond the original P/I scenario, on which their reference no longer depends: their contexts of use have "overshot" the domains of their original appropriateness, without any subsequent metaphorical schema having taken over as the grounds of the extension.

In this framework, the term *metonymy* should be reserved for extensions in which the new meaning contains the original source meaning (in this case P/I).[7] In this way the genuinely contiguous nature of the extension is preserved. For P/I verbs, an extension counts as metonymic only if there is an actual P/I event present in the situation to which the new meaning refers. Just as in a *finger* > *hand* metonymy there is (barring mutilations, deformities, etc.) always an unchanging real-world contiguity between the two terms, so for extensions of P/I vocabulary only cases in which there is also a real-world contiguity between the P/I event and the new meaning should be termed *metonymy*. Those extensions which have the same denotation as these real metonymies, but where the context now lacks the original P/I event, should be called *post-metonymies*. This is a recognition of the fact that although metaphor and metonymy are the two basic explanatory principles for semantic extension, they cannot explain all cases directly: some extensions are the result of a conventionalising or generalising process by which a metonymically created meaning is then applied to cases which lack the original foundation in the source domain.

7. Riemer (1999) claims that there are in fact only three ways in which this may happen, i.e. only three basic types of metonymic relation which can account for all metonymic extensions of P/I vocabulary, metonymic extension to the effect of the action of the verb, metonymic extension to the context of the action of the verb, and metonymic selection of a constituent of the verbal event.

4. More examples of post-metonymy

In this section I illustrate some further instances of post-metonymy in English, and go on to document its existence in Arrernte.

The expression *beat the breast* lost its status as a genuine metonymy and became a post-metonymy when the social practice that gave rise to it disappeared and the expression became idiomatic. This, however, is only one of the possible ways in which the metonymic character of an expression can be lost. More frequently, a P/I expression becomes post-metonymic not when, as in *beat the breast*, the disappearance of the referent destroys the original metonymic link, but when the expression is used to refer to a situation identical with the original metonymy in everything except the relevance of P/I: when, in other words, the category of event referred to by the P/I term widens to include not only those events directly related to P/I, but other events of the same general kind which lack any relation to P/I but for which the P/I term is retained. An example of this is the following (the bracketed information underneath the OED citation specifies the head-word, sense number, transitivity and date of the citation, and paraphrases the dictionary's definition of the sense along with any phrasal combination in which it is found):

(2) The enthusiastic Greeks strike up a chant.
(OED *strike* 87c. vt. 1890 begin to play or sing – *strike up*)

This extension of *strike up* is analysed as 'x make y move up by striking,' with the chant being visualised as rising *up* from the singers. (This use of *up*, as well as being open to literal interpretation, is typical of verbs denoting the starting of an activity, like *start up*. It thus belongs in a network in English semantics in which activity is coded as *up*, inactivity as *down*: *break down, run down*, etc.) Chanting does not, however, involve P/I, so the presence of the verb *strike* is initially hard to explain. The pathway of extension proposed here is the following. Firstly, *strike* undergoes a regular metonymic extension to the effect of the action of the verb in which it conveys the

object being brought into being as a result of the P/I. This can be seen in the following example, referring to applause:

(3) With a pot of good nale they stroake vp theyr plauditie.
(OED *strike* 87c. vt. 1562–75 begin to play or sing – *strike up*; *plauditie*: round of applause)

Metonymic usages like (3) establish the possibility of *strike up* being used to convey the bringing into being of sound, in this case the applause at the end of a performance; in the post-metonymic case (2), the verb is extended to cover situations with the same denotation – the bringing into being of sound – where there was no initial P/I event. The explanation of the extension is thus found in metonymic factors, but the post-metonymic context has overshot the original motivating context because there is no longer a P/I event involved. The fact that in (2) no "real" striking occurred is not, I suggest, the most significant aspect of the linguistic context for the categorisation of the extension. To explain the extension properly, it is important to label it in a way that characterises its connection with the prototypical case of striking, rather than in a way that simply highlights the non-literal status of the extended meaning, which is really all that the label "metaphor" could do. By treating cases like (2) as essentially metonymic, we recognise that the processes that result in a substitution of one term for another are more explanatory and more worthy of being named than is the simple fact that a substitution has taken place (cf. Group μ 1981: 106).

The Arrernte verb *atweme* 'hit' undergoes a regular metonymic extension to the meaning 'kill.' In (4) the verb appears in its core meaning, reinforced by *ware* 'just' (the context is someone hitting an animal out of anger, without the intention of killing it). In (5), however, the same verb means 'kill':

(4) *kere* *yanhe* *ware* *atwe-me.*
animal that just hit-PRES
'He's just hitting the animal.' (AS96)

(5) *artwe* *ampwe-le* *akngwelye* *atwe-ke*
man old-ERG dog kill-PST
'The old man killed the dog.' (AS96)

The following sentence shows an interesting post-metonymic elaboration of the original metonymy:

(6) *the* *patene-le* *akngwelye* *atwe-ke*
I.ERG poison-INST dog hit-PST
'I killed the dog with poison'/'I poisoned the dog (and the dog definitely died).' (AS96)

That 'poison' is a possible instrument of *atweme* in the 'kill' reading shows that this reading need not be particularly close (metonymically) to the reading 'hit': in the case of poison, death is effected without any physical contact between agent and patient, ruling out an analysis as a plain metonymy. This use therefore has to be interpreted as a post-metonymy based on instances where death was brought about by an act of P/I, extended in the present instance beyond the limits of the verb's original appropriateness. This example thus falls squarely within the category of post-metonymy as it has already been presented.

5. Post-metaphor

In post-metonymies we have identified a second-order mechanism of change which represents the conventionalisation and generalisation of metonymy into contexts in which a description of the semantic relation between source and target can no longer be convincingly presented in metonymic terms, but whose origin and principle of explanation nevertheless remain metonymic in character. This raises the question of whether a similar phenomenon – post-metaphor – also occurs. Reflection on the phenomenon of dead metaphors shows that these are, precisely, post-metaphors: originally metaphorical applications of a core meaning which have subsequently lost their

metaphoricity and now refer to the original target of the metaphor, which is no longer seen as being metaphorically conceptualised. For example, the use of *knock* to mean 'criticise' in certain varieties of English (I have in mind the Australian English use of the verb in a context such as *to knock someone about their haircut*, i.e. 'to criticise/tease someone on account of their haircut') originally had a metaphorical basis: acts of verbal abuse were identified with acts of physical P/I (compare OED *hit* 8c. 'criticise, make fun of, ridicule'). Today, however, the salience of this identification has become effaced, and no context of physical P/I is probably activated in many speakers by uses of the verb in this sense. *Knock* can still be used with the same referent it had when the metaphor was alive – verbal abuse – but the metaphorical conceptualisation of the referent has been lost. Metaphor is still, however, the only relevant explanatory principle for the meaning of *knock* in this sense: no metonymic qualities have come into play simply as the result of the meaning's conventionalisation. But it is as a *post-metaphor* rather than as a metaphor *tout court* that the extension must now be understood.

More interestingly, inspection of the following extension of *knock* demonstrates a more complex example of post-metaphor, and shows that, like metaphor and metonymy themselves, their post-categorial counterparts are often found mutually intertwined. The relevant OED citations, which I take as exemplifying the same extension, are reproduced as (7) and (8):

(7) Knocking up and down all over..the country.
(OED *knock* 5d. vi. 1886 move energetically, clumsily and noisily, or in a random fashion, about a place; with adv. or adv. phrase)

(8) He had knocked about all over the Pacific...
(OED *knock* 7b. vi. 1929 move about, wander, roam, in an irregular way; also to lead an irregular life – *knock about*)[8]

8. This is the origin of OED 7d 1866 "lie around, be in vicinity" and 7e 1915 "be a habitual companion of".

In neither of these sentences is the connection between *knock* and the idea of motion obvious: *knock* seems to belong in the no-man's-land between metonymy and metaphor characteristic of post-metonymies. Decontextualised from these sentences, both a metonymic and a metaphoric connection between *knocking* and the manner of motion could be motivated: metonymically, by the forceful *knocking* action involved in foot or horse travel, between human or animal feet or parts of the vehicle (for example, a horse-drawn carriage) and the ground, or alternatively, metaphorically, by seeing the usage as an image in which the area in which the motion takes place is conceptualised as a container against the sides of which the moving body is striking. In the context of (7) and (8), however, neither of these interpretations is very forceful: neither the idea of a container nor that of contact between vehicle/feet and ground are at all prominent. We should therefore describe the appearance of *knock* as a motion verb here as a partly generalised post-metonymy/post-metaphor: *knock* can be used to express motion in these contexts because there are other contexts in which an obvious connection can exist between *knocking* and motion. The following citation, in which *knock* refers to impact between the ground and parts of a vehicle or (an animal's) feet, could serve as the metonymic foundation of the instances in (7) and (8) above:

(9) He came knocking along the road in a great hurry.
(OED *knock* 5d. vi. 1825 move energetically, clumsily, noisily or in random fashion about a place; with adv. or adv. phrase)

This OED quotation does not reveal whether we are to imagine the subject as on foot, on horseback or in a carriage, but in all three cases forceful impact between the ground and an impactor closely associated with the traveller is a salient feature of the situation. Turning from metonymic considerations, a *metaphorical* connection between *knocking* and the manner of motion is not attested in the OED but is, I submit, an entirely natural one:

(10) I've been knocking around the world like a billiard ball.

Cases like these license the use of *knock* as a motion verb, which may then appear post-metonymically/post-metaphorically in contexts in which it is hard to give an explicit metonymic or metaphorical description of the connection.

Because post-categorial extensions have an ambiguous status, being neither full metaphor nor metonymy, subjective judgments will vary as to the viability of a straight metaphorical or metonymic analysis in each particular case. In fact, it was my own experience (as a native English speaker) while investigating these data that my intuitions were somewhat flexible: an extension judged as a post-metonymy sometimes seemed to be more open to analysis as a full metonymy, sometimes even as a metaphor. That the categorisation given above therefore reflects my own subjective and variable judgment does not reflect a defect in the analysis, as such indeterminacy is inescapable in studies of this sort and is frequently commented on by investigators. Goossens (*356–357; 1990: 328-329) for example, in the course of the discussion of his categories 'metonymy' and 'metaphor from metonymy' notes that the "double possibility" of an item exemplifying both categories holds "in most cases" for items in a significant part of his database, and comments that "it is typical of these items that in context their interpretation will sometimes have to remain 'undecided'" (see Warren 1992: 34 and Radden* for discussion of some related points).

6. Metaphor, metonymy and semantic domains

Finally, the example discussed in this section returns to an issue raised earlier (section two) and demonstrates that sameness versus difference of semantic domain should not be taken as the basis on which to distinguish metaphors from metonymies. *Slap* in (11) can be paraphrased as 'make move by slapping,' which reveals its nature as a metonymic extension from the verb's basic meaning to the result of the verbal action (one of the most frequent categories of extension according to the typology in Riemer 1999):

(11) Louise is coming to-night to see me slap the masked fellow to the dust.
(OED *slap* 1b. vt. 1889 drive *back*, beat *down*, knock *to* the ground, etc. with a slap.)

Slap here is analysed as 'x make y move by slapping,' but it is unlikely that a slap, or even a series of slaps, in the sense of a "blow, esp. one given with the open hand, or with something having a flat surface" (OED *slap* sb[1]) would be enough to achieve this result: in order to knock someone to the ground a more forceful type of P/I with a more rigid impactor than the hand, which is jointed and thus weakened at the wrist, would be necessary (except in the case of an exceptionally strong agent and an exceptionally weak patient). There is thus a mismatch between the inherent semantics of the verb *slap* and the extension in which it appears. One way to describe this situation would be as understatement: *slap* in (11) plays down the effort needed to overcome the opponent. I propose that this understating effect derives from its nature as a metaphorical application of the initial metonymic extension. The physical actions needed to bring down the "masked fellow" – presumably a whole repertoire of aggressive moves taking place in the context of a struggle – are represented as equivalent to a different class of physical actions, slapping. The effect of this metaphor is to conceptualise the metaphorical target (the actions that do in fact take place) in a way that makes it seem only a small matter. The present meaning of *slap* can therefore be derived through a two-step process. First, *slap* is extended metonymically from its root meaning to the meaning 'make move by slapping;' secondly, this newly created meaning is applied in a metaphorical fashion to a situation which does not actually involve any slapping, but which is imagined as doing so in order to conceive of the event in a certain perspective (i.e. as unstrenuous and trivial). The fact that both the actions really needed to down the opponent and the action of slapping are in the same general semantic domain of 'contact through impact' or some such is not relevant and certainly does not make (11) an example of metonymy, as it would for those analysts who define metonymy as intra-domain meaning extension. (11)

counts as a metaphor (a metaphorical application of the initial metonymic extension to 'make sb. move by slapping') because it uses one class of events as a conceptual model for another class, thereby imposing a particular understanding of the second class. The fact that both target and vehicle of the metaphor share the same general semantic domain issues not in a classification of the figure as metonymic, but as an understatement.

7. Conclusion

The proposal of post-metonymy and post-metaphor as supplementary categories related to plain metonymy and metaphor clarifies the relations between conventionalisation/generalisation and these two fundamental processes of semantic extension. Under this proposal, the relevance of metonymy or metaphor as the explanatory principle behind an extension does not disappear when an extended meaning becomes conventionalised or generalised, and the distinction between metonymy and metaphor is not complicated just because the original motivation of a meaning is no longer present. Rather, a metonymy that has become generalised so as to apply beyond the bounds of its original appropriateness is classified as a post-metonymy, and no metaphorical process needs to be invoked. In the same way, a metaphor does not suddenly gain any metonymic qualities just through its conventionalisation, and is analysed as a post-metaphor. By labelling an extension as a post-metonymy or post-metaphor, we recognise that metonymy or metaphor is still the relevant principle of explanation, but that the example in question represents not an original instance of this metonymy or metaphor, but a conventionalisation or generalisation of it. This classification has the advantage of preserving the individuality of metonymy and metaphor as different semantic processes, even under conventionalisation. The fact of an expression's conventionalisation/generalisation does not compromise the essential separateness of metaphor and metonymy: conventionalisation leads to the post-metonymisation of a metonymy and the post-metaphorisation of a metaphor, not to the metaphorisation of a me-

tonymy or the metonymisation of metaphor. This is not to say that metaphor and metonymy are never simultaneously present as mutually reinforcing factors behind a word's semantic extension: they frequently are. In principle, however, the two processes are distinct, and although a single expression will regularly be amenable to alternative or simultaneous analysis as both metaphor and metonymy, the viability of this double interpretation reflects not only the overdetermined and multifacetted nature of semantic extension but also the indeterminacy always present within the field of interpretative possibilities opened up by the use of a linguistic expression.

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How metonymic are metaphors?*

Günter Radden

Abstract

Metonymy and metaphor are assumed to form a continuum with fuzzy cases between these categories. The paper focuses on the intermediate notion of *metonymy-based metaphor*. Four sources which may give rise to metonymy-based metaphor are distinguished: (i) a common experiential basis of source and target domain, due to the relationships of correlation and complementarity, (ii) conversational implicature, illustrated in the areas of implicated result and causation, implicated possession, and implicated purpose and activity, (iii) the taxonomic structure of categories, (iv) cultural models, exemplified by way of our folk understanding of physical force, communication and language, and emotion and physiological reaction.

Keywords: category, conflation, cultural model, deconflation, full metonymy, implicature, metonymic relationship, metonymy-based metaphor, metonymy-metaphor continuum, opposition metonymy, partial metonymy, primary metaphor, primary scene, slang, submetaphor.

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1. Introduction

The distinction between the notions of *metaphor* and *metonymy* is notoriously difficult. In cognitive linguistics, metaphor is usually defined as a mapping across two conceptual domains, while metonymy is defined as a mapping within a single conceptual domain (see e.g. Lakoff & Turner 1989: 103). The notion of *conceptual domain* is thus crucial to defining metaphor and metonymy as well as distinguishing one from the other. In Langacker's (1991: 547) definition, a conceptual domain is "[a]ny coherent area of conceptualization relative to which semantic structures can be characterized (including any kind of experience, concept or knowledge system)." Conceptualisations as well as one's experiences, concepts and knowledge systems are necessarily subjective and may thus differ from person to person although there is, of course, a large amount of intersubjective agreement on our experiences. We need to be aware of the possibility, however, that people's characterisations of semantic structures including figurative language may be different. This of course also applies to characterisations of language by linguists.

For example, in pointing out the experiential basis of metaphor, Lakoff (1993: 240). discusses, amongst other metaphors, MORE IS UP and states that "the MORE IS UP metaphor is *grounded in experience* – in the common experiences of pouring more fluid into a container and seeing the level go up, or adding more things to a pile and seeing the pile get higher." Taylor (*341, 1995: 138) takes up this issue and argues that height is literally correlated with quantity and that this natural association between quantity and vertical extent is one of metonymy. It is only when more abstract instances of addition are involved that metaphor takes over as, for example, when one speaks of *high prices*. In our application of scholarly categories to natural language, we obviously face the same phenomenon of fuzzy boundaries that characterises natural categories. We will, therefore, look at literalness, metonymy and metaphor as being potentially located along a continuum. The implications of the "literalness-metonymy-metaphor continuum" will be discussed in the following section.

2. The literalness-metonymy-metaphor continuum

A metonymy-metaphor continuum, which also shades over to literal extensions, has already been suggested by Taylor (*342, 1995: 175). Table 1 illustrates different usages of the attributive adjective *high* and its gradual transition from literalness via different stages of metonymy to metaphor:

Table 1. Literalness-metonymy-metaphor continuum

literal		metonymic		metaphoric
(a) *high tower*	(b) *high tide*	(c) *high temperature*	(d) *high prices*	(e) *high quality*

High in (a) is used literally in referring to verticality only; in (b) *high* is "partially," or weakly, metonymic in that it refers to both vertical and horizontal extension, i.e. the metonymy involved is UP FOR UP AND MORE; *high* in (c), *high temperature*, is "fully" metonymic in that it substitutes an entity within the same conceptual domain: the scale of verticality stands for degrees of temperature, i.e. UP FOR MORE. People might also see this metonymic situation as one of EFFECT FOR CAUSE: the warm temperature makes the thermometer rise. *High* in (d), *high prices*, vacillates between a metonymic and metaphorical interpretation. Some people may associate *high prices* or *rising prices* with a rising line in a graph as used in stock reports. The graphic representation of a price belongs to the same conceptual domain as the price itself but is a different facet of it. This metonymic understanding may be described as THING FOR ITS REPRESENTATION. Other people may associate a high price with the amount of money a sales item costs. In this case, they may see 'height' (of a price) and 'quantity' (of money) either as belonging to the same conceptual domain and understand *high prices* metonymically as UP FOR MORE, or they may see them as belonging to different domains and understand *high prices* metaphorically as MORE IS UP.

High in (e), *high quality*, refers to a scale of evaluation, the upper end of which is 'good.' We cannot easily think of evaluation and verticality as belonging to the same conceptual domain; hence this situation is seen purely metaphorically as GOOD IS UP.

The notion of a continuum ranging from literalness via metonymy to metaphor ties in with the developmental model of primary scenes and primary metaphors and the notion of *(de)conflation* proposed by Grady (1997) and Grady & Johnson (*540–541). Figure 1 represents four stages on the literalness-metonymy-metaphor continuum and illustrates these by means of the concepts UP and MORE.

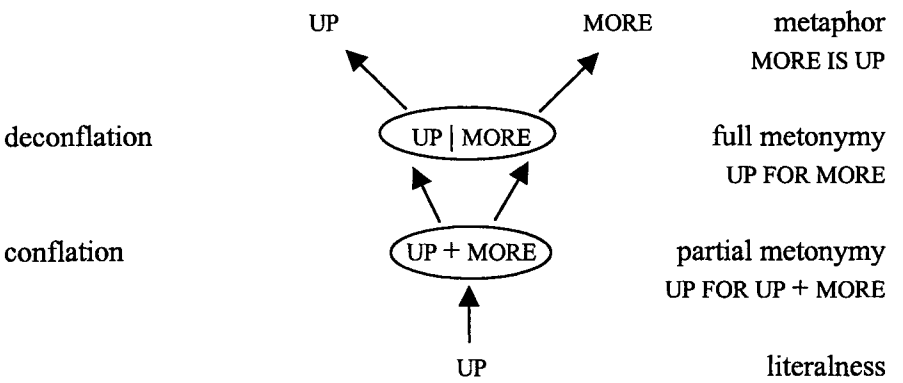

Figure 1. From literalness to metaphor: UP and MORE

The literal stage is represented by the experience of a single concept such as verticality. The stage of conflation, indicated here by UP + MORE, applies to a "primary scene" such as seeing the level of fluid in a container go up when more fluid is poured into it. Infants experience this highly frequent primary scene in the nurturing context itself in two ways. The two manifestations of the scene, rise of a level and increase of quantity, occur simultaneously and are so intimately correlated in our experience that even most adults are probably not aware of them. The conceptual conflation of UP and MORE is indicated in Figure 1 by the ellipsis uniting both manifestations under one concept. Grady (1997: 22) appropriately refers to such strong

associations in our cognitive representation of the world as "conceptual binding."[1] If one of the manifestations is used to stand for the conflated concept as a whole as in *high tide*, we have partial metonymy.

The correlated manifestations of a single event may, however, also be seen as distinct concepts. Applied to children's cognitive development, Grady (1997: 23) refers to this developmental stage as "deconflation." This situation is indicated in Figure 1 by a vertical line separating the two concepts, which are, however, still united by the same domain. The metonymic relationship between UP and MORE, for example, may be exploited as in the following dialogue:

(1) Attendant: *How much gas do you want?*
Driver: *Just fill her up.*

The customer answers a question about a quantity by metonymically naming a level of height. His response thus involves a "full" metonymy in the sense of substituting UP FOR MORE and might be interpreted as 'I want the quantity of gas that fits into the tank.' Unlike metaphorical relationships, metonymic relationships are in general reversible. The reversed metonymy MORE FOR UP is used by the customer in the same gas station situation:

(2) Attendant: *Shall I fill her up?*
Driver: *Yes, put in as much as she can take.*

At a further stage of development the two manifestations of a single event may be seen as belonging to different conceptual domains. Provided that the two entities belong to the same general ontological

1. As is known from Piaget's experiments, children in the preoperational stage consistently judge the quantity of the fluid in a glass by the height of its level, ignoring other dimensions such as the glass's width. To them, quantity is literally height. Even adults may have preserved some of this preoperational thought.

category,[2] such relationships may be exploited metaphorically. Metaphors which arise from primary scenes and involve conflation and possibly deconflation are referred to by Grady (1997) as "primary metaphors." Since their immediate basis is metonymic, they will be referred to in this paper as "metonymy-based metaphors." The metaphor MORE IS UP as in *high prices* and *rising prices* is thus seen as based on a metonymic relationship.

The grounding of metonymic concepts is, according to Lakoff & Johnson (1980: 39), "in general more obvious than is the case with metaphoric concepts." Hence, metaphors which are grounded in metonymy are more basic and natural than those which are not, or not only, have a metonymic basis. For example, the expressions *soaring prices*, *sky-rocketing prices* and *exploding prices* are felt to be more metaphorical than *high prices* and *rising prices*. The modifying expressions are more likely to evoke specific source-domain scenes of their own, combining verticality and rapid motion up to great heights. *Soaring* may evoke the image of a glider or bird flying high up in the air, *sky-rocketing* may make us see a scene of a rocket launched into the sky, and *exploding* may make us visualise an upward-bursting explosion. These expressions are understood metaphorically primarily due to our recognition of the specific conceptual domains they belong to. The metaphors involved might more specifically be described as PRICE FLUCTUATIONS ARE FLYING OBJECTS or PRICE CHANGES ARE EVENTS. At the same time, the metonymy-based metaphor MORE IS UP applies but only as a submetaphor within a metaphor. We might describe the complex metaphors involved in *soaring prices* as MORE OF A PRICE IS HIGHER IN A BIRD'S FLIGHT. Obviously, the metonymic basis of this metaphor is minimal.

The following discussion of metonymy-based metaphors will focus on the stages in the metonymy-metaphor continuum where metonymy shades over into metaphor. There appear to be four types of

2. More specifically, Grady (n.d.) notes the following constraints on the relationships underlying metaphors: they may not involve "separate entities (such as the famous ham sandwich and the restaurant customer), distinct temporal stages (cf. Action-for-Result, Result-for-Action), or distinct ontological categories (cf. Instrument for Action)."

metonymic sources of metaphor. The development of the MORE IS UP metaphor illustrated a situation in which two conceptual domains derive from a metonymic relationship and ultimately from a common experiential basis (Section 3). A second metonymic source of metaphor relates to the pragmatics of a speech situation which gives rise to conversational implicature (Section 4). A third type of metonymy-based metaphor derives from the taxonomic structure of categories (Section 5). A fourth area in which metonymy-based metaphor is found is that of cultural models (Section 6).

3. Common experiential basis

Any two entities, events or domains that are experienced together are conceptually contiguous and form a "metonymy-producing relationship" (Kövecses & Radden 1998, Radden & Kövecses 1999), or, for short, a metonymic relationship. Metonymic relationships may give rise to metonymy and possibly metaphor. Two types of metonymic relationships that are grounded in a common experiential basis and may lead to metaphor will be discussed here: (i) correlation and (ii) complementarity.

3.1. Correlation

The notion of *correlation* as used in the empirical sciences involves an interrelationship between two variables in which changes in one variable are accompanied by changes in the other variable. Statistically, the degree of a correlation is expressed as a coefficient based on scores along the scales of the two variables. Correlation coefficients allow the researcher to make predictions, but they do not imply a causal relationship between the two variables.

Correlation is also a phenomenon that people observe in the world around them. Proverbs provide a wealth of such correlated observations. For examples, the proverbial expression *What's good for General Motors is good for America* illustrates a correlation in which two

variables correlate positively along an evaluative scale: a change for the better for General Motors correlates with a change for the better for America. Positive correlations tend to evoke a causal interpretation: 'something is good for America *because* it is good for General Motors.' Negative correlations, by contrast, do not invite a causal interpretation: thus the proverb *The nearer the church, the farther from God* is not understood in the sense of 'someone is farther from God *because* he is nearer to church,' nor does the proverb *Short visits make long friends* mean 'they are long friends *because* they pay short visits.' The default type of correlation in our experience of phenomena in the world is that of positive correlation; this is, in fact, the only type of correlation that pertains to metaphor.

In order to correlate two variables, they have to be conceptually contiguous. The correlation of quantity and verticality provides a perfect example of conceptual contiguity in that both variables originate from the same experiential basis. We also tend to interpret the positive correlation between UP and MORE in a causal sense, which strengthens the link of contiguity. In accordance with the reversibility principle of metonymic relationships, the flow of causation may be seen in either direction: 'something is more *because* its level is higher' or 'the level is higher *because* its quantity is more.'

Correlation underlies many metaphors as their metonymic basis. Apart from MORE IS UP / LESS IS DOWN, the following selection of conceptual metaphors correlates domains which can be traced back to a common experiential basis:

(3) a. HAPPY IS UP / SAD IS DOWN
b. FUNCTIONAL IS UP / DYSFUNCTIONAL IS DOWN
c. IMPORTANT IS BIG / UNIMPORTANT IS SMALL
d. ACTIVE IS ALIVE / INACTIVE IS DEAD
e. SIMILARITY IS CLOSENESS / DIFFERENCE IS DISTANCE

The metaphors HAPPY IS UP and SAD IS DOWN are visually reflected in people's facial expressions and drawings of such faces, in which their mouths and eyebrows are drawn up to express happiness and pulled down to convey sadness. We also witness the physical expression of

HAPPY IS UP when a football player, after scoring a goal, throws up his arms and jumps for joy, and we may describe this reaction by metonymically referring to his emotional state of happiness.

Physical counterparts of FUNCTIONAL IS UP and UNIMPORTANT IS SMALL as in *The computer systems are down* may be seen in levers that are flipped up or down to start or stop an engine or turn a light on or off, an antenna that has to be put up to work or an umbrella that is put up to be used.

The metaphors IMPORTANT IS BIG as in *He is a big man* and UNIMPORTANT IS SMALL as in *The little guy always has to pay* are rooted in spatio-physical situations: IMPORTANT IS BIG applies to the spacious environment that important persons tend to reserve for themselves. For example, traditionally the most important person at the table has the biggest chair or the boss has the biggest office.

Also the metaphors ACTIVE IS ALIVE and INACTIVE IS DEAD as in *The party was dead* are inherently correlational: the more alive someone or something is, the more active he, she or it is. The common experiential basis of 'active' and 'alive' is also reflected in the present-day meaning of *lively* and in the polysemy of the Old English adjective *cwicu*, which is related to Latin *vivus* and Greek *bios* and meant both 'active' and 'lively' and, as a particular form of liveliness, developed the present-day sense of 'quick.'[3]

The common experiential basis of the metaphors SIMILARITY IS CLOSENESS (*This is close to the truth*) and DIFFERENCE IS DISTANCE (*This is far from the truth*) may be harder to detect. As argued in Radden & Matthis (2002), these metaphors are grounded in our folk understanding of similarity and difference: similar things are put together as reflected in the proverbial expression *Birds of a feather flock together*, whereas different things are put apart as expressed in *Oil and water don't mix*. Also sorting tasks in experimental psychology are based on the assumption that similar stimuli are sorted together while different ones are put apart. The relationship between spatial closeness/distance and similarity/dissimilarity leans, however,

3. Cf. also the words *quicksilver* from *argentum vivum* 'living silver,' *quicksand* 'mobile sand' and the meaning of the German word *keck* 'lively, sprightly.'

towards the metaphor pole of the metonymy-metaphor continuum. Thus, CLOSENESS may metonymically stand for SIMILARITY as in *Are they similar? – Yes, they come very close*, but its reversed metonymic use is not possible.

Correlations are also often involved in the metaphorical mappings between source and target domains. For example, the metaphor ACTION IS MOTION involves temporal mappings which are rendered as correlations such as SPEED OF ACTION IS SPEED OF MOTION as in *He flew through his work* and STARTING AN ACTION IS STARTING OUT ON A PATH as in *We have taken the first step*. The former correlation is measured by scales – the faster the action, the faster the motion, the latter correlation involves a once-only change. If the tenet is accepted that correlation is a fundamentally metonymic relationship, correlational mappings within a conceptual metaphor should also be seen as metonymic. These metonymic relationships within metaphor can, however, not be expressed as independent metonymies.

3.2. Complementarity

The relationship of complementarity is a special type of a part-part relationship in which the complementary, or opposing, parts are tightly linked to each other and establish a unity. Complementarity is a metonymy-producing relationship as has been shown by Voßhagen (1999), who adduced a wealth of examples where, especially in American slang, expressions are used to convey the opposite of what they normally mean. For example, *bad* may be used in the sense of 'good,' *insane* may mean 'positive, healthy state of mind' and a *big idea* is an 'unwelcome suggestion.' The latter example may be found in an ironic statement – in fact, irony may also be viewed as a type of opposition metonymy.[4] Apart from the special situational contexts of slang and irony, the general metonymic use of a complementary term

4. The metonymic substitution of a complementary term has even become lexicalised in the word *arrow*: *arrow* derives from Latin *arcus* 'arc, bow,' i.e. it originally referred to the bow, which, together with arrows, constitutes a complementary pair.

for the intended term is heavily constrained by the need of communicative clarity. Since both terms of a complementary pair have the same conceptual status, we cannot, as a rule, substitute one for the other. Thus, we do not substitute the complementary term 'husband' for 'wife' or 'teacher' for 'student.' When the complementary terms have different conceptual status, they may be used in a figurative sense. This applies, amongst others, to the complementary pairs form and meaning/concept (see 6.2.) and body and mind.

In the Western-Jewish tradition, body and mind, or body and soul, are seen as the two parts which constitute a human.[5] The close interdependence of body and mind is reflected in proverbial expressions such as *mens sana in corpore sano* or *keep body and soul together*. It is also reflected in the metaphor THE MIND IS A BODY, which enables us to understand the impalpable workings of the mind in terms of the palpable workings of one's body. Thus, we have metaphorical expressions such as *to have a strong will*, *to handle a situation*, *to turn one's back on an issue*, *to swallow an idea*, etc. Many of these metaphorical expressions are relatable to a common experiential basis: thus, we often use body language to illustrate or "underline" our thoughts. We might, for example, clench our fist in talking or thinking about a 'strong will,' literally use our hands in 'handling' a situation, turn our back when we don't want to get involved, etc. These are, of course, metonymic situations: clenching one's fist or turning away evokes a person's mental state, attitude or action that commonly goes with this particular bodily gesture. Specific elaborations of THE MIND IS THE BODY metaphor such as *to swallow an idea* are, of course, much harder to relate to a common experiential basis: what does *accepting an unpleasant idea* metonymically share with *swallowing food*? This is, however, not the decisive point. The conceptual metaphor THE MIND IS THE BODY is claimed to be based on our common complementary experience of BODY and MIND. Specific linguis-

5. The fact that the metaphysical issue of body and mind has been so vigorously debated by philosophers confirms the well-established complementary status of these notions. The particular stance taken by philosophers – dualism of body and mind or single unit – is irrelevant for the folk understanding of the pair BODY AND MIND or BODY AND SOUL.

tic realisations of the conceptual metaphor are, just like specific MORE IS UP metaphors discussed above, to be seen as instances of metonymy-based metaphors which are closer to the metaphor end of the metonymy-metaphor continuum. (Also see Dirven *107).

Complementary terms are also closely linked to the whole they are parts of. This part-whole relationship is widely exploited in metonymies in which the upper end of a scale is used to stand for the whole scale (*How old are you?* 'what is your age?') and, conversely, the whole scale is used to stand for its upper end (*I am beginning to feel my age* 'I am beginning to feel that I am getting old'). The relationship between complementary terms and the unity they form is also exploited metaphorically: metaphors such as LOVE IS A UNITY and MARRIAGE IS A DURABLE BOND BETWEEN TWO PEOPLE and metaphorical expressions such as *to be cemented together*, *to be bound together*, *to be tied to each other*, etc.[6] reflect our firm belief in the inseparability of a complementary relationship, which, as argued, is essentially metonymic in nature.

4. Implicature

A second major metonymic source of metaphor is the process of conversational implicature. The area of grammaticalisation provides a good illustration of metaphor emerging from the pragmatics of a situation. Grammatical categories tend to develop gradually rather than abruptly. For example, the usage of *to go* as a future marker is likely to have evolved along a continuum of metonymically related senses as shown by Heine, Claudi & Hünnemeyer (1991: 70ff), whose examples are repeated here under (4):

(4) a. Henry is going to town.
b. Are you going to the library?
c. No, I am going to eat.

6. See Kövecses (1986 and other publications), Kövecses, Palmer & Dirven* and Quinn (1987) for metaphors of love and marriage.

d. I am going to do my very best to make you happy.
e. The rain is going to come.

The literal sense of 'spatial movement' as in (4a) may lead to the implicature of 'intention' as in (4b) and 'intention without spatial movement' as in (4c) and may, further on, invite the conversational implicature of 'prediction' as in (4d) and 'prediction without intention' as in (4e). These "context-induced reinterpretations" have become conventionalised by pragmatic strengthening.[7] In the case of the future sense of *be going to*, these processes resulted in a metaphor which might be described as THE FUTURE IS FORWARD MOTION. Heine, Claudi & Hünnemeyer (1991: 60ff) refer to this type of pragmatically motivated metaphors as emerging metaphors as opposed to "creative metaphors," which involve a "willful violation of conceptual/semantic rules."

Other classic examples of grammaticalisation processes leading to metaphor are provided by the deontic and epistemic senses of modal verbs. While Sweetser (1990), amongst others, argued that the world of reasoning as expressed by epistemic modality is metaphorically understood in terms of the socio-cultural world as expressed by deontic modality, other scholars account for the polysemy of modal verbs by tracing their evolution of senses back to context-induced implicatures.[8] For example, the deontic meaning of intention of *will* is assumed to invite the implicature that the future state is highly likely to occur, and hence leads to the epistemic meaning of prediction.

A given sense of an expression and its conversationally implicated sense are part of the same domain, i.e. they are conceptually contiguous and form a metonymic relationship. Metonymic relationships which are particularly prone to inviting conversational implicatures and may lead to emerging metaphor involve the following implicated

7. Cf. also Nicolle's (1998) relevance theory perspective on the grammaticalisation of *be going to* and Langacker's (1991: 219–220) analysis of this process as subjectification.
8. See Radden (1999) for a discussion of different explanations of the deontic/epistemic polysemy of modal verbs.

elements: (i) implicated result and causation, (ii) implicated possession, and (iii) implicated purpose and activity.

4.1. Implicated result and causation

In illustrating the experiential basis of metaphor, Lakoff (1993: 240) provides as a further example the metaphor KNOWING IS SEEING: "The experiential basis in this case is the fact that most of what we know comes through vision, and in the overwhelming majority of cases, if we see something, then we know it is true." This is, however, not a description of a metaphorical situation, in which we understand one thing in terms of something else, but of a metonymic situation in which we infer an additional aspect of meaning by using conversational implicature. The standard test of conversational implicature, its canceling, may also be applied here. For example, I may see red spots but I know that this is an illusion, or I see a beautiful sunset but I know that this is not true because it is not the sun that moves but the earth. As observed by Lakoff, however, in the overwhelming majority of cases we take something we see to be true. This is reflected in the proverbial expression *seeing is believing* and the tautology in *I saw it with my own eyes* to indicate certainty (Sweetser 1990: 33). Visual information is assumed to be more reliable than information gained through other sources. This is nicely illustrated in the greater veracity we place on an eyewitness report than on one based on hearsay.

The metonymic relationship between seeing and knowing may give rise to the partial metonymy SEE FOR SEE AND KNOW and the full, substitutive metonymy SEE FOR KNOW. In the former case, a stimulus is processed both visually and mentally. It might apply to a situation in which two chess-players brood over a chess-problem and one of them finds the solution, visualising the moves on the chessboard, and says, *I see the solution*. The latter case of metonymy only involves mental processing. It might apply to a situation in which a person answers the question *Do you know what I mean?* by saying, *Yes I see what you mean* or *I see your point*, where *see* is used metonymically

as a substitute expression for *know*. The development of the Germanic preterit present verbs, whose preterit forms came to adopt present senses, probably proceeded through these two metonymic stages. First, the idea of 'I have seen' as in Latin *vidi* probably gave rise to the implicature 'I have seen and (therefore) know' and the metonymy SEE FOR SEE AND KNOW, and then the implicature became pragmatically strengthened to 'I know,' i.e. the metonymy SEE FOR KNOW.[9]

In the partial metonymy SEE FOR SEE AND KNOW, the event of seeing precedes that of the implicated state of knowing and is also seen as bringing it about. Thus, we may say *I saw it, therefore I know it* or *I know it because I saw it*, but we may not reverse this order and say **I know it, therefore I saw it* or **I saw it because I knew it*. The causal interpretation of purely temporally linked events is also a matter of implicature and is known by the principle *post hoc ergo propter hoc*. The relationships between precedence and causation on the one hand and subsequence and result on the other hand are also metonymic. Moreover, both metonymies may also be seen as partial, i.e. as PRECEDENCE FOR PRECEDENCE AND CAUSE and SUBSEQUENCE FOR SUBSEQUENCE AND RESULT, or as fully substitutive, i.e. as PRECEDENCE FOR CAUSE and SUBSEQUENCE FOR RESULT. These causal metonymies are superimposed on the SEE FOR KNOW metonymies. As in the representation of the relationships between UP and MORE in Figure 1, we may represent the continuum of the increasingly complex metonymic network underlying the metaphor KNOWING IS SEEING as illustrated in Figure 2.

A conflation of SEE and KNOW has been found in language acquisition studies, where children do not distinguish between seeing and knowing and express the complex notion as *see* (see Lakoff & Johnson 1999: 86 and Grady & Johnson *540–542). The intermediate metonymies of causation and result are not fully depicted in Figure 2 and only represented by PRECEDENCE FOR CAUSE.

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9. The Old English verb *witan* 'know' derives from an Indo-European root **weid-* 'see.' It is still preserved in the English words *wise*, *witness*, *wit*, *wot*, *wis* arch. 'know,' all of which have completely superseded the old meaning of 'see.'

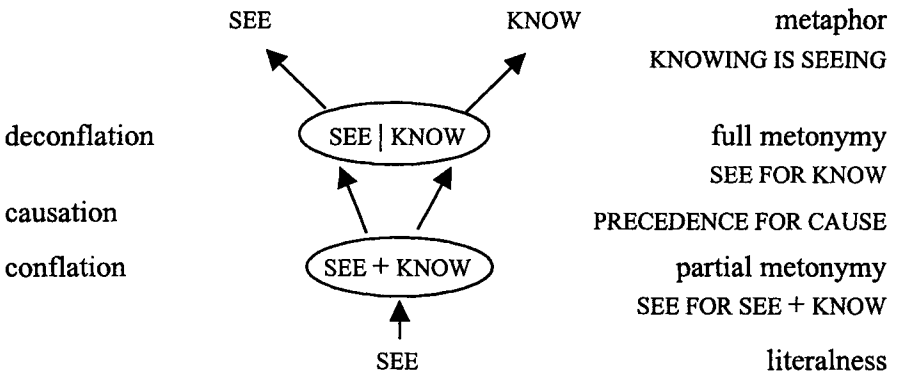

Figure 2. From literalness to metaphor: SEE and KNOW

Implicatures of causation are not restricted to sequential events but are also found in correlational relationships, which, by definition, do not involve causality. Thus, *First come, first serve* expresses a correlation between coming and being served but also invites a conditional or causal implicature: 'if you come first, you will be served first' or 'since you came first you will be served first.' Likewise, the correlative relationship expressed by *Once bitten, twice shy* gives rise to the causal implicature 'since I was bitten once, I am shy twice as much.' The metonymic relationship between CORRELATION and CAUSATION fosters its metaphorical application as CAUSATION IS CORRELATION. Thus, causation is metaphorised as accompaniment, or more generally, correlation as in *an increase in pressure* accompanies *an increase in temperature* (Lakoff & Johnson 1999: 218).

This section shall be concluded by mentioning two more metaphors which may be accounted for by causal implicatures: WELL-BEING IS WEALTH as in *He has a rich life* and STATES ARE SHAPES as in *You are in good shape.* Most people will probably relate wealth to well-being on the assumption that a good fortune will guarantee a good life, and similarly most people will probably assume that a good physical shape is tantamount to good health.

4.2. Implicated possession

Expressions such as *to hold a driver's license, to hold power, to hold a belief* and *stock holder* point to a conceptual metaphor POSSESSION IS HOLDING. The metaphor is, however, grounded in metonymy. Heine (1997: 83–108) found that languages make use of six main event schemas as templates for expressing predicative possession: the Action Schema, the Location Schema, the Companion Schema, the Goal Schema, the Genitive Schema and the Topic Schema. At least the first four event schemas can be analysed as situations from which a resulting state of possession may be implicated – the latter two schemas are also syntactically determined.

The Action Schema denotes possession by means of verbs meaning 'seize,' 'take,' 'get' and 'hold.' An utterance such as 'The man has taken the car' (from Nama, a Khoisan language; Heine 1997: 92) readily invites the implicature that the man now possesses the car. The Action Schema is the pattern commonly found in European languages: English *have* probably originates from the Indo-European root **kap-* 'seize' as in Latin *capere*, and Spanish *tener* goes back to Latin *tenere* 'hold.' These historical data suggest that the metaphor POSSESSION IS HOLDING has emerged by implicature and pragmatic strengthening via the metonymy HOLDING FOR POSSESSION.

Also the event schemata of Location (*Y is located at X*), Companion (*X is with Y*) and Goal (*Y exists for/to X*) may readily implicate a resulting state of possession. Various languages have developed the sense of possession with these event schemata. Heine (1997: 95) notes one area where the Goal Schema is also found to express possession in English: the use of the Goal preposition *to* in the expression *secretary to the president.* This directional-possessive usage of *to* is, in fact, fairly widespread in English: *the preface to a book, the prelude to war* and possibly also *essential to life.* These expressions may be described as instances of a metaphor POSSESSION IS REACHING A GOAL, which undoubtedly has a metonymic basis.

4.3. Implicated purpose and activity

The metaphor PURPOSES ARE DESTINATIONS as in *We've reached an agreement* or *It took him hours to reach a state of perfect concentration* is, according to Lakoff (1993: 240), grounded in our experience: "to achieve most of our everyday purposes, we [...] have to move to some destination." Since purposes belong to a different domain from destinations, this situation is metaphorical. However, the metaphor is based on two implicated metonymies: PLACE FOR (PLACE AND) ACTIVITY and DESTINATION FOR (DESTINATION AND) PURPOSE.

The PLACE FOR ACTIVITY metonymy applies to places that are associated with events which typically occur at these places. Many spatial areas are specifically designed to be used as the setting for certain kinds of activities: playgrounds are designed for children to play in, hospitals are for ill people to be medically treated in, beds are made for us to sleep in, etc. The association between such man-designed spaces and the activities typically performed there is so tight that the mention of the place suffices to invite the implicature of a special activity. We readily understand *The children are on the playground* in the sense of 'the children are on the playground and playing there' and *The children are in bed* in the sense of 'the children are in bed and sleeping or getting ready to sleep.' The use of a *but*-sentence reveals our expectations about places and activities typically performed at the places: thus, a sentence such as *I am in my study but can't concentrate* is in conformity with our expectations about the use of a study, while **I am in the bathroom but can't concentrate* does not conform to our expectations about bathrooms.

Places which are the destinations as goals of our motion of course invite the same implicatures: *The children are going to the playground* implicates that 'the children are going to play there' just like *The children are going to bed* implicates that 'the children are going to sleep.' Since destinations involve deliberation, mention of the destination of a motion also invites the implicature of the purpose, i.e. the metonymy DESTINATION FOR PURPOSES. The complex metonymic pattern establishing the meaning of sentence (5a) may therefore be represented as in (5b) and glossed as in (5c):

(5) a. *We have reached the border.*
b. (We have reached) DESTINATION (= DESTINED PLACE FOR ACTIVITY) FOR PURPOSE (= REACH DESTINATION FOR ENSUING ACTIVITY)
c. (We have reached) the border (= the border for crossing the border) for the purpose (of reaching the border in order to cross the border)

A sentence with a metaphorical destination such as *We have reached an agreement* makes use of the same metonymic structure except for the destination, which does not refer to a place, but already specifies the ensuing state of being in agreement.

5. Category structure

A third type of metonymy-based metaphor relates to taxonomic hierarchies of categories. The relation between a category and members included in the category is widely exploited in metonymy: a category as a whole (genus) may stand for one of its members (species) and a member of a category (species) may stand for the category as a whole (genus). Thus, the category 'pill' may be used to stand for one of its salient members, 'birth control pill,' and, conversely, the salient subcategory 'aspirin' may stand for the category 'pain-relieving tablets' as a whole. Metonymic shifts within taxonomic hierarchies possibly account for the majority of semantic changes.

The metonymic, or synecdochic,[10] relationships between categories and salient members may also be exploited in metaphor. Thus, the category 'harm' applies, amongst others, to physical, mental or psychological damage. The metaphor HARM IS PHYSICAL INJURY as found in *Her death hurt him* or *My pride was wounded* is based on

10. Seto (1999) argues convincingly that relationships between entities in the world (called E-relations) need to be distinguished from those between conceptual categories (called C-relations). The former relationships are at the basis of metonymy, while the latter are at the basis of synecdoche. The issue is, however, of no relevance here.

the relationship between the category 'psychic harm' and a salient member of this category, namely 'physical injury.' The metaphorical interpretation is possible because 'psychic harm' and 'physical injury' may be seen as belonging to two different domains, and, as is the case in many metaphors, the physical domain serves as a source domain for an abstract target domain. The metaphor is, however, based on a metonymic relationship between PHYSICAL INJURY and PSYCHIC HARM. Physical injury and psychic harm are also often experienced together, and physical injury often causes psychic harm; in addition to their categorial interrelatedness, physical injury and harm thus also have a common experiential basis. Also historical data support this analysis: an earlier sense of *harm* was 'injury,' and *mayhem* underwent a sense development from 'bodily injury, mutilation' to 'confusion, fear.'

The distinction between the physical and abstract also accounts for the following metonymy-based metaphors: PROPERTIES ARE PHYSICAL PROPERTIES (*big discovery*), A PROBLEM IS A TANGLE (*a knotty problem*) and COMMUNICATION IS LINGUISTIC COMMUNICATION (*People should have a say on the treaty*). In each of these metaphors an abstract category is understood in terms of a concrete member.

Less obvious instances of metaphors based on category inclusion are ACTION IS MOTION (*What's your next move?*) and CHANGE IS MOTION (*She fell in love*). 'Motion' is a salient member of the categories of 'action' and 'change.' A great many actions involve motion. For example, when someone knocks at my door, I do not say *Open the door and come in!*, but *Come in!*, i.e. I use the partial metonymy MOTION FOR MOTION AND ACTION. Likewise, a move in a game of chess consists both of moving a piece and creating a new position; an infant's motion of a piece on the chessboard would not be a move. The aspect of motion may be minimal in the action *He made the first move to end the quarrel* and may be completely absent in *What's your next move?* 'What are you going to do next?' These usages are, therefore, much closer to the metaphorical end of the metonymy-metaphor continuum.

Also changes may involve motion and are often metonymically expressed in English by referring to the motional aspect, i.e. as

MOTION FOR MOTION AND CHANGE: the vase which I accidentally drop 'goes' to pieces, the button of my coat 'comes' off, etc. As with actions, the motional aspect may be nearly or completely absent in a change as in *go bankrupt* or *come true* and thus give rise to metonymy-based metaphor.

The metaphor CAUSE IS FORCE as in *The study sparked a controversy*, lastly, may also be seen as based on category inclusion. Causes are most immediately experienced in the shape of physical forces and typically also involve the exertion of physical force. Physical force is needed to start up the engine of a car by either turning the ignition key or pushing the car. We also transfer this experience onto abstract domains and speak of *being convinced by the force of his argument.* Since changes are understood as motion, caused changes are metaphorised as caused motion and, therefore, typically expressed by caused-motion verbs such as *send* and *leave* as in *The explosion sent me into a tailspin* and *The fire left 200 people homeless* (cf. also Lakoff & Johnson 1999).

6. Cultural models

Cultural models may provide a fourth source of metonymy-based metaphors. Quinn & Holland (1987: 4) define cultural models as "presupposed, taken-for-granted models of the world that are widely shared ... by the members of a society and that play an enormous role in their understanding of that world and their behaviour in it." This definition shall also subsume folk models, i.e. naive, and usually mistaken, theories of the world. Cultural and folk models are important to our cognition because they interconnect distinct phenomena of the world in a coherent and explanatory way and thus open up new relationships, which may be exploited by metonymy and metaphor. We will look at three areas in which cultural or folk models account for metonymy-based metaphors: (i) physical forces, (ii) communication and language, and (iii) emotions and their physiological reac-

tions. Folk models probably also underlie metaphors in the areas of perception, morality, and life, which, however, shall not be discussed here.

6.1. Physical forces

McCloskey (1983) has shown that people hold a naive theory of motion, which is known as *impetus theory*. According to this folk theory, objects are set in motion by imparting to them an internal force, or "impetus," which keeps the object in motion until it gradually dissipates. In this model, forces are contained in the moving objects themselves and propel them into a certain direction. A person who lives by the impetus theory may understand expressions such as *His punches carry a lot of force* and *Put more force behind your punches* literally, metonymically or metaphorically. In the literal interpretation, force is directly quantifiable and ponderable, in the metonymic interpretation, force is related to a substance contained in, or put into, a container, i.e. SUBSTANCE FOR FORCE, and in the metaphorical interpretation, force is understood as a substance, i.e. FORCE IS A SUBSTANCE CONTAINED IN AFFECTING CAUSES and FORCE IS A SUBSTANCE DIRECTED AT AN AFFECTED PARTY (Lakoff, et al. 1994).

6.2. Communication and language

According to Reddy (1979), seventy percent of the expressions used to describe communication in English are based on the CONDUIT metaphor. Reddy's main concern was the impact the metaphor has on our thinking, a view which takes the existence of the metaphor for granted and does not ask how it is motivated. The CONDUIT metaphor is so successful precisely because it reflects what most people take for reality. The conduit metaphor involves two aspects: that of the relationship between form and meaning and that of communication as transfer.

According to the folk model of language, meanings reside in word forms and other linguistic "containers" as in *This chapter contains a lot of content*. Since 'form' and 'content' clearly belong to different domains, their relationship is metaphorical and has been described as THE CONTENT IS CONTAINED IN THE STIMULUS, where *stimulus* refers to the "linguistic or non-linguistic entity which is understood to have conventionalised meaning [...]" (Lakoff, et al. 1994). The relationship between form and meaning or content is, however, also metonymic. Form and content are complementary notions which are assumed to be inseparable. They therefore allow us to use the form of a word to stand metonymically for the conceptual content it expresses. The very nature of language is in fact based on the metonymy FORM FOR CONTENT/CONCEPT (cf. Lakoff & Turner 1989 and Radden & Kövecses 1999). The form of a word may even be affected by its conceptual content as shown by expressions such as *four-letter word*, *ugly word* or *bad language*, in which a word as a whole, i.e. including its form, is conceived of as negative.

Both the metaphorical view of language as a container filled with content and the metonymic view of language as form standing for content are fully entrenched in the folk model of language, but they are not contradictory. The metonymy FORM FOR CONTENT only needs to be combined with the ubiquitous metonymy CONTAINER FOR CONTENTS, giving rise to the metonymy CONTAINER FOR CONTENT, i.e. the metonymic counterpart of the CONTENT IN CONTAINER metaphor.

Our strong belief in the inseparability of a word's form and content makes us also believe that speakers communicate their thoughts by sending content to the hearer. This second aspect of the CONDUIT metaphor is reflected in wordings such as *I didn't get my point across*. Lakoff et al. (1994) describe the metaphor as COMMUNICATION IS TRANSFER or, more specifically, THE CONTENT TRAVELS ACROSS TO THE EXPERIENCER. People may literally believe in a kind of telepathic communication of content and only become aware of the fact that form might "travel" as well in situations or danger of misunderstanding, for example in saying *What I am saying is ...*, meaning 'what I mean is...' People also find their folk model of

communication as transfer of content confirmed by the omnipresence of communication technology. The aspect of transfer of the CONDUIT metaphor appears to be experienced literally, rather than metaphorically or metonymically.

6.3. Emotions and their physiological reactions

Extensive research carried out especially by Kövecses has shown that emotions are largely understood metaphorically and that physiological reactions of emotion are metonymically related to these emotions. The relationship between a given emotion and a particular physiological reaction is based on observation of one's own and other people's behaviour and is taken to be causal: an emotion causes a physiological reaction. In our folk model of emotions, we may, therefore, conclude from a person's physiological reactions what emotional state he or she is in. For example, when we see a person becoming pale or shaking, we conclude that he or she is terrified.

At least some of the physiological reactions accompanying emotions also shape our metaphorical understanding of them, i.e. some metaphors of emotion appear to have a metonymic basis. For example, Lakoff (1987: 382) suggests in his case study of 'anger' that a folk theory of physiological effects forms the basis of the metaphor ANGER IS HEAT. Thus, one of the physiological effects of anger is increased body heat. This metonymic relationship is elaborated in the metaphors ANGER IS THE HEAT OF A FLUID IN A CONTAINER as in *You make my blood boil* and ANGER IS FIRE as in *He was breathing fire.* In a similar way, the metaphor ANGER IS INSANITY as in *You're driving me nuts* is grounded in the metonymy INSANE BEHAVIOUR FOR ANGER as in *He is about to throw a tantrum.* The metonymic folk model of physiological effects probably also accounts for the emotion metaphors LUST IS HEAT, AFFECTION IS WARMTH, LOVE IS MADNESS and LOVE IS FIRE.

7. Conclusion

The paper started out from the assumption that literalness, metonymy and metaphor form a continuum. Metonymy and metaphor do not form clear-cut categories but, like natural categories, display degrees of membership and have fuzzy boundaries. The study focused on that section of the continuum where metonymy shades over into metaphor. It was assumed that, in this transitional area, metaphor may emerge from metonymy or is based on metonymy. Four metonymic sources of metonymy-based metaphors were distinguished: (i) a common experiential basis of the two domains, (ii) the operation of conversational implicature, (iii) the taxonomic structure of categories, and (iv) cultural models.

In view of these findings, the traditional distinction between metonymy and metaphor can no longer be upheld. The classical notions of metonymy and metaphor are to be seen as prototypical categories along a metonymy-metaphor continuum with a wide range of intermediate categories such as metonymy-based metaphor in between. This view also helps to explain the underlying conceptual motivation of many metaphors.

The discussion tried to be open to different possibilities of interpreting a given expression as metonymic or metaphoric. This approach recognises the fact that people may conceptualise things differently. It may also contribute to reconciling the conflicting views laymen and experts, i.e. cognitive linguists, have about metonymy and metaphor. Anybody who ever taught a course on metaphor, or talked to colleagues about metaphor, has in all likelihood come into a situation where their students, or colleagues, expressed strong disbelief at accepting something as an instance of metaphor, insisting that this is literal speech. Both are right in their way. To repeat an example used at the beginning: to the layman, *high* in *high prices* is literal or possibly metonymic since height and quantity are not seen as incompatible with prices but, on the contrary, are part of the same conceptual domain. To the cognitive linguist, *high* in *high prices* is metaphorical because of the systematicity and ubiquity of the MORE IS UP metaphor. The notion of the metonymy-based metaphor retains

the linguistic notion of conceptual metaphor and at the same time relates it to the view of naive speakers of the language who were the ones who developed metaphors in the first place.

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The interaction of metaphor and metonymy in composite expressions

Dirk Geeraerts

Abstract

Idioms and compounds have similar semantic characteristics: both types of expressions are semantically composite, in the sense that their meaning is (at least in principle) composed of elementary building blocks, i.e. the constituent parts of the expressions. The present paper takes a closer look at the semantics of such composite expressions: it describes the interaction between the syntagmatic and the paradigmatic axes in the meaning of idioms and compounds, and then charts the various ways in which metaphor and metonymy can interact along these axes. Within the broad field of metaphor and metonymy research, the most direct point of comparison for the present analysis is the notion of 'metaphtonymy' introduced by Louis Goossens*. It will be argued that metaphtonymy is part of a more encompassing 'prismatic' model for the semantics of composite expressions.

Keywords: composite expression, compositional, compositionality, compound, iconicity, idiom, isomorphism, paradigmatic, prismatic model, meaning extension, reinterpretation, motivation, syntagmatic, transparency.

1. Metaphor and metonymy in compounds and idioms

The semantic architecture of idioms and compounds is identical: in both types of expressions, meaning is compositional to the extent that it is built up out of the constituent parts of the expression; at the same time, this compositional meaning is usually but a first semantic step, to the extent that processes of meaning extension produce a figurative reading from the compositional one. This paper will ex-

plore the various ways in which metaphor and metonymy may interact in expressions with this type of semantic architecture. The first part of the paper describes the architectural characteristics, i.e. the paradigmatic and the syntagmatic axes of composite expressions and the way in which they interact. This part of the paper reproduces the major part of Geeraerts (1995). The phenomena in question will be introduced with regard to idioms in particular, but the extrapolation to the semantics of compounds is a straightforward one. The second part of the paper charts the various ways in which metaphor and metonymy combine and interact within the structure defined by the syntagmatic and paradigmatic axes. In particular, it will be shown that metaphor and metonymy may occur either in a consecutive or in a parallel sequence. This part of the paper is loosely based on Geeraerts & Bakema (1993). All the examples illustrating the argument are taken from Dutch.

2. The prismatic architecture of composite expressions

2.1. Isomorphism and motivation

The paradigmatic and the syntagmatic dimension[1] of idioms are both twofold, in the sense that both can be considered with regard to the

1. In the Saussurean tradition, syntagmatic relations involve associations between linguistic expressions that exist *in presentia*, whereas paradigmatic relations involve associations that exist *in absentia*. In an expression like *dames en heren*, for instance, the association between *dames* and *heren* is realised in the expression *dames en heren* itself. The semantic association between *dames* 'ladies' and *vrouwen* 'women,' on the other hand, exists even if it does not show up explicitly in the expression being used as such. Paradigmatic relations may be of various sorts; they do not just include semantic associations of the type just mentioned, but also morphological relations between a lexical base and the derivates or compounds in which it features. Among the semantic paradigmatic associations, metaphor traditionally features prominently (see a.o. Jakobson 1971:74); note that in this case, the association exists not beween two different words, but between two readings of the same word. The paradigmatic relations that will be envisaged in this paper are precisely of the kind illustrated by metaphor: semantic associations between different readings of one linguistic

original, literal meaning of the idiom, and with regard to the derived, figurative meaning. The *paradigmatic* dimension of idioms primarily involves the relationship between the original meaning of the idiomatic expression as a whole and its derived meaning. Secondarily, it involves the relationship between the original, literal meaning of the constituent parts of the idiomatic expression, and the interpretation that those parts receive within the derived reading of the expression as a whole. The *syntagmatic* dimension of idiomatic expressions involves the relationship between the interpretation of the constituent parts of the expression on the one hand, and the interpretation of the expression as a whole on the other, but clearly, this syntagmatic dimension can be envisaged both with regard to the original meaning and with regard to the derived meaning. Systematically, then, the semantic relations in idioms might be charted by means of a prismatic structure as in Figure 1. (The figure is intended to serve purposes of clarification and reference only; it is obviously not a formal representation as envisaged in formal grammar. To keep matters simple, the expression is assumed to contain only two lexical items.)

In addition, the notion of compositionality may either receive a dynamic or a static interpretation. Within the dynamic interpretation, compositionality is thought of as a syntagmatic derivational process in the course of which the meaning of a compound expression is computed on the basis of the meanings of the constituent parts of the expression.[2] In contrast with this dynamic, bottom-up conception, a static interpretation can be envisaged that merely notes that a one-to-one correspondence between the parts of the semantic value of the expression as a whole and the meanings of the constituent parts of the expression can be detected, regardless of the question whether

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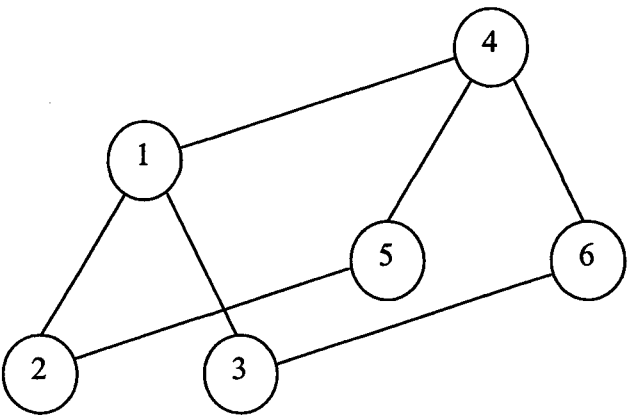
expression. Apart from metaphor, the relevant associations involve semantic relations like metonymy, generalisation, and specialisation.

2. The bottom-up interpretation is present in quotations like the following: 'Whatever linguistic meaning is, there must be some sort of compositional account of the interpretation of complex expressions as composed from the interpretations of their parts and thus ultimately from the interpretations of the (finitely many) simple expressions contained in them and of the syntactic structures in which they occur' (Chierchia & McConnell-Ginet 1990: 6).

this correspondence has come about through a process of bottom-up derivation or through a top-down interpretative process. Examples of such interpretative processes will be given later on; at this point, it suffices to see that a 'non-directional' conception of compositionality is not excluded. Now, because the term *compositionality*, through its processual connotation, strongly calls up the idea of bottom-up derivation, a different term might be helpful for the neutral, non-directional interpretation. I propose to use the term *isomorphism* here: what is ultimately at stake, is a one-to-one correspondence between the formal structure of the expression and the structure of its semantic interpretation, in the sense that there exists a systematic correlation between the parts of the semantic value of the expression as a whole and the constituent parts of that expression.



1. Expression as a whole in its literal reading; 2. First constituent item in its literal reading; 3. Second constituent item in its literal reading; 4. Expression as a whole in its derived, idiomatic reading; 5. First constituent item in its derived reading; 6. Second constituent item in its derived reading.

Figure 1. The prismatic model

A third preparatory step can be made by refining the notion of derivation. Although statements to the effect that idiomatic meanings are not compositional, that they are specialised, and that they cannot be derived straightforwardly would seem to be interchangeable, it should now be clear that we have to distinguish in principle between

the syntagmatic underivability of the meaning of an expression (which is, of course, its non-compositionality), and its paradigmatic non-derivability. The latter involves the transparency of the semantic extension that leads from the original meaning of an expression to its transferred reading. It is illustrated by the interpretative difficulty that we noted with regard to (3): along the top line of the prism in Figure 1, the transition from the literal meaning of *iemand iets op de mouw spelden* to its idiomatic meaning is opaque. The latter cannot be derived on the basis of the former, because the motivating image is lost. I propose to call this type of derivability *motivation* (in contrast with dynamic compositionality as a syntagmatic kind of derivability).

To round off the preparations, let us note that isomorphism and motivation as defined here[3] share a common characteristic: both involve the transparency of some of the links indicated in Figure 1. More specifically, isomorphism coincides with syntagmatic transparency, whereas motivation can be defined as paradigmatic transparency.

2.2. *Combinations of isomorphism and motivation*

We can now arrive at a basic classification of the specialised nature of idioms when we consider the various combinations that isomor-

3. In most work in the tradition of Cognitive Semantics, the concept of motivation is used in a slightly broader way than the way in which it is defined here. In Lakoff (1987) and related work, for instance, 'motivation' involves the principles that explain (or make plausible) why a particular linguistic expression means what it does. The concept is explicitly introduced as an alternative to the more traditional notion of predictability: even if meanings are not entirely predictable, they may be motivated by existing tendencies and schemata. The distinction that is drawn here between 'motivation' and 'isomorphism' tries to be more specific about the general concept of motivation by distinguishing between its syntagmatic and its paradigmatic form. The concept of 'isomorphism', on the other hand, links up with existing work within the Cognitive tradition relating to the iconicity of grammar (see e.g. Haiman 1980). Isomorphism as used here is a form of iconicity to the extent that features of meaning (in particular, its complex nature) are reflected by features of the linguistic form (viz., its composite nature).

phism and motivation can occur in. Isomorphism and motivation can, of course, each be considered at two points in the relational structure sketched in Figure 1. On the one hand, motivation may refer both to the paradigmatic top line of the prism and to the two paradigmatic bottom lines. On the other hand, syntagmatic isomorphism may involve the front triangle or the back triangle of the figure. Because the entity that we are primarily interested in is the idiomatic meaning of the expression as a whole (the top backside corner of the figure), we will for now only consider motivation and isomorphism as they directly relate to that part of the structure, i.e., we shall consider isomorphism within the figurative plane, and motivation on the global level. Extensions towards other parts of the structure will follow in the next sections. Consider, then, the following expressions.

(1) *De koe bij de horens vatten* 'To take the cow by the horns > to take the bull by the horns, to grasp the nettle'
Aan de weg timmeren 'To practice carpentry at the roadside, to work in public > to attract attention by one's activities, to be in the limelight'

(2) *Met spek schieten* 'To shoot with bacon > to tell a tall story, to boast'
Een wit voetje bij iemand hebben 'To have a white small foot with someone > to be in someone's good books, enjoy someone's favours'

(3) *Met de handen in het haar zitten* 'To sit with one's hands in one's hair > to be at one's wit's end, to be in trouble'
Dat heeft niet veel om het lijf 'That does not have much around the body > there's nothing to it, it does not mean very much'

(4) *De kat de bel aanbinden* 'To tie the bell to the cat > to bell the cat, to take the lead in a dangerous activity'
Als puntje bij paaltje komt 'when point reaches pole > when it comes to the crunch, when all is said and done, when you get down to the nitty-gritty'

Systematically, the idiomatic readings in (1) are both isomorphic and motivated. Those in (2) are isomorphic but not motivated, those in

(3) motivated but not isomorphic, and those in (4) neither isomorphic nor motivated. The isomorphic nature of *de koe bij de horens vatten* follows from the fact that a consistent one-to-one mapping can be defined between the elements of the global meaning and the meanings of the constituent parts of the expression. If we paraphrase the idiomatic meaning as 'to tackle a problem or a difficulty at the central, most dangerous or difficult point,' it becomes clear that the cow maps onto the problem in its entirety, while the horns represent the most tricky part of it; taking hold of the horns further symbolises tackling the core of the problematic situation. Similarly, *met spek schieten* is isomorphic because the tall tales that are told can be seen to correspond with *spek*, while the telling of the tales corresponds with *schieten*. Conversely, it is difficult to identify those aspects within a situation of being at one's wit's end that could map isomorphically onto the various aspects of the situation described by *met de handen in het haar zitten*: what would be the hands, and what would be the hair, for instance ? As far as motivation is concerned, however, it can be readily appreciated that *met de handen in het haar zitten* is a metonymic expression for a situation of being in trouble; taking one's head between one's hands and pondering the situation is precisely what one does in the circumstances. In the same vein, it is easy to see that the literal situation described by *de koe bij de horens vatten* is a metaphorical image for tackling a problem at its most difficult spot. But it is unclear why shooting with bacon should come to indicate boasting, or why a point reaching a pole should have anything to do with things becoming serious.

For further clarification of this basic classification, four remarks have to be made. In the first place, the isomorphic relations identified above should not be confused with the question whether the isomorphically mapped readings of the constituent elements of the idiomatic expressions are themselves motivated. For instance, while the lexical item *koe* in *de koe bij de horens vatten* maps onto the 'problem' part of the global figurative reading 'tackle a problem by its most difficult aspect,' there is no independent motivation for extending the semantic range of *koe* towards the meaning 'problem;' a semantic shift from 'cow' to 'problem' is not a conventional aspect of the meaning

of *koe*, nor is there a readily conceivable independent metaphor that leads from 'cow' to 'problem.' In other words, the bottom paradigmatic lines in Figure 1 are not present in the case of *de koe bij de horens vatten*.[4] It should now also be clearer why I suggested to take into account isomorphism as a non-directional concept of compositionality. Although *de koe bij de horens vatten* exhibits isomorphism, the idiomatic meaning 'tackle the problem by its most difficult aspect' could never be arrived at by means of a bottom-up compositional process, because the building blocks for that process (for instance, an interpretation 'problem' for *koe*) cannot be reached independently. For lack of an independent paradigmatic motivation at the bottom of the prism, the input for a possible compositional process can only be retrieved when the output of the process (the global figurative meaning of the idiom as a whole) is already available.

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4. The question might be asked how we can put *koe* as interpreted in the figurative context into correspondence at all with *koe* as interpreted in the literal plane. On the one hand, we would still be willing to say that *koe* 'problem' corresponds with *koe* 'cow.' But on the other hand, there is no associative semantic link from 'cow' to 'problem.' So can we say at all that *koe* maps onto 'problem' ? What is there to stop us from mapping *bij de horens vatten* onto the 'problem' part of the idiomatic reading of the expression ? In this particular instance, of course, the link between *vatten* 'to seize (literally)' and the figurative reading 'to tackle' is not unmotivated, and hence, by elimination, *koe* is easily mapped onto 'problem.' But even if this paradigmatic link between both interpretations of *vatten* were to be just as untransparant as that between 'cow' and 'problem,' the syntactic structure of the expression (as interpreted literally) would favour a figurative interpretation of *koe* as a noun, and one of *vatten* as a verb. This would seem to lead to the conclusion that there is *always* some paradigmatic link at the bottom of the prism between the literal readings of the constituent items and their figurative interpretation: at the very least, the literal reading would motivate the figurative reading because the latter is consistent with the word class of the former. In principle, such a weak form of motivation can be accounted for by accepting degrees of motivation; it will be made clear further on in the text that this is a useful step to take in any case. Empirically speaking, however, it remains to be seen whether figurative readings are always consistent with the word class of the constituent elements of the literal expression. (Notice that at least in the realm of morphology, reinterpretative processes may violate the initial syntagmatic structure: the isomorphically metanalytic reanalysis of *hamburger* as *ham* + *burger* violates the initial formal structure.)

In the second place, motivation and isomorphism may be partial. Given a paraphrase 'to give the orders' of *de lakens uitdelen* (mentioned under (5) below), it is isomorphically possible to map *lakens* onto 'orders' and *uitdelen* onto 'give.' At the same time, it is possible to imagine a situation in which the person responsible for distributing the sheets is generally in charge; as such, the idiomatic meaning is motivated. But the motivational link is weak: distributing sheets is not the kind of situation that is typically associated with being in charge (or at least, not any more: apparently, the image derives from the dominant position of the lady of the house, whose control over housekeeping is symbolised by her control over the linen-cupboard). In *de kogel is door de kerk*, an event (such as the making of a decision) whose coming about has been delayed or hindered by some kind of obstacle, has finally occurred. The general picture is fairly clear: a material obstacle (the church) obstructs and slows down the movement of the bullet, in the same way that various difficulties obstruct and slow down the materialisation of the long-awaited event. But why a church and a bullet? Again, the transparency of the motivating image is only partial.

(5) *De lakens uitdelen* 'To hand out the sheets > to run the show, be the boss, play the first fiddle'
De kogel is door de kerk 'The bullet has gone through the church > the dice has been cast, a decision has been reached, things have taken a final turn'

(6) *Met spek schieten* 'To shoot with bacon > to tell a tall story, to boast'
Abraham gezien hebben 'To have seen Abraham > to be over fifty'
Als puntje bij paaltje komt 'When point reaches pole > when it comes to the crunch, when all is said and done, when you get down to the nitty-gritty'

(7) *Uit de bol gaan* 'To go out of one's head > to blow one's top, to go out of one's mind with excitement'
Het hoofd verliezen 'To loose one's head'

Niet goed bij z'n hoofd zijn 'Not to be well in the head > to be soft in the head'
Het hoofd loopt mij om 'My head is going round'
Z'n hoofd ergens bijhouden 'To keep one's head to something > to remain attentive, to keep one's mind on something'
Buiten zichzelf zijn, 'To be beside oneself'
Uit z'n vel springen 'To jump out of one's skin > to be beside oneself (with rage)'
Uitbarsten 'To burst out, explode'
Exploderen/ontploffen 'To explode'
In de wolken zijn 'To be in the clouds > to be overjoyed'
In de zevende hemel zijn 'To be in the seventh heaven > to be on cloud nine'
In de put zitten 'To sit in the pit > to be downhearted, be in the dumps, feel down'
Door een dal gaan 'To go through a valley > to go through an abyss, to suffer a depression'
Erbovenop zijn 'To be on top of it > to have overcome one's troubles'

In the third place, loss or weakening of motivation often results from cultural changes. More often than not, the background image that motivates the figurative shift is an aspect of the material or the immaterial culture of a language community – and when the culture changes, the imagistic motivation may lose its force. A clear example is *met spek schieten* (repeated under (6)). Apparently, enemy ships were shot at with bacon (and similar fat substances) to facilitate setting them afire; the interpretation 'to boast' can then be reached through the intermediary of an interpretation 'to subject someone to verbal aggression, to overpower someone verbally.' In this case, the relevant knowledge belongs to the material culture of old-time warfare at sea. In *Abraham gezien hebben*, the relevant piece of knowledge belongs to the realm of the immaterial rather than the material culture. Because a meaning 'to be no longer young or inexperienced' can be derived to the extent that the idiom is interpreted as a hyperbolic expression with the reading 'to have seen someone from a long

time ago,' the motivation is only partial: why is the borderline set at 50 ? In fact, it takes a good knowledge of the Bible to recognise the background of the expression, which derives from the gospel of John 8:57. It should also be clear by now, that the motivated nature of an expression is subject to considerable individual variation (depending, among other things, on individual differences in one's familiarity with the historically motivating context). This is not to say, however, that a vast encyclopaedic knowledge will always suffice to recover the motivation behind an expression. The latter may indeed be near to irretrievable, which is typically the case when professional etymologists disagree on the origin of an expression. In *als puntje bij paaltje komt*, for instance, some think of a transformation of an older expression *als putje bij paaltje komt* 'when the pit comes to the pole, when it comes to putting the pole into the pit,' while others think of a variation on *de puntjes op de i zetten* 'to dot the i > to be meticulous about the details.'

In the fourth place, the motivating image need not be specific for the expression in question; moreover, the motivating image may be complex. At this point, we can link up with the generalised metaphor research in the line of Lakoff & Johnson (1980). Without going too deep into the matter, consider *uit de bol gaan* in (7). The expression seems to be motivated by a combination of at least three images that are each generalised ones, in the sense that they provide a general motivation for various specific expressions. First, THE HEAD IS THE LOCUS OF ONE'S SELF-CONTROL underlies *het hoofd verliezen, niet goed bij z'n hoofd zijn, het hoofd loopt mij om, z'n hoofd ergens bijhouden.* Second, LOSING ONE'S SELF-CONTROL IS LEAVING THE BODY is to be found in *buiten zichzelf zijn, uit z'n vel springen, uitbarsten, exploderen,* and *ontploffen.* And third, UP IS POSITIVE / DOWN IS NEGATIVE is present in *in de wolken zijn, in de zevende hemel zijn, in de put zitten, door een dal gaan, erbovenop zijn.*

2.3. Local motivation and absence of literal isomorphism

In the previous section, only part of the original representation in Figure 1 was envisaged. Enlarging our perspective to Figure 1 as a whole, there are two additional phenomena to be dealt with. On the one hand, the global motivation of an expression can be contrasted with the 'local' motivation of each of the elements in the expression, i.e., motivation along the top paradigmatic line of the prism has to be supplemented with motivation along the bottom line. On the other hand, isomorphism at the figurative back of the prism can be contrasted with isomorphism at the literal front of the prismatic representation.

Parels voor de zwijnen in (8) below is an example of an idiom in which Figure 1 is fully realised. The global image is motivated (it is easy to appreciate what it means to throw valuable things at the feet of unworthy beings), and the figurative meaning is isomorphic (*parels* maps onto the valuable things that feature in the idiomatic meaning, and *zwijnen* maps onto the lowly beings that they are surrendered to). At the same time (and this is a major contrast with the *de koe bij de horens vatten*-example that we discussed earlier), both the transition from *parel* to 'valuable thing' and from *zwijn* to 'unworthy person' is motivated on the basis of an evaluative metaphor. Up to a certain point, the metaphorical transition may even be said to be lexicalised (in the sense of being conventional): *zwijn* is a regular term of invective in the same way that *pig* is, and *een pareltje* is a term of praise in the same way that *a gem, a jewel, a pearl* are. (This is not to say, however, that the metaphorically motivated readings of *parel* and *zwijn* in the idiom coincide exactly with the lexicalised metaphorical meanings. For instance, as a term of abuse, *zwijn* normally implies that the person in question lives an immoral life, whereas no such implication need be present in *parels voor de zwijnen.* The important point to see is that the lexicalised existence of *zwijn* in a reading like 'unworthy person, specifically because of his immoral behaviour' strengthens the motivated nature of the related reading that the word receives in the context of the idiom.)

(8) *Parels voor de zwijnen gooien* 'To cast pearls before swine'

(9) *Iemand de loef afsteken* 'To take the wind out of someone's sails > to get the better of someone, to deprive someone of an advantage'
Tegen heug en meug 'Against *heug* and *meug* > against one's will, reluctantly'
Van hot noch haar weten 'To know neither *hot* nor *haar* > to be totally ignorant'

(10) *Iets aan de kaak stellen* 'To put something at the jaw > to expose, denounce something'
Iets op touw zetten 'To put something on the rope > to organise, plan, start, launch something'

Given this analysis of *parels voor de zwijnen* as a fully motivated and fully isomorphic idiom, two additional remarks can be made. To begin with, it will be appreciated that the figurative reading of fully motivated and fully isomorphic idioms can be arrived at along two interpretative routes: either the global literal meaning is derived first and then transferred into the figurative realm, or the shift from the literal meaning of the individual words to their transferred meaning is effectuated first, to be followed by their compositional combination into the idiomatic meaning of the expression as a whole. In terms of Figure 1, the interpretation can go from the bottom to the top first, and then to the back, or it can go to the back along the bottom first, and then move up. Or, in still other words, either the syntagmatic dimension is gone through first, or the paradigmatic one takes precedence (starting, each time, at the lower front of the prism). Which of both interpretative paths is psychologically real (or merely preponderant) is another matter, but it is important to see that both are at least in principle possible.

Further, the 'local,' lexical motivation may be partial, i.e., it need not involve all the items constituting the expression. When *iemand de loef afsteken* is interpreted as 'to deprive someone of an advantage (like an initial superior position),' *loef* maps onto 'the advantage,' while *afsteken* can be associated with the notion of deprivation. In the latter case, the association is motivated: the metaphorical transfer

from the literal meaning 'to cut off' of *afsteken* to 'to deprive' is a transparent one. In contrast, no such motivating link is possible in the case of *loef*, because the latter does not have a literal meaning for the average speaker of Dutch. Notice also that there are gradations in the degree of motivation.[5] Conventionalised shifts of meaning like the ones we mentioned in the case of *parel* and *zwijn* are stronger than the shift from 'to cut off' to 'to deprive' in the case of *afsteken*: the latter extension is possible and perhaps even plausible, but it is not a conventional one.

Together with *iemand de loef afsteken*, the other expressions under (9) illustrate the second major extension of the basic classification presented in section 3. Because *loef, heug, meug, hot,* and *haar* are cranberry morphs, they illustrate the case in which there is no isomorphism on the literal level: a global literal meaning cannot be computed because one or more of the lexical building blocks lacks a meaning of its own. (Incidentally, the earlier discussion of *de loef afsteken* has made clear that the absence of isomorphism on the literal level can co-occur with isomorphism on the figurative level.) In addition, it may be useful to mention the existence of 'hidden cranberry morphs' such as *kaak* and *touw* in (10). In the context that motivates the idiom, the words have their older meanings 'pillory' and 'loom' respectively; at present, these meanings are no longer common usage. The homonyms *kaak* 'jaw' and *touw* 'rope,' on the other hand, are high-frequency words. The expressions *aan de kaak stellen* and *op touw zetten*, then, can receive an interpretation incorporating the readings 'jaw' and 'rope' (as suggested in (10)), but this is obviously not the kind of literal reading that could motivate (on the level of the expression as a whole) the figurative interpretation of the idiom. To the extent that *kaak* 'pillory' and *touw* 'loom' survive only in the expressions *aan de kaak stellen* and *op touw zetten*, they are like ordinary cranberry morphs; to the extent, however, that they

5. The representation in Figure 1 might be adapted to take into account degrees of motivation by drawing thicker or thinner lines, or by attaching a numeric weight to them.

formally coincide with the homonyms *kaak* 'jaw' and *touw* 'rope,' they can be called 'hidden cranberry morphs.'

It appears, in short, that the associative links presented in Figure 1 may be present in various combinations. A full-fledged investigation into the semantics of idioms, then, will have to include an overview of the various ways in which the model sketched here may be partially realised. (See Geeraerts & Bakema 1993 for an example of what such an overview may look like.)

2.4. Reinterpretation processes

The examples of isomorphism on the figurative level that were mentioned in section 2.2 yield secondary, non-original interpretations for the items involved in the process. For instance, the isomorphic association between *lakens* and 'orders' in *de lakens uitdelen* yields a contextually determined interpretation for *lakens*, but because the transition from *laken* 'sheet' to *laken* 'order' is neither conventional nor motivated (in the sense that the latter reading is a plausible and transparent semantic extension of the former), the contextually isomorphic interpretation of *laken* as 'order' is not likely to acquire much structural weight in the lexicon. The process of contextual reinterpretation within the idiom is not always, however, without structural importance.[6]

6. The reinterpretation processes mentioned in this paragraph constitute one kind of proof of the cognitive reality of the semantic structure embodied in the prismatic model of Figure 1. Other kinds of support for the validity of the model will have to be explored in further research. Two main alternatives have to be envisaged. First, psychological investigations (involving on-line processing tasks, or on the basis of questionnaires) may be invoked to establish the psychological reality of a specific analysis. Second, synchronic linguistic phenomena (rather than the diachronic reinterpretation processes mentioned here) may point to the structural importance of the model. Consider, for instance, the possibility of incorporating anaphoric elements in the expression. As a working hypothesis, it would seem that only those idioms that are isomorphic on the figurative level allow for the introduction of anaphoric demonstrative pronouns referring to a previous instantiation of the figuratively interpreted concepts. In

(11) *Spekverkoper* 'Person who sells bacon > person who boasts'
Van heinde en verre 'From far and wide, from everywhere'
Met zijn talenten woekeren 'To make the most of one's talents > to exploit one's gifts'

In fact, the reinterpretation process can be shown to be real when the item in question (in its secondary reading) comes to be used in isolation from its original idiomatic context. This has happened with *spek* in *met spek schieten*, which has led to the compound *spekverkoper*, as in (11). The formation of the compound noun can only be explained if it is accepted that *spek* in its idiomatically contextual reading 'boasting speech, tall tale' has been isolated from the original idiom. *Spekverkoper* as such cannot be directly explained as an original metaphor of its own: there is no way in which selling bacon can be associated with boasting except through the intermediary of *met spek schieten*. This type of 'semantic back-formation' is also quite visible in the case of cranberry morphs. When people are asked for an interpretation of *heinde* in *van heinde en verre*, it appears that a majority understands the item as a synonym or near-synonym of *verre* (more or less like the relationship between *far* and *wide* in the English counterpart of the expression). Etymologically speaking,

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this way, it is quite plausible to have a sequence like the following: 'Then came the problem of formatting the text according to the style sheet. To take this bull by the horns appeared to be much more difficult than applying the revisions required by the editors.' Because *bull* maps onto 'the problem' that is to be tackled, *this* may be introduced to refer to a previous identification of that problem. In the case of *met de handen in het haar zitten* 'to sit with one's hands in one's hair > to be at one's wit's end,' however, the absence of a clear interpretation for *handen* in the idiomatic context makes sequences like the following: 'Toen moesten er camera-ready kopieën van de figuren gemaakt worden. Met deze handen in het haar te zitten bleek veel erger dan het schrijven van het oorspronkelijke artikel geweest was (Then came the problem of producing camera-ready figures. To sit with these hands in one's hair appeared to be much more taxing than writing the original paper had been)' rather implausible. This is, to be sure, just an example of the type of phenomena to be studied, but it illustrates how additional evidence for the linguistic reality of the prismatic model may be sought.

however, *heinde* and *verre* are antonyms rather than synonyms; *heinde* is related to *hand* and basically means 'what is near, what is at hand, what can be found in the immediate neighbourhood.' When the etymological relationship with *hand* and the semantic relationship with nearness is lost, however, the overall meaning 'from everywhere' of the idiomatic expression enables *heinde* to be reinterpreted as a synonym of *verre*. *Met zijn talenten woekeren* is an even clearer case. Whereas *talent* in its original biblical context referred to a particular coin, the reading 'personal ability, capacity, aptitude' that it received in the figurative interpretation of the expression is now the major one; it occurs freely in separation from the original expression.

From a very general perspective, reinterpretation processes such as these[7] indicate that a search for isomorphism (defined as syntagmatic transparency) is an active force in the mind of the language user. Apparently, isomorphism on the figurative level of the idioms is not just real when it is given on the basis of the literal meanings of the constituent elements of the expression, but it is also real in the sense of being sought for when it is not given. If this can be accepted, it also means that interpretation processes are not always bottom-up, but that they can also be top-down: the overall meaning of *met zijn talenten woekeren* determines the specific meaning of *talent* that has become the item's major meaning.

(12) *Uilen naar Athene dragen* 'Carry owls to Athens/Athena > do something irrelevant, useless, superfluous'
De kat de bel aanbinden 'Tie the bell to the cat > bring something out into the open, make something public, ring a bell about something'

Similarly, evidence can be found that the search for paradigmatic motivation too is a real one. Of course, the search for motivation is

7. An example of a reinterpretation of compounds is provided by the element *scharrel-*, the verbal stem of *scharrelen* 'rummage about, scratch, scrape.' From the compound *scharrelkip* 'free-ranging chicken' it is extrapolated to compounds like *scharrelei* 'an egg of a free-ranging chicken': *scharrel-* is reinterpreted as 'produced by biological farming.'

quite outspoken when etymological researchers disagree on the actual motivation of an expression, as in *uilen naar Athene dragen*, which is usually interpreted in terms of the owl as the symbol of the goddess Athena and the city Athens, but which some see as being motivated by the simple fact that there were many owls in Athens. But etymologists are professional searchers for motivation, so their interpretative creativity does not tell us too much about the spontaneous occurrence of such interpretative activities when ordinary language users use idioms. More important in this respect are, first, psycholinguistic investigations of the type reported on in Gibbs (1990) and later work, which show that motivating images for idioms are psychologically real. And second, evidence for actual reinterpretations along the paradigmatic axis may be found, i.e. evidence for new meanings coming about through the search for motivation. For instance, the older idiomatic meaning of *de kat de bel aanbinden* (viz. 'to bell the cat, to take the lead in a dangerous activity') refers to the old fable of the cat and the rats. Nowadays, however, it seems to be shifting towards the interpretation 'to bring something into the open, to make something public, to ring a bell about something': on the one hand, the older association with taking the responsibility in a dangerous action (in favour of other people) disappears into the background; on the other hand, the notion of drawing the public attention to something (in particular, something scandalous or negative) is foregrounded. Given that *de kat de bel aanbinden* is largely unmotivated for most speakers, the association between the bell referred to in the expression and the notion of making something public (of making it heard, that is) enhances the motivated character of the idiom. The search for greater motivation leads to a shift in the interpretation.

2.5. Summing up

What I have tried to indicate in the previous pages can be summarised in three points. First, an adequate description of the various forms of semantic specialisation that occur in composite expressions

requires that a number of distinctions are taken into account: the distinction between the syntagmatic and the paradigmatic aspects of meaning (which can both be found on the level of the literal meaning and on that of the figurative meaning of the idiom), and the distinction between bottom-up and top-down semantic processes. Specifically, the concepts of *isomorphism* (defined as syntagmatic transparency) and *motivation* (defined as paradigmatic transparency) are of primary importance for describing the semantics of composite expressions.

Second, semantic specialisation is a matter of degree. More specifically, the classificatory framework defined on the basis of the conceptual distinctions just mentioned allows for a ranking of the degree of specialisation involved. Least specialised are fully isomorphic and fully motivated cases like *parels voor de zwijnen gooien.* Somewhat less specialised are cases like *de koe bij de horens grijpen* and *met de handen in het haar zitten*, which may not be derivable on a word-per-word basis, but which are entirely transparent along the upper side of the prismatic structure. Still further down the line, we find cases like *met spek schieten* and *de kat de bel aanbinden*, that lack the global motivation of the previous examples. Most specialised, finally, are cases where the literal meaning of the expression cannot even be recovered, such as *iemand de loef afsteken* and other idioms containing cranberry morphs. In each of these cases, matters are further nuanced by the existence of degrees of motivation.

And third, semantic interpretation is not just a question of bottom-up compositionality or literal-to-figurative transfer. The *reinterpretation processes* that can be observed point to the existence of top-down and figurative-to-literal interpretations. It is not just the case that literal meanings determine figurative ones; figurative meanings also determine literal ones. And it is not just the case that the meaning of the parts determines the meaning of the whole; the meaning of the whole also determines the meaning of the parts.

3. Interactions between metaphor and metonymy in composite expressions

3.1. The metaphor/metonymy continuum

If there is a continuum between metonymy and metaphor, this implies that there are in-between cases between expressions that are fully metonymical and expressions that are fully metaphorical. Composite expressions as well can be fully metaphorical or fully metonymical, when the motivational links that are present within the semantic architecture of the expression are only metonymical or only metaphorical. *Parels voor de zwijnen gooien*, as discussed above, is fully metaphorical: the top level shift from 'to throw pearls at swine' to 'to present unworthy people with valuable things' is a metaphorical one, and so are the bottom level shifts from *parel* 'pearl' to 'valuable thing,'[8] and from *zwijn* 'pig' to 'unworthy person.' Conversely, compounds of the bahuvrihi type, like *roodhuid* 'redskin,' are well-known cases of metonymical compounds: the link between the initial, compositional meaning ('red skin') and the derived reading ('Indian, seen as one with a red skin') is metonymical link of the possessed/possessor type. In the *roodhuid*-case, to be sure, motivational links at the bottom level fail, because the derived reading 'redskin' cannot be considered isomorphic.

So, given that composite expressions can be either metaphorical or metonymical, how can we chart the in-between cases? How do metaphor and metonymy occur in mutual combination in compounds and idioms? I will argue that there are three basic cases to be distinguished: cases in which metaphor and metonymy occur consecutively, cases in which they occur in parallel, and cases in which they occur interchangeably. In the following sections, each of these cases is presented separately (more, and more intricate, examples of the

8. There might be some discussion with regard to this specific case: it could perhaps also be considered a generalisation. Examples of competing and interchangeable motivations will be discussed explicitly further on in the article.

interaction between metaphor and metonymy in expressions may be found in Gevaert 1994 and Feyaerts 1997).

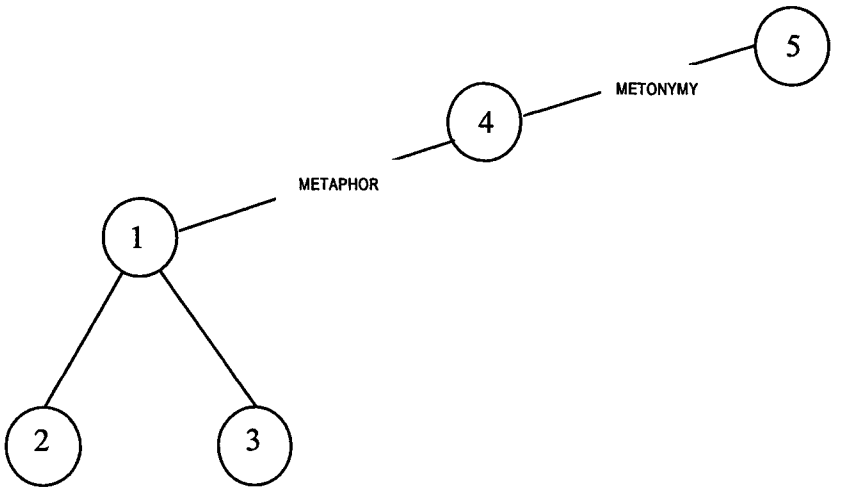
3.2. Consecutive interaction of metaphor and metonymy

A consecutive interaction between metaphor and metonymy occurs when one of the motivational links in the semantics of the composite expression involves a sequence of two semantic extensions. A first example is presented in Figure 2, which contains an analysis of the compound *schapenkop*. Literally, the word means 'sheep's head' (and the word could actually be used in this sense, in contrast with some of the other compounds that we will analyse presently, in which the literal reading is not conventionalised). The derived reading of *schapenkop* is 'dumb person,' and this reading seems to involve two steps: first, 'sheep's head' is metaphorically extended towards the reading 'a (human) head like that of a sheep, a stupid head,' and second, a metonymical step leads to 'a person with a head like that of a sheep, a stupid person.' (The representation[9] in Figure 2

9. In Geeraerts & Bakema (1993), the prismatic representation of compounds looks slightly more complicated than in the representation used here. For instance, the compositional reading 'sheep's head' would be analysed as a specialisation of a more general reading 'head having something to do with sheep.' The motivation behind this approach is the underdetermination of compounds. *Schapenkop* could in fact mean many things: a sheep's head, but also 'a head with a talent for or a specific interest in sheep' (just like a *studiekop* is 'a bright head, a head with a talent for of a specific interest in study'). The construction of nominal compounds in Dutch does not formally differentiate between the possessive reading and the alternatives; by contrast, the syntactical construction of idiomatic expressions is much more specific as to the semantic role of the constituent parts. This underdetermination of a compound XY can be expressed by merely defining the initial compositional reading as 'a Y that has something or other to do with an X.' The next step is then invariably a semantic specialisation yielding specific readings like 'a sheep's head' or 'a head with a talent for or a specific interest in sheep.' In the present article, this complication at the front end of the prismatic diagrams for compounds has not been included, because it does not add very much to the line of thought that is relevant in this text.

can be completed on the bottom level of the prism, but that is a step that will be taken in section 3.3.)

A similar consecutive combination occurs in an idiomatic expression such as *groen achter de oren zien*. Literally, the reading is 'to be green behind the ears,' which is then metaphorically interpreted as 'to be young' (as if people are like fruit that have a green colour in the first stage of their existence, before they reach maturity). As with so many other expressions indicating young age, the expression next receives a further extension to the reading 'inexperienced, naïve.'



1. Sheep's head; 2. Sheep; 3. Head; 4. (Human) head like that of a sheep; 5. Stupid person

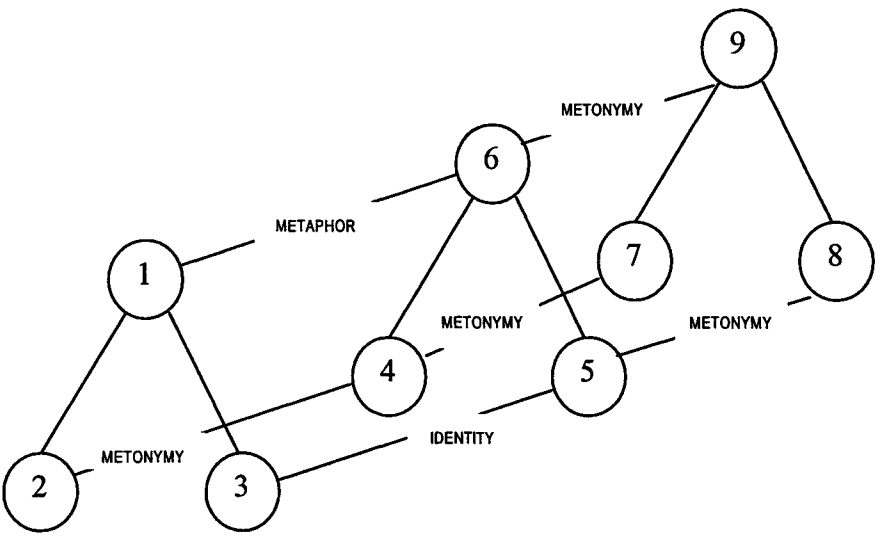
Figure 2. Consecutive sequence for *sheep's head*

We may also note that the consecutive sequence need not always involve an alternation of metaphor and metonymy. In an example like *hanglip*, for instance, two consecutive metonymical steps may be identified. The literal reading is composed of the noun *lip* 'lip,' and the verbal stem *hang* 'to hang;' the literal reading can therefore be paraphrased as 'hanging lip.' A first metonymical extension (involving the metonymical relationship between a specific feature and the

bearer of that feature) leads to 'a person with a hanging or protruding (lower) lip.' A second metonymical extension (involving the metonymical relationship between a typical effect and the usual cause of that effect) leads to 'an unhappy, sulky, pouting person.'

3.3. Parallel presence of metaphor and metonymy

A parallel presence between metaphor and metonymy occurs when there is a difference in type among the different motivational links that occur in the semantics of a composite expression. If, for instance, the motivational link at the top level of the prismatic structure is metaphorical and one of the links at the lower level is a metonymical one, metaphor and metonymy work in parallel to produce the derived reading of the expression, or at least, both a metaphorical and a metonymical path could be reconstructed to arrive at the derived reading.

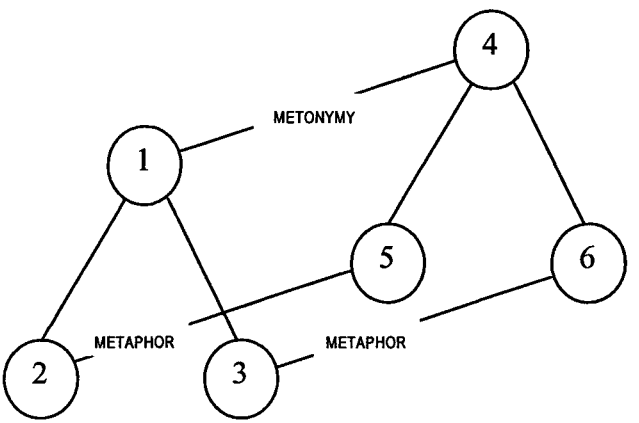


1. Sheep's head; 2. Sheep; 3. Head; 4. Sheep-like; 5 Head; 6. (Human) head like that of a sheep; 7. Stupid; 8. Person; 9. Stupid person.

Figure 3. Parallel sequence for *sheep's head*

As an initial step, let us complete the picture for *schapenkop*. At the bottom level of the prismatic structure, the intermediate reading 'a (human) head like that of a sheep, a stupid head' can be considered isomorphic: the *kop*-part does not undergo a semantic change, and the 'sheep-like' reading is related by metaphorical similarity to the original reading of *schaap* 'sheep.' The ultimate reading 'stupid person' maintains the isomorphism: there is a metaphorical link from 'sheep-like' to 'stupid,' and there is a conventional part/whole metonymy linking 'head' to 'person' (for instance, *de koppen tellen* 'to count the heads' is a conventional expression for 'counting the individuals in a group').

The example shows that the motivating links at the bottom level of the prismatic structure need not be the same as the ones at the top level: the identity link is absent at the upper level. In some cases, then, we get an alternation between metaphorical and metonymical links. A case in point is the expression *in de stront zitten*, which may be analysed as in Figure 4.

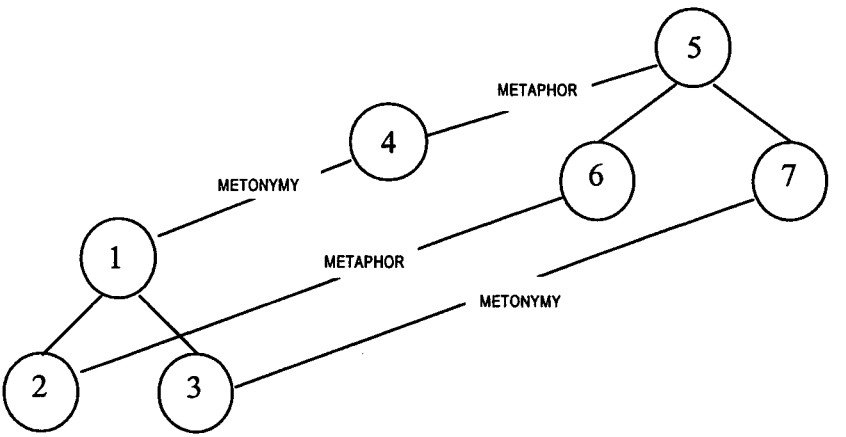


1. To sit in the shit; 2. To sit (in); 3. Shit; 4. To be in great trouble; 5. To be situated (in), to be characterised (by); 6. Trouble, unpleasant things.

Figure 4. Alternation of sequences

The top level shift is a metonymical one of the cause/effect-type: if you are literally surrounded by excrements, you are typically in an unpleasant, troublesome situation. At the bottom level, however, the motivational links are of a metaphorical type. *Zitten* 'to sit' is a conventional metaphor for 'to be characterised by, to experience': *dat zit goed* 'that sits well' means as much as 'that is okay,' and *in moeilijkheden zitten* 'to sit in difficulties' equals 'to have, to experience difficulties.' *Stront* is likewise a conventional expression for anything extremely nasty.

As a slightly more complicated example, let us consider *droogkloot* 'boring person, bore,' which can be analysed as in Figure 5.



1. Dry testicle; 2. Dry; 3. Testicle; 4. Person with dry testicles; 5. Boring person; 6. Lifeless, dull; 7. Unworthy man.

Figure 5. Analysis of *droogkloot* 'dry testicle'

The compositional literal reading 'dry testicle' is the basis for a *roodhuid*-type extension, yielding the possessive compound 'person with dry testicles.' This reading, however, is itself the input for a further metaphorical extension, leading to the 'boring person' sense. At the same time, the derived reading is isomorphic: the aspect 'boring' correlates with the adjective *droog*, and the aspect 'man, person' correlates with the noun *kloot*. Such an isomorphic analysis is further

supported by the motivational link between the initial and the derived readings of the constituent parts. *Droog* is in fact conventionalised in the reading 'boring, dull, dreary' (*een droge klaas* is 'a tedious fellow,' where *klaas* is originally a proper name), and *kloot* is a conventional derogatory expression for 'man.'

3.4. Interchangeability of metaphor/metonymy analyses

The prismatic model[10] implies that the meaning of composite expressions may sometimes be construed in two different ways: from bottom to top and then from front to back at top level (which is undoubtedly the standard pathway) or conversely from front to back at bottom level, and then from bottom to top. The "non-uniqueness of semantic solutions" (to borrow the words introduced by Nunberg 1979 in a slightly different context) goes even further, if we can show that different prismatic analyses may - with equal or near-equal plausibility - be construed for one and the same expression. To the extent that such alternatives involve different configurations of metaphorical and metonymical motivational links, we shall say that we have interchangeable metaphor/metonymy.

Compounds pointing in this direction are the following. *Badmuts* literally means 'swimming cap' but is also used jocularly for a bald person. The shift can be analysed in two ways. Either 'swimming cap' leads metonymically to 'a person with a swimming cap' and from there by metaphorical similarity to 'a person who looks as if he was wearing a swimming cap, a bald person.' Or 'swimming cap' is directly metaphorised as 'a head that looks as if it is covered by a swimming cap, a bald head' and from there metonymically to 'a bald-headed person.' The reconstruction of the semantic process can go either way, and there is no principled way to favour one analysis over the other.

10. It may be useful to point out that the 'prismatic model' is a *model* precisely because it involves a certain degree of abstraction: the semantics of the composite expressions is rendered in a schematic way (in the sense, for instance, that the number of constituent elements is systematically reduced to two).

An example with an idiom rather than a compound is *over de rooie gaan* 'to go over the red one,' in which 'the red one' is a red mark on a gauge indicating the point of maximal pressure. The derived reading 'to explode with anger' may be arrived at in either of the following ways. To go beyond the point of maximal pressure is the metonymical cause of a material, literal explosion (as when a boiler explodes), and the literal explosion can then be metaphorically used to conceptualise an emotional outburst. Conversely, the notion of crossing the point of maximal pressure may be directly metaphorised into the psychological domain ('go beyond the point of maximal emotional strain'), and this event may then causally (i.e. metonymically) lead to an outburst.

It should be clear that the alternatives need not always involve different sequences of metaphors and metonymies. It may also be the case, for instance, that two metonymies occur in alternative orders. *Zultkop* provides us with an example. Literally, it means 'head filled with or made from brawn;' the derived reading is again 'stupid person.' The consecutive steps could be from the literal reading to 'stupid head' via a metonymical link (the presence of brawn rather than brain is the cause of the idiocy), and from there to 'stupid person' via another metonymical link of the part/whole-type. Or the sequence might involve an initial part/whole-metonymy producing 'a person with a head full of brawn' and hence to 'stupid person' through the intermediary of the effect/cause-metonymy.

4. Metaphtonymy and prismatic semantics

Within the context of recent metonymy studies, there is an obvious link between the phenomena described above and the notion of metaphtonymy introduced by Louis Goossens in 1990*. The two types of metaphtonymy (i.e. interaction between metaphor and metonymy) distinguished by Goossens resemble the two basic interaction types identified above: what Goossens calls *metaphor from metonymy* refers to a sequential operation of the two mechanisms that can be linked to the consecutive type described in section 3.2, and

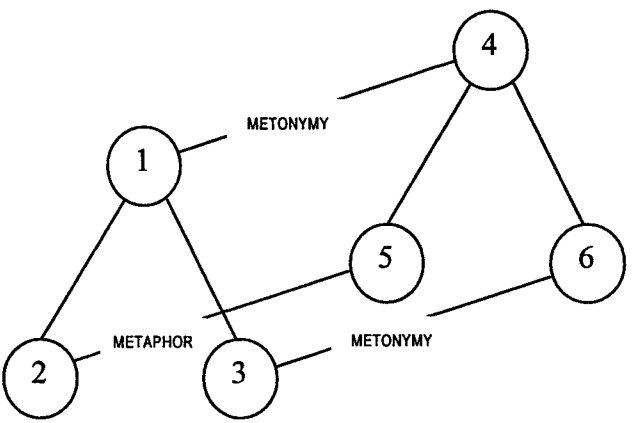
what Goossens calls *metonymy within metaphor / metaphor within metonymy* can be associated with the simultaneous, parallel type of interaction described in section 3.3. of the present article. But how far exactly does the correspondence go?

Goossens introduces metaphor from metonymy by referring to the polysemy of *giggle*. The verb initially means 'to laugh in a nervous way,' but this meaning can be used metonymically in a context like *"Oh dear," she giggled, "I'd quite forgotten,"* in which *giggle* comes to mean 'say while giggling.' A further extension towards 'to say as if giggling' then constitutes the 'metaphor from metonymy' reading. Whereas the consecutive operation of a metonymical and a metaphorical shift links up with the cases discussed in section 3.2, it will also be clear that the approach in the present paper has a wider scope than Goossens's. We have identified not just successions of metonymies followed by metaphors, but we have illustrated a larger variety of sequences: metaphors followed by metonymies, metonymies followed by metonymies, etc. From a broader point of view, it is important to realise that neither our 'consecutive interaction of metaphor and metonymy' nor Goossens's 'metaphor from metonymy' can be considered real innovations in the context of lexical semantics. The recognition that mechanisms of semantic extension such as metaphor and metonymy may operate in succession (and in fact, in series with multiple steps) is a natural and time-honoured one in diachronic semantics (cp. Geeraerts 1997). What is being added to that idea in the prismatic model described above, is precisely the importance of a second dimension for an adequate description of composite expressions.

As to Goossens's 'metonymy within metaphor,' it involves cases like *catch someone's ear* 'ensure someone's attention.' Such examples (which invariably involve idiomatic expressions rather than single lexemes) receive a straightforward interpretation in the context of the model sketched in the present paper, as can be gathered from the analysis in Figure 6.

The literal meaning 'take hold of someone's organ of hearing' is metonymically extended to 'to obtain someone's attention.' Goossens basically sees a metaphorical shift at the level of the ex-

pression as a whole, but at the same time allows for a metonymic interpretation. In the context of the prismatic model, the metonymic interpretation would seem to be more plausible: materially taking hold of someone's ear is metonymically conceptualised as a cause (or at least, a contributing factor) for getting someone's attention. At the same time, there is indeed a metaphorical aspect to the expression, but it involves the development of *catch* at the bottom level of the two-dimensional structure: the verb undergoes a metaphorical shift from a material to an immaterial reading. To be sure, non-uniqueness surfaces again, to the extent that it could also be said that obtaining something is the result of taking hold of it (and of course, the relationship between action and result, or cause and effect, is a metonymical one). *Ear*, finally, is metonymically linked to the notion of attention: the hearing organ is one of the media for channeling a person's attention.



1. Take hold of someone's organ of hearing; 2. Take hold of, capture; 3. Organ of hearing; 4. Force to listen, obtain the attention; 5. Attain, obtain; 6. Attention.

Figure 6. Analysis of *catch someone's ear*

In the light of this analysis, the advantage of the prismatic model can be defined as follows: it draws the attention to the fact that the more specific semantic development is not restricted to one of the constitu-

ent parts (as might be suggested by Goossens's examples) but actually has to be determined for all of them.

At least for composite expressions, then, the prismatic model appears to have a wider scope than the notions introduced by Goossens, specifically because it allows for other sequences than just metaphor from metonymy. More importantly, the model combines the intuitions behind 'metaphor from metonymy' and 'metonymy within metaphor' / 'metaphor within metonymy' by bringing the two relevant aspects of the development of composite expressions together: on the one hand, the semantic development of the expression as a whole, on the other, the role of the constituent parts of the expression and their independent development. The model thus allows for a uniform and more detailed description of the semantics of composite expressions.

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Section 4

New breakthroughs: Blending and primary scenes

Metaphor, metonymy, and binding*

Mark Turner and Gilles Fauconnier

Abstract

Conceptual integration – also known as "blending" is a basic mental operation whose uniform structural and dynamic properties apply over many areas of thought and action, including metaphor and metonymy. Conceptual integration creates networks of connections between mental spaces. Some of these mental spaces serve as inputs to a new, blended mental space that typically develops emergent meaning not contained in the inputs. In the case of metaphor, a source and a target serve as inputs to the blend. Creating the blend often involves the exploitation of metonymies.

Keywords: blending, blended space, causal structure, conceptual integration, conceptual projection, cross-space mapping, event shape structure, frame structure, generic space, inference, input space, metaphor projection, metonymic connection, metonymic distance, metonymy projection, optimality principle, topology.

Conceptual integration – also known as "blending" – is a basic mental operation whose uniform structural and dynamic properties apply over many areas of thought and action, including metaphor and metonymy. (Analyses of conceptual integration are given in Coulson 1996 and n.d., Fauconnier & Turner 1994, 1996, 1998, in press, and in preparation; Oakley n.d.; Turner & Fauconnier 1995, in press a, and in press b, Fauconnier 1997, and Turner 1996a and 1996b. The website is http://www.wam.umd.edu/-mtum/WWW/blending.html.)

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Contemporary accounts of metaphor and analogy have focused on structure-mapping from a source (or base) onto a target. Such mappings can exploit existing common schematic structure between domains, or project new structure from the source onto the target. The work on conceptual blending has shown that in addition to such mappings, there are dynamic integration processes which build up new "blended" mental spaces. Such spaces develop emergent structure which is elaborated in the on-line construction of meaning and serves as an important locus of cognitive activity.

1. "If Clinton were the Titanic, ..."

"If Clinton were the Titanic, the iceberg would sink" is a striking conceptual blend that circulated inside the Washington, D.C. Beltway during February, 1998, when the movie "Titanic" was popular and President Clinton seemed to be surviving political damage from yet another alleged sexual scandal. The blend has two input mental spaces – one with the Titanic and the other with President Clinton. There is a partial cross-space mapping between these inputs: Clinton is the counterpart of the Titanic and the scandal is the counterpart of the iceberg. There is a blended space in which Clinton is the Titanic and the scandal is the iceberg. This blend takes much of its organising frame structure from the Titanic input space – it has a voyage by a ship toward a destination and it has the ship's running into something enormous in the water – but it takes crucial causal structure and event shape structure from the Clinton scenario – Clinton is not ruined but instead survives. There is a generic space that has structure taken to apply to both inputs: one entity that is involved in an activity and is motivated by some purpose encounters another entity that poses an extreme threat to that activity. In the generic space, the outcome of that encounter is not specified.

The cross-space mapping between the inputs is metaphoric, with the Titanic scenario as source and the Clinton scenario as target, but the blend has causal and event shape structure that do not come from the source, indeed are contrary to the source and in some cases im-

possible for the source, and the central inference of the metaphor cannot be projected from the source. If Clinton is the Titanic and the scandal is the iceberg and we project inferences from the source, then Clinton must lose the presidency. But the contrary inference is the one that is constructed: Clinton will overcome any political difficulty. The blend has emergent structure: in the blend, the Titanic is unsinkable after all, and it is possible for ice to sink, not merely to be submerged.

The source does not provide these inferences to the blend, but neither are they copied into it from the target. In the original target space with Clinton and the scandal, the relative status of the elements and even the nature of their interaction is far from clear. In that target, Clinton merely seems to be surviving the scandal. But these elements take on much sharper and more extreme status in the blend: the scandal-iceberg is the greatest conceivable threat, something that "sinks" even the "unsinkable," and the Clinton-Titanic survives even this greatest conceivable threat. The extreme superiority of Clinton as a force and the extreme status of the scandal as a threat are constructed in the blend, as is their predictive inference that Clinton will survive. This structure, which is not available from the source or the target, is constructed in the blend and projected to the target to reframe it and give it new and clearer inferences.

Further inferencing is possible if we know that the threat to Clinton comes principally from special prosecutor Kenneth Starr's use of the scandal to investigate whether Clinton is guilty of perjury and subornation to perjury. In that case, not only the scandal but also Starr can be projected to the iceberg in the blend. Originally, the antagonism between Clinton and the special prosecutor is understood as asymmetric: the President is at risk, not the special prosecutor. In fact, this asymmetry yields a strong match between the original source and target – just as the iceberg can sink the Titanic but not the other way around, so Starr can ruin Clinton but not conversely. (Technically, the President can fire the special prosecutor, and Nixon did fire a special prosecutor, but firing in this special case is tantamount to beatification.) Accordingly, models that view metaphor or analogy as the retrieval of two concepts and the location of the

"strongest" match between them must stop with the inference that Clinton is doomed. But in this case, the sinking of the iceberg by the Titanic emphasises the ferocious attack on Starr by Clinton and his allies, featuring Hilary Clinton's accusation that Starr is part of a "vast right-wing conspiracy," "trying to overturn the results of two elections." In the blend, but in neither the source nor the target as originally framed, the contest is symmetric. Starr can be ruined, and he will be ruined. You thought that special prosecutors, like icebergs, were unsinkable, but not so. This reframing, constructed in the blend, is projected to the target.

The emergence of meaning and inference in blended spaces was overlooked as a theoretical issue in earlier work on basic metaphor, probably because the focus on abstract mappings at the superordinate level obscured some of the principles of on-line construction of meaning in actual, specific cases. It is uncontroversial that cases like the Clinton-Titanic example involve the basic metaphor PURPOSEFUL ACTIVITY IS TRAVELLING ALONG A PATH TOWARD A DESTINATION – the traveller projects to the agent, reaching the destination projects to achieving the goal, and so on, as analysed in Lakoff & Turner (1989, passim), Lakoff (1993, passim), and Turner (1996b: 88–90). But that metaphor cannot by itself yield the complex inferences outlined above. It is in the blended space that we construct and run the complex counterfactual scenario in which the Titanic sinks the iceberg, and it is that scenario which projects to the input of politics and society to provide the appropriate inferences regarding Clinton, Starr, and the effect of the scandal. This scenario is newsworthy by virtue of what actually happened to the Titanic, and by virtue of the connections from the blend to the current political situation. It would not have been newsworthy before April 14, 1912, given the expectation that "The Wonder Ship," double-bottomed and able to float with as many as four of its sixteen compartments flooded, could not be sunk.

2. Binding, metonymy, and basic metaphors

Actually, it is possible to find in even the most studied of basic metaphors blending and its interaction with metaphor and metonymy. George Lakoff (1987) and Zoltán Kövecses (1986) provide an impressive analysis of metaphoric understandings of anger summarised in *Women, Fire, and Dangerous Things* (Lakoff 1987: 380–416). This analysis reveals the required mapping between folk models of heat and folk models of anger. In this mapping, a heated container maps to an angry individual, heat maps to anger, smoke/steam (a sign of heat) maps to signs of anger, explosion maps to extreme, uncontrolled, anger. This is reflected in conventional vocabulary: *He was steaming, She was filled with anger, I had reached the boiling point, I was fuming, He exploded, I blew my top.*

Lakoff and Kövecses also note the important metonymic basis for this metaphor in the folk theory of the physiological effects of anger: increased body heat, blood pressure, agitation, redness in face. The metonymy linking emotions to their physiological effects allows expressions like the following to refer to anger: *He gets hot under the collar, She was red with anger, I almost burst a blood vessel.*

The metaphor and the metonymy define the following kinds of correspondences:

Table 1. Conceptual correspondences in the ANGER IS HEAT metaphor and in the metonymy linking emotions to physiological effects

SOURCE	TARGET	
"physical events"	"emotions"	"physiology"
container	person	person
heat	anger	body heat
steam	sign of anger	perspiration, redness
explode	show extreme anger	acute shaking, loss of physiological control
boiling point	highest degree of emotion	

The metaphor can be elaborated in various ways:

(1) God, he was so mad I could see the smoke coming out of his ears.

The ears are now mapped onto an orifice of the container in the source. Notice that in this example, and also in the more conventional ones like *He exploded,* the description of the emotion is *presented* as a physiological reaction of the individual. Something is happening to his body, e.g. smoke coming out of the ears. But the *content* of this physiological reaction is *not* obtained through the metonymy in the target. It comes from the *source* (physical events pertaining to heated containers – smoke coming out, explosion, etc.).

The phrase *the smoke coming out of his ears* does not describe anything directly in the source (where smoke comes out of kettles on fire) or in the target (where people's physiology does not include internal combustion). There is selective projection from both inputs, leading to a novel frame in the blend: although there are no ears in the source domain and no smoke in the target domain, the organising frame of the blend has both and they interact.

The following set of correspondences holds:

Table 2. Correspondences in the ANGER IS HEAT conceptual integration network

SOURCE	BLEND	TARGET	
Input Space I "physical events"	*Blended Space*	*Input Space 2* "emotions"	*Input Space 3* "physiology"
container	person/container	person	person
orifice	ears/orifice		ears
heat	heat/anger	anger	body heat
steam/smoke	steam/smoke	sign of anger	perspiration, redness
explode	explode	show extreme anger	acute shaking, loss of physiological control
boiling point	boiling/highest degree of emotion	highest degree of emotion	

In the conceptual integration network model, Lakoff and Kövecses' important observation about the correlation of the physiological reactions with the source domain of heat and fire can be reflected theoretically. "Explosion" cannot be a physiological reaction in the source (where there is no physiology) or in the target (where there is in fact not much heat), but it can in the blend, where a body can explode from anger.

In the blended space, we find the people and their emotions projected from a target input space; we find the corresponding physiological reactions projected either from the Source Input of physical heat, explosion, and boiling, or from the Target Input of the body physiology linked to the emotions.

If the Blend stood by itself, it could not be interpreted in the real world because anger does not produce smoke or explosion. But in the integration network model, the Blend remains linked to the Inputs. A sentence like *He was so mad I could see the smoke coming out of his ears* is directly identifying the blend, but inferences in the blend – e.g. smoke is a sign of great anger – are projected back to the Target Input Spaces – he was extremely angry and was showing physiological signs of it. (What these signs actually were is irrelevant.) Of course, the structure of the Blend itself is highly dependent on the conventional metaphorical mapping of heat to anger.

In addition, we find an explanation for the actual grammatical structure of the sentences with mixed vocabulary, like *He exploded, I could see the smoke coming out of his ears.* This analysis explains why the sentence evokes an integrated scene unavailable in either source or target; it applies directly to the Blend. It provides a frame (seeing somebody in an abnormal and dangerous state, with corresponding emotions, etc.) not available in the source or target.

Next, the blend can have a life of its own, not fully determined by the inputs. So, we can say, with some hyperbole:

(2) God, was he ever mad. I could see the smoke coming out of his ears – I thought his hat would catch fire!

It is easy to see how this works: in the blend, the hat on fire is a sign of even greater heat, hence even greater anger, emotions, etc. But there is no counterpart for the hat in the source: the elaboration is in the blend, where the frame of somebody on fire is used (not the boiling kettle anymore), and the existing mapping operates towards the source (greater heat) and towards the target (greater anger, but also greater loss of control, greater social danger, etc.)

The Lakoff–Kövecses analysis underscores the essential role of physiological reaction metonymies in the formation of the metaphorical system for emotions. The metonymic correspondences are in the target – body heat, redness, etc. That maps directly onto the blend, in the sense that in the blend (but not in the target), the physiological reactions are smoke, explosion, etc. This is done by mapping *hot* (in the target, for people with a certain physiology) to *hot* in the source (for containers with quite different physical properties), and then from source to blend, where the new set of physiological reactions is constructed.

3. Metonymy projection in metaphoric blends

The interaction of metaphor, metonymy, and binding is particularly evident in the canonical representation of "death" as "the Grim Reaper," a sinister, skeleton–like character holding a scythe and wearing a cowl (see Turner & Fauconnier 1995). The Grim Reaper arises by blending many spaces: (1) a space with individual human dying; (2) a space with an abstract pattern of causal tautology in which an event of a certain kind is caused by an abstract causal element: e.g., Death causes dying, Sleep causes sleeping, Smell causes smell, Sloth causes laziness, and so on; (3) a space containing a prototypical human killer; and (4) a space with reapers in the scenario of harvest.

This complex blend allows non–counterparts to be combined by virtue of metonymic connections in the inputs. Reapers and skeletons are not counterparts in the cross–space mapping. But Death as a cause is metonymically associated with *skeleton* as an effect. In the

blend, the killer–reaper is combined with the skeleton in a way that fits the frame in the blend (people have skeletons). Similarly, Death in the input space of human dying is metonymically associated with priests: priests are stereotypically present at an event of death, and their institution is concerned with death and afterlife. Reapers and priests are not metaphoric counterparts. In the blend, the attire of The Grim Reaper can be the attire of a monk: the metonymy between death and priests in the input is projected to a part–whole relation in the blend. The cowl, for example, pulled over the head of The Grim Reaper at once evokes both religious connotations of death and the impression of Death as mysterious, unknown, solitary, and set apart from norms of human society.

In Fauconnier & Turner (1998), we offer evidence for the following competing optimality principles on integration networks:

Integration

The blend must constitute a tightly integrated scene that can be manipulated as a unit. More generally, every space in the network should have integration.

(Example: a ship hitting something and sinking it is a well–integrated scene, although in this case it is somewhat fantastic for somebody who knows that icebergs cannot sink.)

Web

Manipulating the blend as a unit must maintain the web of appropriate connections to the input spaces easily and without additional surveillance or computation.

(Example: as the Titanic blend gets elaborated, the connections to the inputs are not altered; compare with "If Clinton were the Titanic, the Titanic would be the iceberg.")

Unpacking

It is optimal for the blend alone to allow reconstruction of the inputs, the cross–space mapping, the generic space, and the network of connections between all these spaces

(Example: "I could see the smoke coming out of his ears. He exploded with anger." The literal meaning is impossible, which makes it easy to assign "smoke" and "explode" to the HEAT input, and "he" and "anger" to the EMOTIONS input.)

Topology

For any input space and any element in that space projected into the blend, it is optimal for the relations of the element in the blend to match the relations of its counterpart.

(Example: The Titanic's hitting the iceberg in the TITANIC input matches the Titanic's hitting the iceberg in the blend. The strength and buoyancy of Clinton versus Starr in the POLITICS input matches the strength and buoyancy of the Titanic versus the iceberg in the blend.)

Good reason

All things being equal, if an element appears in the blend, there will be pressure to find significance for this element. Significance will include relevant links to other spaces and relevant functions in running the blend.

(Example: Once the anger–heat blend is launched, we are unlikely to interpret "He was smoking" as purely incidental information about his use of tobacco at the moment.)

Metonymy projection constraint

When an element is projected from an input to the blend and a second element from that input is projected because of its metonymic link to the first, shorten the metonymic distance between them in the blend.

(Example: the skeleton becomes the bodily form of The Grim Reaper.)

We saw above that blending can combine non–counterpart elements from a single input, such as Death, the cowl of the priest, and the skeleton of the person who has died. The metonymic distance is large between abstract death as the general cause of all deaths and the cowl worn by a certain kind of participant in a ritual associated with particular deaths. But in the blend, the metonymic connection is direct: the cowl is the attire of Death. Similarly, the skeleton after decomposition of the body is a distant product of death. But in the blend the skeleton is actually a body part of Death. The fact that metonymy is preserved in such cases can be viewed as a consequence of topology. The metonymy projection constraint additionally specifies that metonymies get tighter under projection.

Satisfying the metonymic projection constraint is not a matter of blindly projecting metonymic links. The internal integration of the blend provides opportunities for some acceptable metonymies but not for others. Since Death is an active person in the blend, and active persons are known to have skeletons (although they are not normally visible), the part-whole metonymy skeleton-body becomes available as the counterpart of the distant metonymy in the input. Tightening metonymies under projection typically optimises Integration in the blend, since it helps build a tighter and more easily manipulated unit.

Now consider some additional cases that show how metonymy projection operates. Take the example of a cartoon representing a powerful newspaper company about to succeed in a hostile takeover of a weaker automobile company that will be eliminated by selling off its assets. The cartoon shows a giant printing press smashing a car. This is a metaphorical blend: Input 1 has the stronger and weaker

objects; Input 2 has the contest between companies. The cross-space mapping is the basic metaphor that maps stronger objects destroying weaker objects to winning and losing. The strong heavy object is mapped onto the powerful newspaper company; the weaker object is mapped onto the weaker automobile company. But in the blend, we find the printing press as the strong heavy object and the car as the weak object. This is an efficient exploitation of internal connections: the printing press is a salient instrument of producing newspapers, and cars are the salient products of automobile companies. In the input, the printing press is not an instrument of destruction, but it has a force-dynamic function associated with crushing which can be associated with a car-smashing machine of the sort used in recycling automobiles. In the blend, the printing press is fused with both the company and the car-smashing machine.

What is going on here? The blend must achieve three goals. First, given that the cartoon is a visual representation, the blend must be concrete and specific. Second, it must fit the frame of stronger and weaker object. Third, these objects in the blend must be properly connected to the companies in input two. The companies in input two, being abstract, cannot in themselves provide the corresponding concrete elements in the blend. The weaker and stronger objects in inputs are concrete but not specific, and so cannot in themselves provide the corresponding specific elements in the blend. But we can exploit internal connections in the inputs to make the elements in the blend adequate. The printing press and the car are concrete, specific objects associated with the companies that can also be fitted into the frame of the stronger object destroying the weaker object. They fit this frame in part because the printing press intrinsically has force-dynamic structure capable of destruction and in part because we are familiar with car–smashing machines. In the blend, two elements are simultaneously present: (1) two concrete, specific objects; (2) a stronger object destroying a weaker object; and (3) two companies.

Clearly, such a blend is creative. Not just any connections will do. There has to be a search for elements that simultaneously satisfy a number of constraints. The printing press and car have topology in the blend (the press crushes and the car is crushed) that their counter-

parts in Input 2 do not have (the press is an instrument of making newspapers and the car is a salient product of the automobile company). Additionally, the printing press and car in Input 2 have no counterparts in Input 1. Interestingly, the elements that did not project their input-topology (printing press and car) end up being the only objects in the blend. The cartoon of the printing press smashing the car is remarkable because it is a case where integration and topology are maximised by recruiting special internal connections in Input 2. Because the topologies of strong and weak object on the one hand and competing companies on the other will match only at a very abstract level, we find that in addition to the companies, objects closely connected to them are projected to the blend in a way that closely matches and elaborates the Input I topology of strong and weak objects.

This example emphasises that conceptual projection is a dynamic process that cannot be adequately represented by a static drawing. Once the conceptual projection is achieved, it may look as if the printing press has always corresponded to the stronger object and the car to the weaker. But in the cross-space mapping, the printing press and the car play no role; they have no counterparts in Input 1. Rather, the cross-space counterparts are stronger object and newspaper company, weaker object and automobile company. Under metonymy projection from Input 2, the printing press *in the blend* becomes the counterpart of the stronger object in Input 1, and the car *in the blend* becomes the counterpart of the weaker object in Input 1.

This example also shows that identity is metonymy of zero distance. The metonymic relation in Input 2 between company and commercial product is transformed into identity in the blend, where the printing press is identically both a printing press and the newspaper company to which it is metonymically related as an instrument (in one of the inputs).

Suppose the cartoon now contains the newspaper magnate operating the printing press to smash the car, which is being driven by the car magnate. Here the blend structure becomes elaborate through the recruitment to the blend of an additional adversaries-with-instruments frame in which adversaries fight with opposing instru-

ments, and in which the winning adversary has the superior instrument. Now the printing press and car in Input 2 have counterparts in the adversaries–with–instruments frame: in Input 2, the printing press is a symbol of a capacity for productivity that is an instrument of corporate competition, and the car is a product that is an instrument of corporate competition; these instruments in Input 2 are the counterparts of the instruments in the adversaries-with-instruments frame. Now, the topology of opposing instruments in the blend matches the topology of opposing instruments in the adversaries–with–instruments frame. This frame has the useful property of aligning superiority of instrument with superiority of adversary. In this case, we see that exploiting special internal connections in Input 2 makes it possible to recruit a frame that makes topology much stronger in the blend structure.

4. Binding in hell

Our last extended example is a literary example, Dante's celebrated portrayal of Bertran de Born in the *Inferno,* canto 28, lines 139–142. While living, Bertran had instigated strife between the King of England and the King's son and heir, tearing father and son apart. When seen in hell, Bertran consists, spectacularly, of two parts: a headless body and its separate head. The body carries its head in its hand, lifting the head manually to talk to Dante as he passes by on his journey through hell. Bertran cites his punishment as the appropriate analogue of his sin:

Perch'io parti' così giunte persone,
partito porto il mio cerebro, lasso!
dal suo principio ch'è in questo troncone.
Così s'osserva in me lo contrapasso.

'Because I parted people so joined,
I carry my brain, alas, separated
from its root, which is in this trunk.
Thus is to be seen in me the retribution.'

This is an impossible blending, in which a talking human being has an unnaturally divided body. There are many parts to the development of this blend.

First, there is a conventional metaphoric understanding: dividing people socially is understood metaphorically as dividing a joined physical object. This metaphoric projection is not at all novel. We can say conventionally that a homewrecker has "come between" a married couple by creating "distance" between them. "Till death do us *part*" is not a vow to hold hands; "what God has *Joined together,* let no man *put asunder*" does not mean that husband and wife are surgically sutured. We can speak of the breaking of a business bond, of a bond of belief, of a bond of loyalty, of a bond of trust. None of this inherently involves the specific information of dividing a head from a body.

In this conventional metaphor, proximity, junction, and separation are projected to an abstract generic space that applies to any number of specific targets, including targets concerned with social and psychological relations.

But in Dante's portrayal of Bertran de Born, the generic space is fleshed out to create a blended space. Dante's blended space takes, from the target, the specific sin and sinner, and, from the source, the source *counterpart* of the sin – the separation of a joined physical object. *In the blended space, the source counterpart of the sin is visited upon the target sinner as punishment.* We can derive a sense of justice in this situation by recognising figural retribution: the sinner has his own sin visited upon him not literally but figurally; the projection to the sin is traced backward to its source, and this source analogue of the sin is visited upon the sinner. The specific information from the source – physical separation of a joined physical object – is applied impossibly to the target human being in a blended space. The blended space contains something impossible for both source and target: a talking and reasoning human being who carries his detached but articulate head in his hand like a lantern.

In the case of the portrayal of Bertran de Born, the power and even the existence of central inferences of the projection come not from the source space and not from the target space but only from the

blended space. This portrayal is often quoted out of context as an example of the kind of horrible punishment found in the *Inferno* – many more people are familiar with this portrayal than have read the *Inferno*. Those familiar with the passage (out of context) typically take it as signifying not merely badness, but badness of a specific description: unnatural, ghastly, violent, destructive of a worthy whole. The bodily division is taken as a sign of profound and specific wrong. A sophisticated reader of this passage in its context may have already concluded that Bertran has sinned, given that he is in hell, and that Bertran has sinned in a particular way, given his location in hell. But even such a reader may derive all the central inferences from the portrayal itself. It is possible to know an abstract definition of a sin while having only the thinnest corresponding conception.

Where are these central inferences constructed? Let us consider the background metaphoric projection. In the source space, there may be nothing wrong with separating a joined physical object, like a nut. In the target space, there may be nothing wrong with setting two people against each other, or, more specifically, in setting son against father (perhaps the father is an evil infidel warrior, for example). The background metaphoric projection does not necessarily carry the inference that division is wrong – "breaking up" can be good. Many readers, informed of the relevant history, would not even agree that Bertran de Born's actions were sinful, much less treacherous. But we all know there is something ghastly and horribly wrong about a decapitated human body that operates as if it were alive. We see the amazing spectacle of Bertran carrying his detached head, and read this division as symbolising something unnatural, ghastly, violent, inappropriately destructive. The inference is established in the blended space before Bertran de Born begins to tell his story to Dante in hell – which is to say, before we are told the history of the target space.

As we have seen before in metaphor-metonymy interactions, the blend can combine non-counterparts, provided the appropriate metonymic connections are in place. In the metaphoric cross-space mapping, the divided object in the source is the counterpart of the "divided" father and son in the target, not of Bertran de Born in the

target. In the target, Bertran de Born is the sinner, the *agent* of the dividing, not the *victim* of the dividing. But Bertran de Born is, in the target, metonymically associated with the divided father and son as the cause of their division. He is projected to the blend as the sinner and the agent of the dividing, but he is also combined there with the divided object itself. It is not that the blend could not have made use of the correspondence between the divided physical object and the father–son. A different blend might have shown de Born pushing father and son apart and suffering some horrible punishment as he does so. But instead, the blend combines the divided physical object with de Born. The blend has exploited metonymies to create a combination of non–counterparts to provide a blended scene that signifies appropriate retribution.

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Patterns of conceptual interaction*

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Abstract

The cognitive linguistics literature on metonymy has brought to our attention the central role played by this phenomenon in conceptual processes; however, we believe that no clear dividing line has been drawn to distinguish it from metaphor. We analyse some of the existing proposals and argue for a treatment of metonymy in terms of three parameters: domain inclusion, domain expansion and reduction, and domain highlighting. In this connection, we postulate the existence of two basic types of metonymy, source-in-target and target-in-source, each of which exploits the aforementioned parameters in a different way. We further argue that an understanding of the cognitive operations involved in each of these two metonymic types is crucial in order to identify the different interactional choices which make use of metonymy.

We also examine other complementary interactional patterns based on image schemas and on propositional idealised cognitive models. We finally observe that interactional choices predetermine to a large extent the nature of much of our inferential activity.

Keywords: conceptual interaction, domain availability principle, domain expansion, doamin highlighting, domain inclusion, domain reduction, idealised cognitive models, image schema, matrix domain, source-in-target metonymy, target-in-source metonymy.

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0. Introduction

In standard accounts of cognitive semantics it is assumed that we structure our knowledge in the form of *idealised cognitive models* or ICMs (Lakoff 1987: 68). An ICM is a cognitive structure, which is idealised for the purpose of understanding and reasoning, and whose function is to represent reality from a certain perspective. ICMs can be of four different types: (i) propositional (sets of predicate-argument relationships or 'frames;' cf. Fillmore 1985); (ii) metaphoric (mappings or sets of correspondences across conceptual domains[1]; cf. Lakoff & Johnson 1980); (iii) metonymic (mappings within a single domain; cf. Lakoff & Johnson 1980), or (iv) image-schematic (pre-conceptual topological representations; cf. Johnson 1987). The term ICM, in being all-encompassing, designates any concept constructed on the basis of what we know about the world.

ICMs may interact in different ways. During the last decade the problem of conceptual interaction has been a relatively important area of interest. Thus, Goossens* has studied several ways in which metaphors and metonymies interact, and Taylor*, Barcelona* and Radden* have discussed the possible metonymic basis of metaphor, while Turner and Fauconnier have set about the task of unravelling the intricacies of conceptual integration tasks (see Fauconnier & Turner 1996, 1998, 2001; Turner & Fauconnier 1995, *; see also Grady, Oakley & Coulson 1999; Coulson & Oakley 2001). In fact, Turner and Fauconnier's work is the first systematic attempt in cognitive semantics to explain how conceptual interaction takes place and to provide a model of how concepts are used. However, our own analysis, although sensitive to the essentials of Turner and Fauconnier's theory, introduces some modifications in it, which will be ad-

1. The notion of domain has been studied in detail by Langacker (1987, 1997). He defines domains as open conceptual structures which incorporate information from the context or previous discourse and may function as the background or base against which other concepts are profiled (e.g. the domain of 'circle' acts as the base against which the concept of 'arch' is profiled). In our view, a domain is a frame of reference for the activation of part of the information of a cognitive model; cf. Ruiz de Mendoza (1999a).

dressed in section 2 below. In the remaining sections of this paper, we shall study some of the principles which take part in the combination of information from different kinds of ICM, as well as the role which the different combinations play in the production of communicative effects. The resulting proposals will lead us to postulate the existence of four different patterns of conceptual interaction, which will be addressed in section 3. Since, as will be seen, metaphor and metonymy prove central in interaction processes, we shall devote a preliminary section to exploring the relationship between these two phenomena.

1. Metaphor and metonymy in the two-domain model

As Turner & Fauconnier (1995, 2000) have noted, cognitive semantics has made consistent use of the "two-domain" model of metaphor, a model which is also applied to the study of metonymy (see also Coulson & Oakley 2001). In the two-domain model of metaphor and metonymy each of these two related phenomena is described as a mapping or set of correspondences from a source domain to a target domain. For example, metaphorical expressions like *Look how far we've come, It's been a long, bumpy road, We can't turn back now, We may have to go our separate ways*, and other related ones, characterise different aspects of a love relationship in terms of our knowledge about journeys. In order to account for our interpretation of such expressions, Lakoff (1993) postulates the metaphoric system LOVE IS A JOURNEY, which consists, among others, of the following correspondences: the lovers are travellers, the love relationship is the vehicle, the lovers' common goals are their common destinations, and difficulties in the relationship are impediments to travel.

More recently, Lakoff & Johnson (1999) have noted that the LOVE IS A JOURNEY metaphor is, in turn, the result of the combination of three primary metaphors[2]: ACTIVITIES ARE THINGS THAT MOVE, GOALS

2. Grady (1997, 1998) and Grady & Johnson* have coined the term 'primary metaphors' to refer to those mappings which arise directly from correlations in

ARE DESTINATIONS, COMPLETION OF THE ACTIVITY IS REACHING A DESTINATION. These three primary metaphors may also be used to understand and reason about other goal-oriented activities, such as a career (e.g. *He clawed his way to the top*, *She's on the fast track*; Lakoff 1993), one's life (e.g. *He's without direction in life*, *I'm where I want to be in life*; Lakoff 1993), a business (e.g. *My business is going nowhere*; Ruiz de Mendoza 1998a) or others (e.g. *Those scientists are on the wrong track*, *Fortunately, your daughter is well on the road to recovery*, *His organisation has come to the end of the road*, *You have to take your chance and jump on the bandwagon*; Ruiz de Mendoza 1998a). The logic underlying the conceptual configuration of all expressions exploiting these metaphors is the same: success is seen as reaching a destination, experiencing difficulties is having impediments to motion, co-operating is travelling together, and so on. The existence of primary metaphors and the fact that they abide by the same logical structure suggests that metaphorical reasoning takes place on the most generic level of cognitive activity. This is in keeping with our tendency as human beings to look for regularities and store knowledge in such a way that it may be applicable to as many situations as possible. Thus, the primary metaphor GOALS ARE DESTINATIONS can account by itself for the applicability of just one metaphorical expression to many different situations, each requiring a different metaphorical target at the non-generic level. Consider in this connection the expression *He's made it to the top* to variously refer to a businessman who has created a huge business empire, a basketball player who has signed up for the NBA, or a rather obscure actor who has won an important award.

In Cognitive Linguistics metonymy is also seen, like metaphor, as a conceptual mapping. In making the difference between metaphor

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our experience and which work together with other metaphors to give rise to compound metaphors. Grady (1997) explains that the metaphor THEORIES ARE BUILDINGS results from the combination of two primary metaphors: ORGANISATION IS PHYSICAL STRUCTURE and PERSISTING IS REMAINING ERECT.

and metonymy, Lakoff & Turner (1989: 103) have pointed out several distinguishing features[3]:

(i) In metaphor there are two conceptual domains, while metonymy involves only one conceptual domain.

(ii) Metonymies, but not metaphors, involve a 'stand-for' relationship between the source and target domains. For example, if I say *Chrysler has laid off a hundred workers*, the name of the company stands for the person or persons in charge of the company's employment policy. A well-known case of metonymy is ORDER FOR CUSTOMER as in *The ham sandwich is waiting for his check* (Lakoff & Johnson 1980: 35), where "the ham sandwich" may be conventionally used by a waitress to refer to the 'customer who has ordered a ham sandwich.'

(iii) In metaphor a whole schematic structure, called the *source* domain, is mapped, together with its accompanying logic,[4] onto another whole schematic structure, called the target, and its logic; the function of the mapping is to allow us to understand and reason about the target in terms of the source. In contrast, a metonymy is primarily used for reference: we refer to an entity by means of another entity.

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3. Warren (*113) points to still other distinguishing features. Some of them are worth mentioning for their special contribution to the current debate. Thus, she notes that metaphor has a lower degree of literalness than metonymy, that metonymy works on the basis of just one correspondence while metaphor does not, and that metaphor can create themes which can be exploited with variations in different parts of a text. In our opinion, this last feature is a consequence of the many-correspondence nature of metaphors. For a detailed discussion of the differences between one-correspondence and many-correspondence metaphors, plus their relation to metonymy, see Ruiz de Mendoza (1999, 2000) and Ruiz de Mendoza & Pérez (2001).

4. The logic of a schematic structure is the set of all possible entailments derived from the relationships between the different elements of the schema. For example, movement along a path is related to distance to the destination; one entailment that follows from this relation is that the farther an entity moves forward along the path the closer it will be to its destination (cf. Lakoff 1989: 119; see also section 3.1 herein).

Although this is just a working definition of metonymy, not intended to fully account for its nature, it contains most of the basic ingredients for setting metaphor and metonymy apart. However, some comments are in order. First, cases of non-referential metonymy, as identified in the current literature, are perhaps as frequent as those of referential metonymy. Thus, metonymies can also be predicative (e.g. *He's a brain, She's just a pretty face, He's a stupid big head*; cf. Ruiz de Mendoza 1999b, 2000; Ruiz de Mendoza & Pérez 2001), predicational (e.g. *She was able to finish her dissertation* 'she finished her dissertation;' cf. Panther & Thornburg 1999), illocutionary (*I don't know where the bath soap is* 'where is the bath soap?;' cf. Panther & Thornburg 1999), and propositional (*I waved down a taxi* 'A taxi took me there,' Gibbs 1994; cf. Warren*). Second, we may also have cases of referential uses of metaphor. Contrast 'the ham sandwich' metonymy above, where the ham sandwich both refers to and stands for the restaurant customer, with the metaphor *The pig is waiting for his bill* in the same context. To understand this metaphor, we may think of a particularly nasty, abusive or otherwise unkind customer. Both "the ham sandwich" and "the pig" have a referential function, i.e. both designate a customer in a particular context.[5] These observations argue against regarding referential quality of metonymy as part of its definition.

Another working definition of metonymy is the one provided by Kövecses & Radden (1998: 39):

> Metonymy is a cognitive process in which one conceptual entity, the vehicle, provides mental access to another conceptual entity, the target, within the same domain or ICM.

5. As a matter of fact, any construction with a definite noun phrase which functions as subject and which has a non-literal meaning marks a referential construction. Compare *The dodo is extinct* and *The pig stole your money*. In the former, "dodo," which has a literal meaning, does not single out any specific referent but makes a claim about all the members of the species; in the latter, "pig," which is used metaphorically, identifies a specific entity, which makes evident its referential value.

What is interesting about this definition is the fact that it makes no mention of the referential use of metonymy. Instead, the authors incorporate into it Langacker's claim that "the entity that is normally designated by a metonymic expression serves as a reference point affording mental access to the desired target (i.e., the entity actually being referred to)" (Langacker 1993: 30). The resulting definition is more subtle, but it does not solve the basic problem of Lakoff and Turner's characterisation, i.e. the existence of non-referential metonymies. Thus, it can only account to a limited extent for metonymies like *Mary's just a pretty face*, where the lexical item "face" not only provides conceptual access to another entity within the same ICM but also highlights or gives primary status to a relevant feature of the item itself (i.e. beauty). Highlighting[6] also takes place in some kinds of metaphor, like PEOPLE ARE ANIMALS. For example, in the sentence *John is a pig*, John is presented as behaving in a dirty, nasty or immoral way; in *John is a lion*, the relevant perspective is John's behaviour showing courage. In our view, the difference between non-referential metonymies like *Mary's just a pretty face* and metaphors like *John is a lion* is that (i) in the latter the mapping involves different conceptual domains ('people' and 'animals'), while in the former there is only one domain ('face' is a subdomain of 'person'); and that (ii) the metonymy not only involves domain highlighting but also one further cognitive operation, which we shall call *domain expan-*

6. The notion of highlighting has been amply discussed by Croft*. Domain highlighting consists in making primary a secondary domain, as in the metonymy *Proust is tough to read*, where by 'Proust' we refer to his literary work. Since Proust's activity as a writer is a less central characterisation of this concept than, for example, the fact that he was a human being, the metonymy, in bringing this more secondary feature to the fore, is giving it primary status (cf. Ruiz de Mendoza 2000 for details on the relevance of this notion for the definition of metaphor and metonymy). The notion of domain highlighting is comparable to the notion of 'change of perspective' as discussed by Bartsch* in that understanding a metaphor or a metonymy involves a shift from the default domain of reference of a concept to an alternative domain (e.g. from 'Proust' as a person to 'Proust' as a writer; or from 'lion' as an animal to 'lion' as a human being that evinces a certain form of behaviour).

sion, whereby the notion of 'face' is mapped onto the broader notion of 'person who has a (certain kind of) facial characteristics.'

It must be noted that highlighting in a referential metonymy is a necessary consequence of a domain reduction operation (carried out through a conceptual mapping), as in Croft's* example *I filled up the car* 'I filled up the gas tank of the car' where the metonymy reduction of 'car' brings into focus the notion of 'gas tank' thereby giving it a more central status. In a non-referential metonymy, like *Mary is just a pretty face*, as discussed above, highlighting is the result of singling out a relevant feature of a conceptual domain which is accessed through a domain expansion operation. In metaphor, very much like what is the case with non-referential metonymy, highlighting is also the consequence of singling out a relevant feature of the metaphoric source, to be mapped onto a corresponding characteristic of a different conceptual domain, the metaphoric target.[7] Observe, in this connection, that in metonymy domain reduction and highlighting run parallel; however, they are quite distinct processes: whereas highlighting operations are a matter of focus or perspective, expansion and reduction operations are the consequence of the nature of metonymy as a reference-point phenomenon in Langacker's terms (cf. Langacker 1993).

As we have noted, we can have domain highlighting both in metaphor and metonymy while domain expansion and reduction are the natural consequence of the domain-internal nature of metonymic mappings. We have also argued against regarding the referential use of metonymy as a defining criterion. All this strongly suggests that the only really crucial difference between metaphor and metonymy concerns the domain-internal or domain-external nature of the mapping. In this way, we would have two possible situations in a metonymic mapping: one in which a whole domain, which we shall call *matrix domain*[8], stands for one of its subdomains (e.g. *She's taking*

7. The relevance of the distinction between domain expansion and domain reduction will be further evidenced in section 3 in connection to the understanding of the role of metonymy in conceptual interaction.

8. The notion of 'matrix domain' should not be confused with Langacker's (1987) notion of 'domain matrix.' (See Croft *168.) A domain matrix is the set of do-

the pill where 'pill' stands for 'contraceptive pill'), and another one in which a subdomain stands for its corresponding matrix domain (e.g. *All hands on deck*, where by "hands" we refer to the sailors who do hard physical work in virtue of the hands playing an experientially prominent role). We shall refer to the former as cases of *target-in-source* metonymy and to the latter as cases of *source-in-target* metonymy.

It has been traditionally assumed that metonymy involves an additional part-for-part relationship, i.e. one subdomain within a domain stands for another subdomain within the same domain (cf. Taylor*; Kövecses & Radden 1998; Radden*). Apparent examples of this metonymy would be *Nixon bombed Hanoi* and *Napoleon lost at Waterloo*, where the ruler stands for the army under his command within the frame of war. Other examples would be based on other frames: the product frame as in *The company hired a new editor, I have been reading a lot of Plato lately*; the location frame, as in *The White House isn't saying anything, Washington is responsible for the attack, The Kremlin threatened to boycott the conference,* among others. However, we argue that all these are simply instances of metonymic domain inclusion where the target is a subdomain of the source. Thus, it is possible to think of the armed forces under a ruler as part of our knowledge about him. We know that both Nixon and Napoleon were in control of the military forces of their respective countries. In a similar way, we know that it is not the whole company but someone already working for it that is in charge of employing new people. In this view, Plato's work is part of the conceptual domain for Plato, and the White House refers to some officials who work in the White House, which makes it reasonable to think of them

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mains relative to which a predication is characterised. On the other hand, we conceive a matrix domain as a unitary framework of reference for a number of domains which are part of it. Thus, the concept of 'hand' may be profiled against the notions of 'flesh,' 'arm,' 'size,' 'shape,' etc. The set of these domains is the domain matrix for 'hand.' In contrast, 'hand,' 'elbows,' 'wrist,' etc. all share the same matrix domain, that is, the notion of 'arm.' It may be observed that each of the domains that make up a domain matrix is a matrix domain.

as a subdomain of the White House. Finally, consider the following example from Taylor (*325, 1995: 123):

(1) The pork chop left without paying.

According to Taylor, 'pork chop' and 'customer' are related to each other as parts of a more general conceptual construct which, following Lakoff's terminology, we shall refer to as the restaurant ICM. While it is true that both concepts are part of the same ICM, and may thus be associated on a part-for-part basis, it is also possible to argue that the notion of 'pork chop,' if profiled as an order, is part of our knowledge about restaurant customers. Thus, in the metonymy ORDER FOR CUSTOMER, the source domain may be regarded as a subdomain of the target domain. In order to better understand this, think of the possibility of a waitress referring to a customer as 'the fur coat' in the utterance *Can you imagine? The fur coat has left without paying*, with the implied irony that maybe the apparently well-off customer had no money after all. It is not possible to say that the fur coat belongs to the restaurant schema in the same way as the pork chop in Taylor's example, or the ham sandwich in the classical example. But there is a clearly recognisable metonymic mapping from 'fur coat' to 'customer' whose interpretation proceeds along the same lines as the interpretation of the pork chop and ham sandwich examples. Note that the fur coat, in being part of a person's attire, is to be considered as part of the customer ICM (but not of the restaurant ICM). In this alternative view, the restaurant ICM only serves to contextualise the metonymy and motivate the mapping.

Moreover, the two types of metonymic mapping we are proposing correlate with the two basic functions of referential metonymy, which we have already identified. On the one hand, source-in-target metonymies involve domain expansion, i.e. they provide full access to the matrix domain by means of one of its subdomains. On the other hand, target-in-source metonymies involve domain reduction, which, as we have seen, results in the subsequent highlighting of a relevant part of a domain. It is very often the case that a speaker makes use of a target-in-source metonymy when he wants to refer to

an entity whose exact nature is either irrelevant or difficult to pin down accurately. This is typical of the metonymy INSTITUTION/ COMPANY FOR PEOPLE RESPONSIBLE. Institutions are usually complex organisations, which makes it difficult for people little acquainted with them to know well all the details about their structure. But the institution is ultimately responsible for what people who work in it do. This facilitates the metonymic shift which may vary depending on the knowledge the person has. For example, the sentence *Sears approved our credit card application* would be meaningful both for someone who knows the internal procedures of the company and for the person who does not know them, but in a different way. The former may invoke a specific department or committee inside Sears, while for the latter it may be enough to bring up a rather vague specification like 'people in charge of credit card applications.'

Additional evidence for the hypothesis that metonymies may be reduced to cases of target-source and source-target inclusion comes from the domain of anaphoric reference.[9] Contrast the following expressions:

(2) (a) Nixon bombed Hanoi and *he* knew what he was doing
(b) *Nixon bombed Hanoi but *they* were under orders (where 'they' refers to the soldiers who did the bombing).

(3) (a) The ham sandwich has been waiting long enough and *he* is getting upset
(b) *The ham sandwich has been waiting long enough and *it* looks a bit stale

(4) (a) The fur coat has been waiting long enough and *she* is getting upset.
(b) *The fur coat has been waiting long enough and *it* has a stain on *it*

9. For the question of anaphoric reference involving metonymy, see Stirling 1996; Panther & Radden 1999; Ruiz de Mendoza 1999b, 2000; Ruiz de Mendoza & Pérez 2001; Croft*; Warren*.

There is an apparent correlation between target-source inclusion and so-called grammatical reference to the source domain by means of an anaphoric pronoun, on the one hand, and of source-target inclusion and conceptual reference, on the other. This correlation is related to the fact that source-in-target metonymies need either the context or the semantic domain typically associated with the expression to trigger the metonymic shift, while target-in-source metonymies need the predicate. Thus, it could be argued that anaphoric reference to a noun phrase which makes use of metonymy can be of two types: grammatical reference in target-in-source metonymies and conceptual reference in source-in-target metonymies. However, a closer analysis reveals that this is not the case and that anaphoric reference to a metonymic noun phrase is always conceptual and that it is made to the matrix domain of the metonymy no matter whether this domain is the source or the target of the mapping. Thus, in the RULER FOR ARMY metonymy, the matrix domain (e.g. 'Nixon'), is chosen for anaphoric reference as evidenced by the selection of anaphoric "he" in (2a), whereas in the ORDER FOR CUSTOMER metonymy, only the target, 'customer,' is available for reference. This situation is captured by the *Domain Availability Principle (DAP)*, according to which whenever a metonymy occurs in a sentence, only the matrix domain is available for anaphoric reference (cf. Ruiz de Mendoza & Pérez 2001, for a more detailed description).

Consider now the following sentences:

(5) *The ham sandwich has been waiting long enough and *he* looks a bit stale.
(6) *Nixon bombed Hanoi and *he* was a special unit.

Although (5) and (6) apparently follow the Domain Availability Principle, i.e. the pronoun 'he' is anaphorically linked to the matrix domain of the metonymy ('the customer' and 'Nixon' respectively), these sentences are not correct. The reason why they are incorrect lies in the nature of the predicate of the conjoined clause since it calls for a different metonymic shift. Thus, while in (3a) we map 'ham sandwich' onto 'customer' and in (2a) we map 'Nixon' onto 'airforce,' in

(5) and (6) these situations are reversed: (5) maps 'customer' onto 'ham sandwich' and (6) maps 'Nixon' onto 'air force.' These examples are not an exception to the Domain Availability Principle, as formulated by Ruiz de Mendoza & Pérez (2001), but introduce a restriction in its application in the sense that the anaphoric pronoun cannot be metonymic itself.

In view of all the observations above, we may conclude that since domain inclusion has such strong consequences for metonymy, it may be profitably regarded as a central criterion in order to distinguish metonymy from metaphor.[10] Later on, we shall see the relevance of domain inclusion for the understanding of those cases of conceptual projection where metonymy plays a role.

Now we shall turn our attention briefly to the many-space model of conceptual interaction, which applies not only to metaphor but also to metonymy (cf. Turner & Fauconnier*; Coulson & Oakley 2001).

2. The many-space model

In an attempt to refine Lakoff's two-domain model, Turner & Fauconnier (1995) have proposed the broader "many-space model" of metaphor and conceptual projection. This approach to conceptual interactional phenomena hinges upon the notion of "mental space," which is defined as "a (relatively small) conceptual packet built up for purposes of local understanding and action" (Turner & Fauconnier 1995: 184). This means, for example, that not everything we know about love and journeys is invoked when we interpret metaphorical expressions deriving from the LOVE IS A JOURNEY mapping system. This refinement introduces a considerable degree of parsimony into the traditional account.

10. Following Langacker's (1987) notion of *figure/ground segregation*, we consider that cases of domain inclusion occur whenever one of the domains of a mapping can act as the ground against which the other domain is profiled (cf. Ruiz de Mendoza 1997; Barcelona 2000; Taylor*, for further discussion of the theoretical aspects of this issue).

Turner & Fauconnier (*470–471)contend that a mental space typically draws information from more than one conceptual domain in such a way that it creates its own structure, which is always smaller in amount than the structure of the input domains. In the many-space model, metaphor and analogy are the result of a blending process whose interpretation requires the activation of, at least, four mental spaces: two input spaces, a source and a target, and two middle spaces, a generic space and a blended space or *blend*. In blending, structure from two or more input spaces is projected to a third space, the blend, which integrates part of the structure from the input spaces. The generic space, which contains skeletal structure which applies to both input spaces, licenses the projection. In order to illustrate this, take the following example found in Fauconnier & Turner (2001). A clipper, *Great America*, which currently sails from San Francisco to Boston is imaginarily racing against the *Northern Light*, which did the same journey in 1953. In order to understand this situation we need to combine the following mental spaces: one input space for the passage of the Northern Light in 1953; another for the passage of the present run by the Great America; a generic space, which extracts structure common to the two input spaces (i.e. a ship makes a journey of a certain duration from a source to a destination); and the blended space into which the Northern Light and the Great America are projected as taking part in a race. Fauconnier & Turner (2001) further note that information about races also has to be projected to give structure to the blend.

In Turner & Fauconnier's proposal, blends have a number of characteristic features. Some of the features are logical requirements of conceptual interaction and pose no special theoretical problem. Thus, blends exploit and develop counterpart connections between input spaces; they integrate related events into more complex events; and they are dynamic (during blending conceptual work involving the activation of new spaces and the modification of previously activated ones may be required). However, other features are more striking and call for more careful scrutiny. Thus, according to Turner and Fauconnier, blends may have structure which is not provided by the input spaces, and they may even contain structure inconsistent with that

of the input spaces. These two latter claims are rather problematic, as we shall discuss below.

First, they are inconsistent with the principle of cognitive economy. This principle is widely accepted as pervading both conceptual and communicative activity. A good example of the thriving explanatory power of this principle in communication theory is found in recent work in pragmatics, particularly in Sperber and Wilson's Relevance Theory (see Sperber & Wilson 1995). These authors claim that human communication and cognition are governed by the search for relevance. Relevance is a function of the balance between contextual effects (i.e. assumptions derived from newly presented information) and processing effort (another way of referring to the notion of cognitive economy). As a result of the presumption of optimal relevance, speakers are expected to strive to avoid putting their hearers to unnecessary processing efforts for the intended communicative effects. Since inconsistencies break expectations in an unpredictable way, they must be harder to process than regularities and should therefore be ruled out by a processing system, like the human cognitive system, which is governed by the search for relevance. In much the same way, it is difficult to see how blends may create their own structure independently of the information provided by the input spaces. Ironically enough, Fauconnier & Turner's own example of the race between the Northern Light and the Great America can be used to make the opposite point, since the race frame is not created by the blend, but derived from pre-existing, already available knowledge about races, i.e. from an extra input space, and, if this is correct, a revision of their explanation is required. In our opinion, the Northern Light vs. Great America example requires the activation of three input spaces: one containing the journey of the Northern Light; a second one providing a characterisation of the journey of the Great America; and the third one supplying information about races. Once the two clippers have been assigned the racers' role in the blend, whatever the two clippers do will have to accord with the conceptual structure of the domain of races.

Turner and Fauconnier have provided a wealth of examples in an attempt to substantiate their claim about there being irregularities and

inconsistencies in the blend. However, on closer inspection, one notes that their examples can be explained better by positing regularities.[11] Consider Turner & Fauconnier's (1995: 194–195) discussion of the metaphorical expression "land yacht," which refers to a large, luxurious automobile. In the mapping from the domain of water vehicles to that of land vehicles, the yacht corresponds to the luxury car, the land corresponds to the water, the driver to the skipper, the car owner to the tycoon, the road for the car to the course for the boat, etc. According to Turner and Fauconnier, however, there are elements in the mapping which are not counterparts. Thus, in their view, a "land yacht" is typically used on a highway, not on a common road or on water; also, "a land yacht" is neither a common car nor a yacht, but a luxury automobile; finally, very rich tycoons are the owners of yachts, but a "land yacht" may simply be owned by a moderately rich person, though of course richer than the average car owner.

It is easy to see that the apparent non-correspondences are simply contextual implications derived by the application of pragmatic principles. For example, consider what Sperber and Wilson's notion of relevance can tell us about the use of the expression "land yacht." By the application of this notion, we are entitled to assume that there is a purpose in the speaker's using this expression rather than others, such as "luxury car" or "splendid automobile." Relevance theory predicts that the reason why "land yacht" (and not a near paraphrase) is used lies in the nature and number of contextual effects that it potentially conveys. One set of effects (i.e. the idea that the speaker is referring to a luxury car, which provides the driver with the same pleasurable experience as a yacht would provide) will characterise the most central, accessible interpretation of the expression. Other effects may still be explored: e.g. the car moves gently along as a yacht would slide across the water surface; it provides a pleasurable driving expe-

11. It is impossible, because of lack of space, to discuss all of Turner and Fauconnier's examples. We have chosen two for the sake of the argument. Some other examples have been critically reviewed in Ruiz de Mendoza (1998a, 1998b).

rience; it is very expensive; it has a beautiful, elegant design which reminds the speaker of a yacht, and so on.

These effects are the result of applying the correspondences in the metaphoric mapping to the referent (a luxury car, e.g. a Cadillac, typically owned by a rich person and used for pleasure), which invokes its own cognitive model. Note that, without a context when originally used, or without knowledge of the adequate convention (once the expression has caught on in a given community of speakers), the expression "land yacht" might be appropriately applied to other referents, like a new model of yacht which is capable of travelling on land. So what we have is at least three input spaces: one drawn from the domain of water vehicles (cued by the expression "yacht"), another from land vehicles (cued by the expression "land"), and a third one from the domain of cars (cued by the conventional referent of the expression). The conceptual combination of the three input spaces into one is made possible by the creation of a generic space with all the structure which they have in common: water and land are the transportation media, automobiles and boats are vehicles, skippers and drivers are the people who control the vehicles, and so on. In this respect, note that only one of the correspondences licensed by the generic space is really crucial: that between yachts in the source and a specific kind of car in the target (i.e. a type of land vehicle is like a type of water vehicle). What gives this correspondence its central status is precisely the input space prompted by the conventional referent of the expression. This space is called up only as a consequence of the hearer's search for the central meaning of the expression. This leads him to look outside the expression proper for a cue to activate a compatible input space. Either a well-defined (i.e. highly evident) context or sheer convention will provide the required cue. Then, once the central correspondence has been identified, it is not difficult to find which characteristics of yachts are applicable to cars. General features which already belong to the concept of ship as a water vehicle are not relevant. Otherwise it would have been easier to produce the more processable expression "land boat." Since yachts are associated with luxury and pleasure, which distinguishes them from other water vehicles, the hearer will be led to use these features

in order to construct the central implication of the metaphorical expression.

If our proposal is correct, non-correspondences are explained away from the blend once we take into account that the conventional referent of the metaphoric expression also motivates the creation of an extra input space which contributes its own conceptual structure. Thus, as part of this extra space we know that luxury cars may be purchased by people not necessarily as rich as yacht buyers, that they are typically used to drive on highways, and that they differ both from common cars and from yachts in the way specified above. As expected, the information in this space also needs to obey the constraints provided by the generic space (note that a luxury car is a type of vehicle, that a highway is a type of road, and that a rich car owner is just one type of owner). Finally, in this interpretation, the role of the blend is just to combine information from the input spaces, as licensed by the generic space, to yield a range of contextual effects, such as the ones specified above for the expression "land yacht."

To end this section, let us consider the expression *You could see the smoke coming out of his ears* (Turner & Fauconnier *474–476), which refers to a situation in which a person gets extremely angry. In order to make sense of this sentence, we need to activate the following input spaces: a first source input space which selects its structure from the container image schema; a second source input space in which smoke results from the burning of an object or substance; and a target input space where there is a very angry person. The generic space allows us to correlate the topological structure from the inputs plus knowledge about processes and circumstances associated with such structure. Thus, we may envisage a person in terms of a container whose contents undergo a process (i.e. burning) as a result of which smoke is liberated; the smoke is then seen as escaping through the openings in the container. External signs of anger, such as sweat (seen as water vapour) and redness, correlate with the external signs of combustion inside the container (smoke and heat in the container walls). Once the relevant correlations have been established, their associated conceptual structure is ready to be projected into the blend to be combined into a unified conceptual construct. In the example

under analysis, the projection from the input spaces to the blend is licensed by two metaphors: ANGER IS HEAT and PEOPLE ARE CONTAINERS. Note that the blend does not contain structure inconsistent with the information from the input spaces since the combination of these three input spaces fully abides by the structure and logic of the container image schema, of our knowledge about combustion, and of what we know about anger and the effects of anger.

3. Patterns of interaction

One important consequence follows from our discussion: conceptual projection is a principle-regulated phenomenon which results in the interaction and subsequent combination of relevant conceptual structure derived from ICMs (i.e. of mental spaces, in Turner and Fauconnier's terminology). The combination is also constrained by a number of pre-established interaction possibilities, each of which has its own communicative consequences. We shall distinguish four major interaction patterns: (i) interaction based on (at least) an image schema; (ii) interaction between propositional models in metaphoric settings; (iii) interaction between two metonymies; (iv) interaction between metaphor and metonymy.

3.1. Interaction based on image schemas

Image schemas, as discussed by Johnson (1987), are spatial preconceptual configurations that arise from everyday bodily experience. Among others, we have image schemas of a bounded space (or container), of a path, of contact, and of bodily orientations (up-down, front-back, centre-periphery). We have already discussed the metaphor A PERSON IS A CONTAINER FOR THE MOTIONS, which involves the container schema. The path schema is applied in the case of "journey metaphors" like the ones examined in section 1. Other metaphors, like MORE IS UP are based on the orientational up-down schema

(e.g. *Prices have soared*, *Problems are piling up*, *He drives at high speeds*, etc.).

We want to suggest that whenever an image schema is involved in an expression, it provides the basic blueprint for the projection and combination of information from other ICMs.[12] In fact, the image schema functions as a source input space cued by the metaphorical expression whose basic structure and logic agrees with the structure and logic of the generic space. Consider in this respect the metaphorical expression *Plans are now moving ahead*, uttered by a creative entrepreneur who has been trying to set up a certain business deal for some time. Two input spaces play a role in it: one is the source domain, which is a specific instantiation of the path schema (an entity is moving forward along the path towards a destination, but the destination has not been reached yet); the second input space is derived from the specific situation to which the expression applies (the businessman making deals), which is the target domain. Then, there is a generic space whose conceptual layout (that is, its structure and logic) contains abstractions from the two input spaces. The path schema has been described by Lakoff (1989) as follows: its structure consists of a source, a destination, a sequence of contiguous locations connecting the source and the destination, and a direction toward the destination; its logic tells us that, (i) in order to reach the destination along a path, we must pass through each intermediate point, and that (ii) the further along the path one is, the more time has passed since starting. In the projection, licensed by the generic space, the plans are seen as travellers[13] and progress in business deals is seen as movement towards the destination, which corresponds to the entrepre-

12. In our opinion, this is due to the abstract nature of image schemas. Note, however, that image schemas are not symbolic abstractions (as used, for example, in mathematics) or generic concepts (like cause, process, result, etc.) but motor-perceptual abstractions deriving from our interaction with the environment. Abstract structures accommodate other less abstract constructs, like propositional ICMs.

13. Note that here there is still another metaphor according to which plans are treated as physical entities. This is a requirement of the path schema, since non-physical entities cannot travel.

neur's goals in doing business. At the same time, the conceptual layout of the source-domain image schema becomes a source of inferences or contextual effects which, as we have seen, occur in the blend. Thus, in *Plans are moving ahead* we know that there is a purpose for the plans and that the activities involved are nearer to completion than when they were initiated. Contrast the expression *We are behind schedule*, where the journeying participants should have reached a certain stage in their journey (represented by a landmark on the path). As a consequence, it is implied that the participants may not reach their goal (the destination) in the appointed time unless they manage to make more progress in less time. Note that there is a central inference in both metaphors which is derived from the interplay between the image schema and one of the input spaces as cued by the linguistic expression. Thus, in *Plans are moving ahead*, the focus is on on-going progress; in *We are behind schedule*, the focus is on having done things later than the time planned (that is, we look at progress in terms of the landmark).

Moreover, we have observed that, on many occasions, two or more image schemas are combined into a single metaphor as evidenced in *His wife got into trouble*, where both the container and the path schemas are invoked. In this expression, 'trouble' is conceived of as a container which is mapped onto the destination of the path schema in a way which is consistent with the general conceptual layout of this schema. On the one hand, the path schema has primary status since it is one of its structural elements that accommodates the container schema. Note that the structure and basic logic of the path schema is not modified, 'the wife' being the moving entity and 'trouble' the end of the path. On the other hand, the container schema provides the axiological value of the expression. According to its logic, an entity which enters a three-dimensional bounded region is affected by it (Peña 1998). As 'trouble' is considered negative from an axiological perspective, 'the wife' is affected negatively by the situation. This process by means of which an image schema is incorporated into another in such a way that their basic logics are made compatible but one has a subsidiary status with respect to the other

has been labelled *schematic enrichment* (cf. Fornés & Ruiz de Mendoza 1998; Peña 1999).

3.2. Interaction between propositional cognitive models in metaphoric settings

All propositional idealised cognitive models involved in a metaphoric mapping are subservient to the mapping. This is a natural consequence of the fact that a conceptual mapping is an operational model which generates sets of correspondences between parts of domains which are usually defined propositionally.[14] Consider the metaphor *Judge Griffin is a deciding machine.* The metaphorical expression belongs to the metaphor PEOPLE ARE OBJECTS, according to which we see noteworthy features of objects as applicable to people. Machines do any amount of work which they are intended to do routinely and without stopping to rest. Judges decide cases in court. So, if we say that judges are machines when they work, we suggest that they do a large amount of work in a rather non-reflecting way. Three propositional ICMs provide information to derive the input spaces for this metaphor: one about machines (the first source input), another about judges (the second source input) and a third one, the target, about the specific situation to which the expression applies (a certain judge who does his work in a certain way). The two source input spaces are cued by the linguistic expression; the target space is derived from the context of situation but it is profiled by the linguistic expression (the judge is like a machine only in the way he decides cases, but not necessarily in other aspects of his behaviour). The central inference is not provided by any of these models separately

14. Ruiz de Mendoza (1998b, 1999a) has put forward a distinction between operational (metaphor and metonymy) and non-operational (propositional knowledge and image schemas) cognitive models. The former are defined as dynamic and entail a cognitive operation whereas the latter are static in nature. Besides, an operational model works on the basis of a non-operational one; see also Bartsch* in this connection.

but by the relevant correspondence in the mapping (one between a 'behavioural' feature of machines and a behavioural feature of a

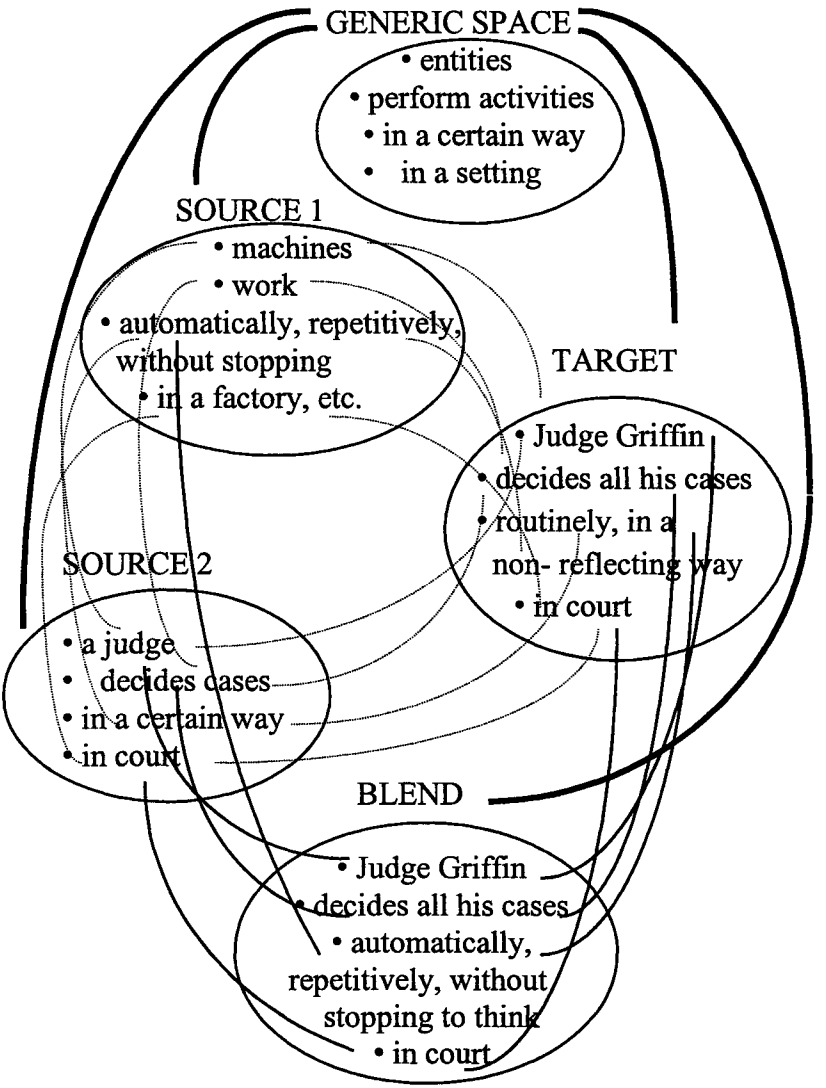

Figure 1. Judge Griffin is a deciding machine

certain judge).[15] Figure 1 illustrates the way the blend is created as a result of the projections (the correspondences between the sources and the target).

3.3. Interaction involving metonymic models

When dealing with the patterns that emerge in cases of conceptual interaction where metonymy plays a significant role, we can distinguish two cases: one, in which two metonymies combine, which we may label *double metonymy*; another, in which a metonymy interacts with a metaphor.[16] In the section 3.3.1., we shall devote our attention to the former, while in 3.3.2. we shall provide a detailed analysis of the latter.

3.3.1. Double metonymy

Although most cognitive linguists agree on the importance of metonymy in conceptual interaction (cf. Goossens*; Turner & Fauconnier*), no sufficient attention has been devoted to the interactional possibilities that hold when two metonymies work together. Consider the following examples in (7):

(7) (a) I want to buy an apartment in Wall Street (= the place).
(b) Wall Street (= the institution) will never lose its well-deserved prestige.

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15. In fact the metaphor is more complicated. We understand a non-human feature of machines (the fact that they perform a certain function) in terms of a human attribute (i.e. being capable of working). Then we understand a human attribute in terms of the non-human feature of machines. A similar analysis applies to other metaphors concerning attributes which apply to humans, animals, plants, complex objects, and natural physical things (see Lakoff & Turner 1989: 170ff, for details).
16. An alternative typology of the different possibilities that emerge from the interaction between metaphor and metonymy is provided by Goossens*.

(c) Wall Street (= the people in the institution) is in panic.

Whereas in (7a) Wall Street is used non-figuratively and refers to a street in the southern section of Manhattan in New York, in (7b) it metonymically stands for one of the most important financial institutions of the U.S. This metonymy, PLACE FOR INSTITUTION, is of the target-in-source type since the financial institution located in Wall Street is a very prominent subdomain of our knowledge about this street. Finally, in (7c) there is a second metonymic mapping. In this sentence the institution, which is the target domain of the first mapping, metonymically stands for the people that work there or are somehow related to it. As Figure 2 illustrates, there are two target-in-source metonymies where the target of the first mapping becomes the source of the second mapping.

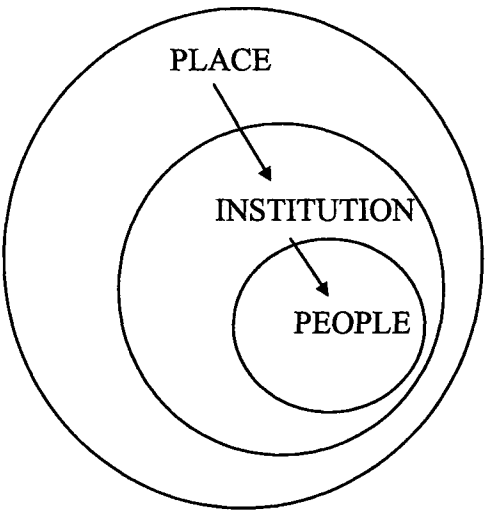

Figure 2. Place for institution for people (related to the institution)

The two metonymies involve a process of domain highlighting and consequent domain reduction. As is the case with many target-in-source metonymies, the target of the second metonymy is little specific in nature and thereby difficult to determine with accuracy since

the exact relation of the people to this financial institution is in no way specified.[17]

Another form of double metonymy occurs when instead of a double process of domain reduction, there is domain expansion as shown in the following examples:

(8) The head (= the leader) of the SS lived in Berlin during World War II.
(9) His sister heads (= carries out the action of leading) the policy unit.

In (8) we find a source-in-target metonymy where 'head' stands for the person who is in control or in charge of an organisation. We suggest that two different models, 'intelligence' and 'control,' combine to provide the conceptual grounding for this metonymy. First, the 'head' is usually regarded as the site of intelligence and rational behaviour as evidenced by expressions like *He really has a (good) head for maths* or *I don't have a head for business*, where 'head' stands for a person's ability to control, think, devise plans, or make decisions. As most of the duties of the person in charge have to do with activities that require abilities like these (i.e. to think or to organise), 'head,' which, as we have seen, is connected with intellectual capacity, becomes the best option to stand for the person that has a leading role, that is, a "head" is a person who has the intellectual abilities that enable him or her to make decisions, organise, devise plans, etc. Second, this mapping can also be grounded in one of the orientational metaphors distinguished by Lakoff & Johnson (1980), namely, CONTROL IS UP. Since the head is at the top of the body, it is regarded as the body part with the highest degree of control. In addition, this correlates with the fact that physiologically, the brain, which is lo-

17. Note that there is a rather wide range of possibilities in which the target could be specified (from stock brokers to private investors or any other kind of professional associated with the financial aspects of Wall Street).

cated inside the head, controls the functions of the rest of the body parts.[18]

In (9) there is a further development of the previous mapping by means of which this body part metonymically refers to the action of governing or ruling. This is grounded in the fact that the prototypical activity that a leader carries out is ruling or governing. This suggests that the relationship between 'head' as a body part and the action of leading is not a direct one. On the contrary, it is mediated in such a way that two metonymic mappings are needed to fully develop it. Figure 3 shows the way the mapping takes place:

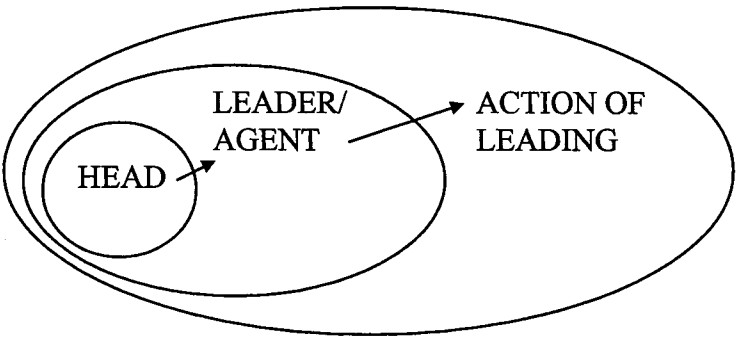

Figure 3. Head for leader for action of leading

The comparison between Figures 2 and 3 reveals that the interactional pattern of Figure 3 is the converse of the one in Figure 2. In this second pattern we have two processes of domain expansion, that is, the target domain of the first source-in-target metonymy is the source of the second source-in-target metonymy. By means of this double process of domain expansion both the role of 'head' in the first metonymy and of the agent of the action in the second one are

18. It should be noted that there is little agreement among different authors (cf. Dirven *83, *107) as to whether this usage of *head* is either a metaphor or a metonymy or both. We regard it as a metonymy because the notion of 'head' stands in a subdomain-domain relationship with the notion of 'person;' this relationship is in turn profiled against the domain of intellectual ability, which acts as a domain of reference.

highlighted. Another noteworthy difference between (8) and (9) is that in the latter the AGENT FOR ACTION metonymy is to be defined as a *high-level metonymy*, whereas the mappings in (8) are not. The notion of high-level metonymy, which actually originates in Kövecses & Radden (1998), has been used by Panther & Thornburg (1999) and Ruiz de Mendoza & Pérez (2001) to refer to any metonymic mapping which is based on a generic ICM – like action, process, or result.[19]

In the last metonymic type both a source-in-target and a target-in-source metonymy work in combination. First take sentence (10):

(10) Shakespeare is easy to read.

In (10), there is an AUTHOR FOR WORK metonymy where by "Shakespeare" we refer to 'his literary work.' It is a target-in-source metonymy as can be seen in Figure 4:

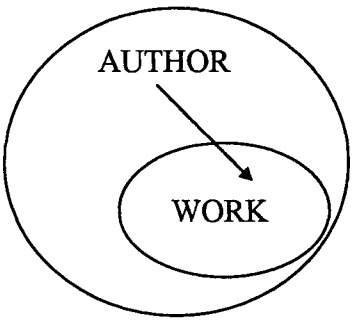

Figure 4. Author for work

According to the Domain Availability Principle anaphoric reference in this metonymy should be made to the matrix domain 'Shakespeare,' which works as the source of the mapping. This is evidenced by the comparison between the following examples:

19. Ruiz de Mendoza & Díez (2001) have put forward a distinction between generic and non-generic ICMs. The latter are defined as conventional representations based on experience which specify elements and their properties and relations while the former are abstractions over a number of non-generic ICMs.

(11) Shakespeare is easy to read because *he* is not outdated.
(12) *Shakespeare is easy to read because *it* is not outdated.

Consider now (13):

(13) Shakespeare is on the top shelf.

Here, the target domain of the metonymy is not Shakespeare's literary work but a book which contains, at least, part of Shakespeare's work. In consequence Figure 4 cannot account for the metonymy in (13). There is a second metonymy in which the source is Shakespeare's work and the target the format in which it is presented. This second mapping is of the source-in-target type. The structure of this metonymy is captured in Figure 5:

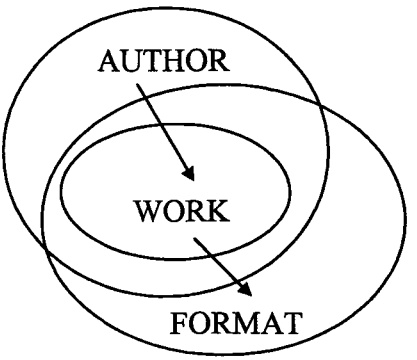

Figure 5. Author for work for format

Again, the existence of this double metonymy is consistent with the Domain Availability Principle as shown by the following examples:

(14) (a) Shakespeare is on the top shelf and *he* is a basic reading.
(b) Shakespeare is on the top shelf and *it* is a good quality edition.
(15) (a)? Shakespeare is easy to read but *its* pages are brittle.
(b)? Shakespeare is easy to read and *he* is bound in leather.

In (14a) and (14b) the double metonymy licenses the use of the author domain and of the format domain respectively as matrix domains for anaphoric reference. In contrast, in (15a) and (15b) the predicate 'easy to read' cues for the activation of just one metonymic mapping, SHAKESPEARE FOR WORK, which precludes the possibility of making reference to the format in which the work is presented (i.e. the second matrix domain of the double metonymy).[20] This discussion suggests that by means of this third type of double metonymy we can shift reference from one matrix domain to another.

3.3.2. Interaction between metaphor and metonymy

Regarding conceptual interaction between metaphor and metonymy, consider first the expression *To beat one's breast.* According to Goossens (*362, 1990: 332) this is a case of a metaphor derived from a metonymy. However, it may be argued that the situation is somewhat more complex. In the metaphor, the source domain has the scene of a person that beats his breast with the purpose of showing sorrow, and the target has a person that expresses such emotions (without actually beating his breast). So, the metonymy, which serves as the basis for the metaphoric mapping, is from a situation in which a person beats his breast to one in which a person shows sorrow.[21] The whole interaction process may be diagrammed as follows:

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20. It may seem that sentences such as *Shakespeare, who is difficult to read, is on the top shelf*, where anaphoric reference to the metonymy is made by means of a relative pronoun, break the Domain Availability Principle. A closer inspection, however, reveals that this is not the case. In the example above, the relative pronoun ("who"), which makes reference to the first matrix domain ('Shakespeare'), appears in the sentence before the second matrix domain is activated, which naturally hinders the possibility of the anaphoric relative to be correferential to this second matrix domain.
21. Riemer (*392–394) has denied the existence of metonymy-based metaphors by claiming that the loss of the metonymic link of an expression does not involve a process of metaphorisation, but the existence of a post-metonymy; in other words, the conventionalisation of a metonymy never results in a metaphor. On the other hand, we agree with Goossens' view and argue in favour of the

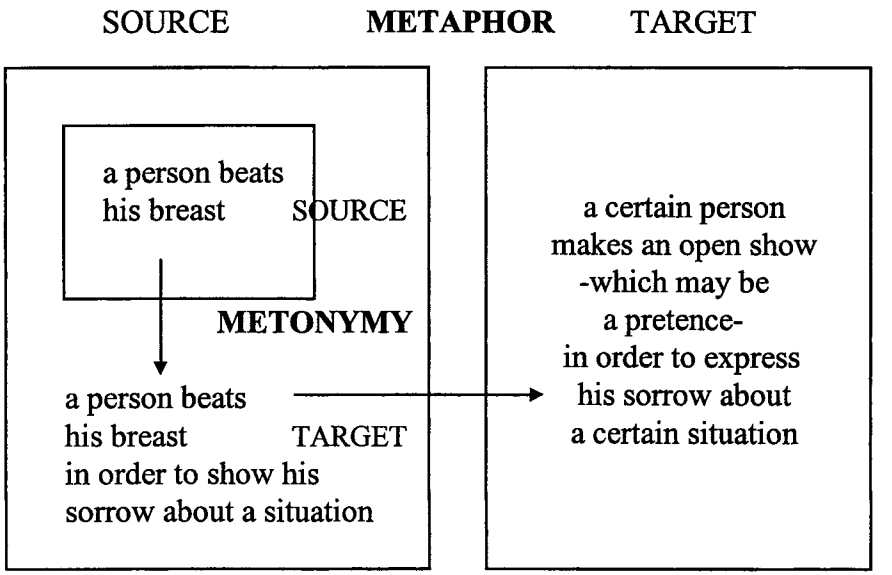

Figure 6. To beat one's breast

Here, the source of the metonymy is a subdomain of the target. This has two important related effects: it provides us with all the relevant elements for the construction of the metaphoric mapping while focusing on only one of the correspondences (the idea that the person openly expresses his anger or sorrow). These cognitive effects are not possible, as we shall see below, with metonymies where the source is not a subdomain of the target. In this way, we have two input spaces, one created by the metonymy and another one derived from the specific situation to which the metonymic expression applies, plus a generic space, and a blended space where inferences are generated in consistency with the information provided by the input spaces. As in

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prominent role interactions between metaphor and metonymy play in cognitive processes. Thus, the fact that a metonymy loses part of its metonymic value because of conventionalisation is only symptomatic of the fact that it is applicable to a wider range of situations, which in turn points to the existence of a mapping between separate domains: a source domain where the metonymy still takes place and a target domain where there is no metonymic mapping.

other cases, the role of the generic space is to license the conceptual projection of the two input spaces into the blend but with the particular characteristic that some of the constituents of this space have been cued as central by the source of the metonymy (that is, the action of beating the breast highlights the idea of public expression of anger or sorrow). The blend inherits the highlighting in the corresponding constituents. In order to see the way this works, imagine a situation in which John forgets Mary's birthday and she gets very upset. John wants to show that the is very sorry for having forgotten her birthday and that he feels foolish. When the following day Mary reports this event to a friend, she does so by saying *He started beating his breast.* The generic space now applies to this situation as shown below:

SOURCE (INPUT SPACE 1)	GENERIC SPACE	TARGET (INPUT SPACE 2)
• person • person is involved in a situation to be sorry about. • person wants to show that he is sorry about something. • person beats his breast to express this feeling.	• person person is involved in a certain negative situation. • person wants to show his feelings about the situation. • person makes a pretence to make his feelings apparent.	• John • John forgets Mary's birthday. • John acknowledges that he should have remembered such an important date while he makes an outward demonstration of sorrow, which may be a pretence.

BLENDED SPACE

- John
- John forgets Mary's birthday, a situation to be sorry about.
- John wants to show the sorrow he feels for having forgotten Mary's birthday.
- John openly recognises his foolishness and says that he should have remembered such an important date.

All those cases of interaction in which there is an expansion of the source domain of a metaphor take the pattern depicted by the following figure:

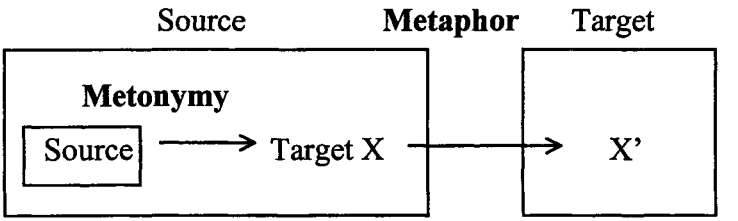

Figure 7. Metonymic expansion of a metaphoric source

Consider now the metaphor *Peter knitted his brows and started to grumble*, used as a indication that this person frowned because he was angry. In this type of semantic construction, the metonymy is built into the target of the metaphor and has a two-fold role: on the one hand, as a metonymy whose source is a subdomain of the target, it helps the hearer to determine the interpretation of the metaphoric mapping: knitting one's brows (i.e. frowning) is part of a situation in which this facial gesture is an expression of anger; on the other hand, the metonymy provides all the conceptual material which will allow the hearer to construct the generic space. This information is then available for application to specific situations.[22] Figure 8 attempts to capture the essentials of this process. As this figure shows, this pattern only differs from Figure 7 in the fact that the metonymy occurs in the target domain of the metaphor in such a way that it is the output of the metaphor that becomes the source of the metonymy. This interaction type, which is schematised in Figure 9 below, is also

22. In this connection, Peña (2001) has convincingly argued that a SPECIFIC FOR GENERIC metonymy underlies the abstraction of information from the source input to the generic space, while the converse metonymy GENERIC FOR SPECIFIC is needed to project the information from the generic space to the target input.

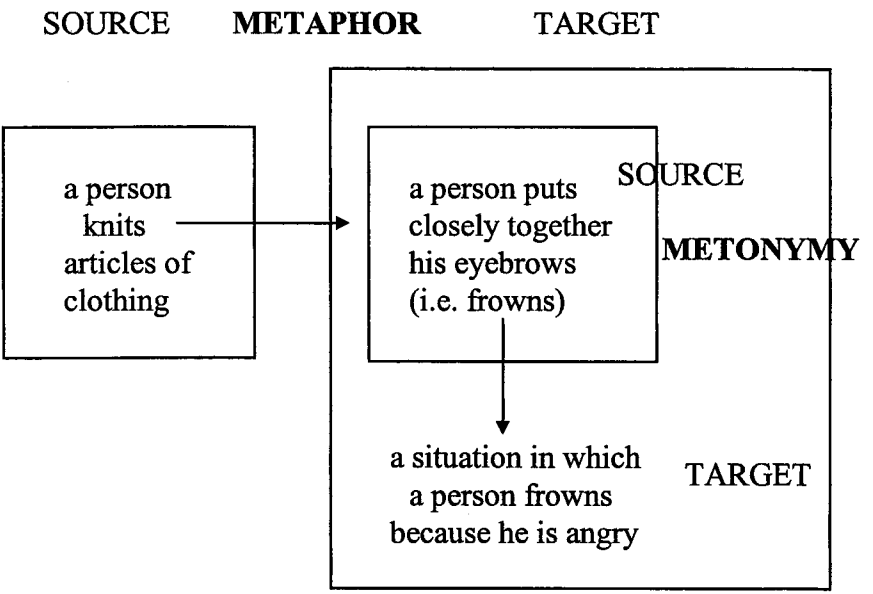

Figure 8. To knit one's brows

exploited in other expressions such as *to seal one's lips* 'to keep a secret' or *to knot one's stomach* 'to feel the stomach tight because of fright or excitement'[23]:

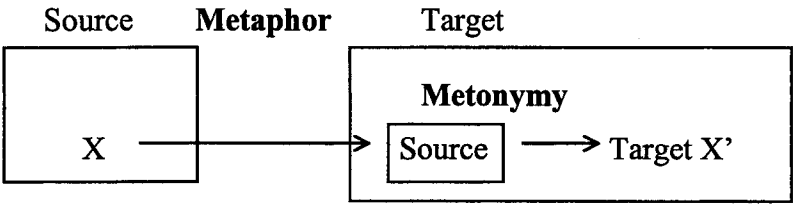

Figure 9. Metonymic expansion of a metaphoric target

23. Goossens (*363) has alternatively dealt with similar expressions as cases of "metonymy within metaphor." We contend, however, that, because of its domain-internal nature, metonymy is always subsidiary in conceptual interaction to metaphor, i.e., the metonymy always takes place within the source or the target domain of the metaphor. This is a logical consequence of the fact that in metaphor we find two discrete domains whereas metonymy only involves one domain. Thus, metaphoric mappings across domains provide a natural framework for the expansion and reduction processes to take place.

Let us now turn our attention to the metaphorical expression *She has won his heart.* This metaphor presents a subtle interactional difference with respect to *Peter knitted his brows.* In the source we have a person (the winner) who has performed the action of winning something. In the target we have a lover, courtship (or other love-related activities), and the heart, which is culturally understood as the seat of love feelings and metonymically as standing for such feelings. Since the metaphor does not focus on a whole situation but specifically on the object-heart correspondence, the metonymy works precisely on that correspondence, which is linguistically cued as the central one (i.e. the one which motivates the production of the central set of contextual effects), thereby allowing us to determine its interpretation (it is not the heart but the feelings that have been won). This situation is diagrammed below:

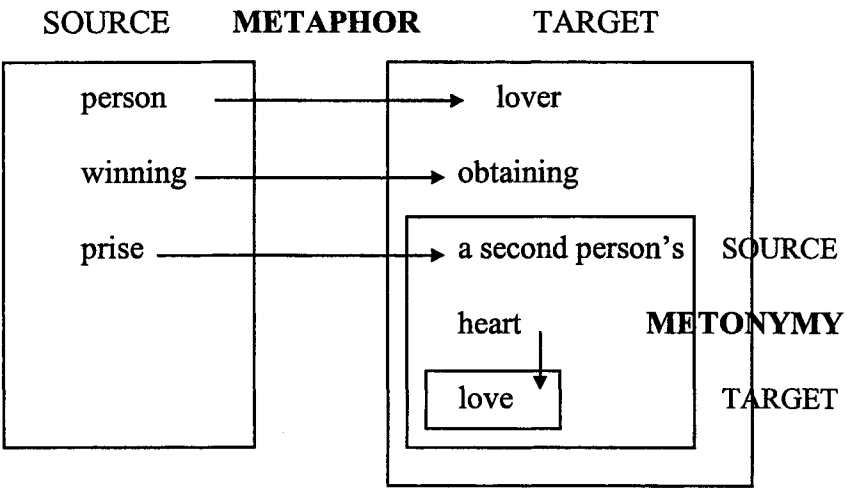

Figure 10. To win someone's heart

Note that the metonymy here is -unlike the metonymies in the two previous examples- one of target-source inclusion. Consequently it does not have the function of providing all the material necessary for the construction of a generic space, but rather of highlighting that part of its source domain (the feelings) which is relevant for the un-

derstanding of the metaphoric correspondence on which it operates (prise - heart). The generic space which licenses the metaphoric mapping is constructed on an independent basis in such a way that both in the source and in the target there is a doer, an action, and an affected entity.

This interactional possibility is frequently exploited by body part metonymies that express feelings (e.g. *to give your heart to someone, to break someone's heart, to have heart, to have stomach*, among many others). This is motivated by the fact that using the container metonymically to refer to what is contained inside it has an intensifying function, by bringing about a highlighting operation, that is, the metonymy cues as central the metaphoric correspondence it applies to. Besides, as in all target-in-source metonymies, the target domain (usually a feeling) is sometimes difficult to pin down adequately; thus, it is not easy to distinguish between closely connected feelings, and the more general notion of the container is preferred. All of these metonymies can be described according to the following schema:

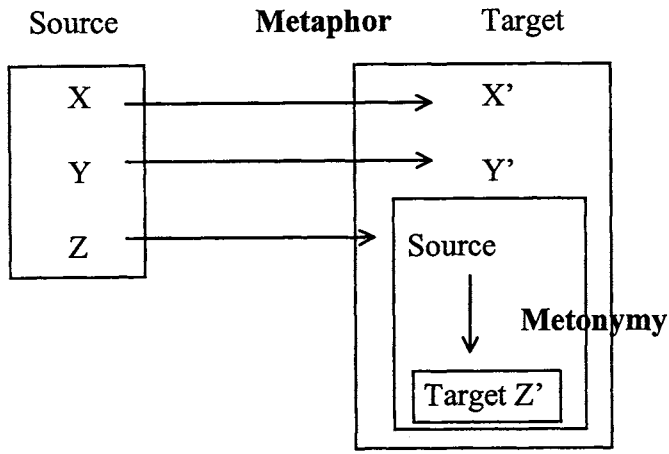

Figure 11. Metonymic reduction of one of the correspondences of the target domain of a metaphor.

Another of Goossens' (*364) examples of metonymy within metaphor is found in the expression *To catch someone's ear*. The situation

here is quite similar to the previous one, the only difference being the type of metonymic mapping. In this case the metonymy is of the source-in-target type: 'ear' stands for attention, which serves to highlight the sense that is mainly involved. Note that to 'catch someone's ear' means to listen, whereas to 'catch someone's eye' means to look at someone. The way interaction takes place in this expression is captured by Figure 12:

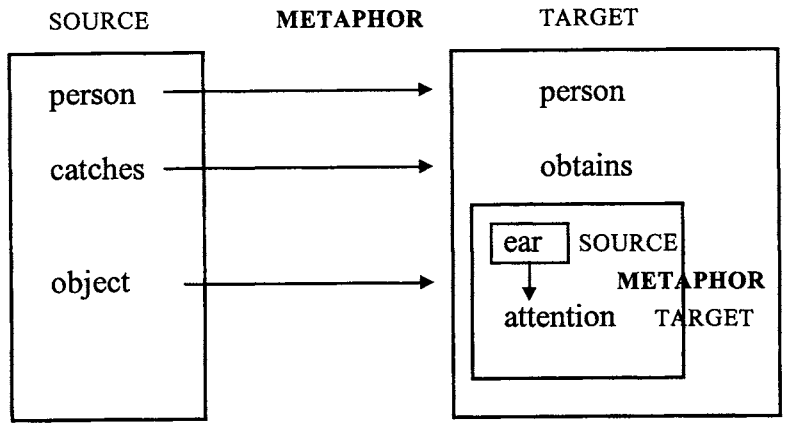

Figure 12. To catch someone's ear

This type of interaction has a twofold function: one, the correspondence where the metonymic mapping takes place is given more prominence than the other ones so that it becomes the most central in the metaphor; two, the function of metonymic expansion is to focus on a specific subdomain of the matrix domain (i.e. in these cases, the instrument used for carrying out the action). Therefore, in this interaction there exists a double highlighting process: one that is related to the role of the correspondence in the metaphoric mapping and another which has to do with highlighting a relevant feature of the matrix domain of the metonymy.

In interactional patterns of this kind, one of the correspondences of the target domain of the metaphor contains a metonymy of the

source-in-target type, as can be seen in the following Figure 13, which is an abstraction of Figure 12 above:

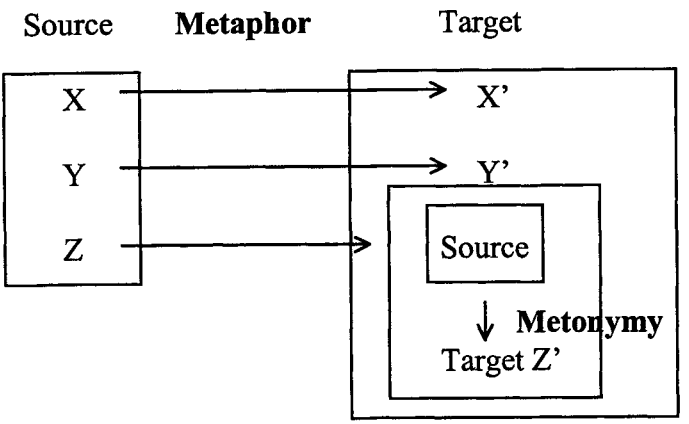

Figure 13. Metonymic expansion of one of the correspondences of the target domain of a metaphor

Finally, the last interactional pattern which we have found is exemplified in the expression *Don't bite the hand that feeds you.* Here, *biting* is mapped onto any action that hurts or goes against someone and *feeding* onto the action of helping or taking care of a person. Therefore, this utterance is a warning not to hurt the person that helps you. One of the correspondences within the metaphoric source is developed metonymically (HAND FOR PERSON) since it is the person as a whole that carries out the action of feeding. The choice of *hand* is connected to its role in the situation portrayed in the source domain. Thus, in the action of feeding an animal, the hand of the feeder has a prominent role (it takes the food and puts it near the animal's mouth...) which allows this body part to become the source of the metonymy to stand for the whole person. In short, the metonymy highlights the ability of the hand to become the instrument with which an action is carried out (i.e. you use your hands to feed someone). This is diagrammed is Figure 14:

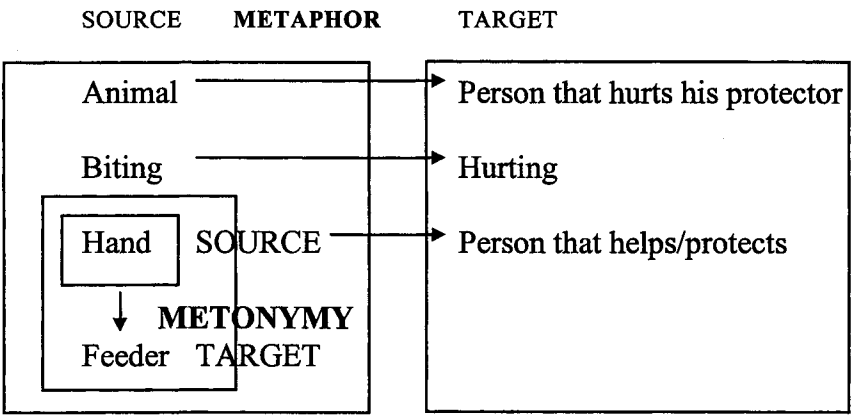

Figure 14. To bite the hand that feeds you

As Figure 14 shows, the source of the metonymy (e.g. 'hand') acquires a higher degree of prominence than both the rest of correspondences and the other body parts that may have a role in the activity. Accordingly, the function of the metonymy is to put into focus one of the correspondences in the activation of the source domain of the metaphor. This last pattern is diagrammed in Figure 15:

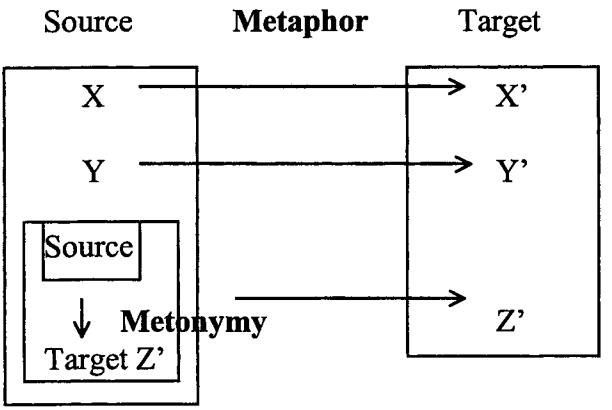

Figure 15. Metonymic expansion of one of the correspondences of the source domain of a metaphor.

To sum up our discussion in this section, conceptual interaction is possible on the basis of four basic patterns. If there is an image-schematic model, it serves as the source input space for the conceptual projection at issue. When the interaction is between non-generic models, if there is a metaphoric mapping, this mapping serves to regulate the projection from other input spaces. Also, the information from other cognitive models helps to determine the nature of the source or of the target and thereby provides access to the most central inference or set of contextual effects which is to be derived. When two metonymies work in combination, if they belong to the same type there is either a double process of expansion or of reduction.[24] We further observe that if as a consequence of a double metonymic mapping there are two matrix domains, the two are available for anaphoric reference. Finally, the interaction types proposed above limit the choices of conceptual projection, which provides the conceptual system with a specific use potential.

4. Conclusion

Studies on metonymy need to be based on a formal definition of this phenomenon which does not only describe its main features but also enquires into its internal nature. In this connection we have analysed some of the most interesting proposals in Cognitive Linguistics and have found that the only basic difference between metaphor and metonymy lies in the nature of the relationship between the domains involved. We have postulated the existence of two basic types of metonymy, source-in-target and target-in-source, each of which involves a different kind of cognitive operation. Additional evidence for the existence of these two types has been gathered from the study of anaphoric reference, which has been shown to work on the basis of

24. Notice should be taken that in cases of interaction between two metonymies there is no need to create a generic space that licenses the projection since the domain-internal nature of this mapping establishes the grounds on which the projection takes place.

a refined version of the Domain Availability Principle, first formulated by Ruiz de Mendoza & Pérez (2001).

We have also argued that conceptual projection is a cognitive activity subject to conceptual and pragmatic restrictions. We have identified at least the following restrictions: (i) consistency between input spaces, which calls for the creation of generic spaces which extract structure common to the input spaces and allow for sets of correspondences; (ii) the search for relevance, which determines that some contextual effects are more accessible and thereby more central than others and leads the language user to look for linguistic or conceptual cues for interpretation; (iii) interaction choices which serve as conceptual cues to derive central contextual effects. Among the interactional choices, we have examined four major possibilities: one, combining input spaces on the basis of the blueprint provided by an image schema; two, combining propositional models within metaphoric settings; three, combining two metonymies; and four, combining input spaces by building a metonymy into either the source or the target of a metaphor. These choices, which are not random, determine to a large extent the nature of much of our inferential activity.

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Converging evidence for the notions of *subscene* and *primary scene*[*]

Joseph Grady and Christopher Johnson

Abstract

In this paper we propose that in order to understand the motivations for certain linguistic patterns it is useful to parse experience into two new units, which we call *subscenes* and *primary scenes*. Certain facts about metaphorical language and about children's acquisition of grammatical constructions are most plausibly accounted for by appealing to units of experience (subscenes) that are much narrower than such familiar ones as *domains* – e.g. the perception of heaviness or straightness, the experience of hunger or of satisfaction, etc. Recurring, tight correlations between such fundamental, self-contained dimensions of subjective experience (i.e. primary scenes) give rise to primary metaphors. (While the correlation between literal elements of a scenario may underlie a metonymic conceptual relationship, truly metaphoric patterns of conceptual association may also result from such correlations.) And under some conditions children misinterpret linguistic signs as references to subscenes, presumably because they lack access to more complex representations.

Keywords: acquisition of metaphor, child language, conduit metaphor, conflation, constructions, correlation (in experience), deconflation, experiential motivation, primary metaphor, primary scene, subscene.

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* An earlier version of this paper appeared in the *Proceedings of the 23rd Annual Meeting of the Berkeley Linguistics Society*, February 14.–27., 1997, 123–136. At the time of this reprinting, Joseph Grady is a founding member of the cognitive consulting firm Cultural Logic, and Christopher Johnson is a computational lexical semanticist at AT&T Labs Research.

1. Introduction

The general question that forms the background to this paper is one that has interested many scholars over the years, including linguists, psychologists, philosophers, and others. This question concerns the role of our experiences in motivating features of language. A number of influential studies have proposed that certain categories of experiences – or their mental representations – are particularly significant in accounting for facts of language use and structure. Examples of these proposed ways of parsing experience into significant divisions include *experiential domains*, which play a central role in the conceptual metaphor theory of Lakoff and associates (Lakoff & Johnson 1980, Sweetser 1990, Johnson 1987, Lakoff 1987, 1993, Turner 1991, etc.), *prototypical events*, discussed in Slobin's 1985 study of the acquisition of grammatical categories, and Fillmore's (1968, 1982) *case frames* and *semantic frames*, which are important elements in several current theories of semantic representation. Each of these proposed constructs parses experience in ways which are relevant to language.

In this paper we consider two types of linguistic evidence for a pair of additional constructs of this general sort. By looking at facts about metaphorical language and about children's acquisition of grammatical constructions, we hope to show that our proposed units of experience, which we call *subscene* and *primary scene*, play a significant role in explaining aspects of linguistic and conceptual structure.

We begin by considering some aspects of metaphorical data.

2. Metaphorical evidence for subscenes and primary scenes

2.1. "Gaps" and primary metaphors

Conceptual metaphor theory, in research following Lakoff & Johnson (1980), is based on the notion of "mappings," i.e. systematic sets of metaphorical correspondences between concepts from different expe-

riential domains. Recent research suggests that the most important mappings underlying metaphorical thought and language have less detail and are more experientially basic than most of the mappings proposed in earlier work on conceptual metaphor. Consider the example THEORIES ARE BUILDINGS, taken from Grady et al. (1996). Sentences like those in (1) have been cited as evidence for a mapping between buildings (the "source" domain of the metaphor, i.e. the conceptual domain that provides the lexical material and inferential structure) and theories (the "target" domain, i.e. the conceptual domain to which source domain inferences are applied).

(1) a. You have failed to *buttress* your arguments with sufficient facts.
b. Recent discoveries have shaken the theory to its *foundations*.
c. Their theory *collapsed/caved in* under the weight of scrutiny.

However, there are crucial elements of buildings that are not conventionally mapped onto theories, even though these elements are integral to our experiences with buildings – a crucial point given the emphasis on experiential motivation within conceptual metaphor theory. When a central element of source domains has no counterpart in the target domain, we refer to a "gap" in the metaphorical mapping. Sentences like those in (2) are much less readily interpretable than those in (1), suggesting that the conceptual mapping underlying the expressions in (1) is not based on all (or perhaps even any) of the salient aspects of our typical experiences with buildings.

(2) a. ? This theory has no *windows*.
b. ? The *tenants* of her theory are behind in their *rent*.
c. ? I examined the *walls* of his theory.

An alternative analysis of the metaphoric conceptualisations underlying the sentences in (1) involves mappings at a much lower level of

conceptual elaboration and images that are much less rich and specific:

(3) a. PERSISTING IS REMAINING ERECT
b. ORGANISATION IS PHYSICAL STRUCTURE

These two minimal mappings motivate figurative language about target concepts other than theories, and are not restricted to source terms from the semantic area of buildings. For instance, the examples in (4) are licensed by (3a) and (3b) respectively:

(4) a. This situations will not *stand.*
b. Society seems to be *unravelling.*

The interaction of (3a) and (3b) allows references to the *collapse* of a theory, and so forth, since theories (like political regimes, grammatical systems, and other non-physical organisations of linked elements) can be understood as erect physical structures. Data sets licensed by mappings at this level, which Grady (1998) calls "primary metaphors," do not show gaps of the sort illustrated in (2).

2.2. Experiential motivation for metaphors

Another advantage of the primary metaphor analysis is that it comes closer to explaining why the domains involved in the metaphorical expressions in (1) are related to one another. That is, it addresses the issue of experiential motivations as the bases for metaphorical conceptualisations. While there is no plausible basis for forming a strong cognitive association between theories and buildings per se, we can construct a reasonable account of how the mappings in (3) might arise through experiential correlations. (Note that experiential correlation as a basis for metaphor is quite distinct from such traditional motivations as similarity and "ground," which refer to shared properties as opposed to a shared context.) These mappings can plausibly

be traced to recurring experiential scenarios, or "primary scenes,"[1] in which experiences associated with the source and target concepts co-occur in tightly coherent and predictable ways. Figure 1 sketches the primary scene that may motivate the conceptualisation of the organisation of an abstract entity – i.e. the relevant complex of internal causal relationships – as physical structure:

	Participant 1	**Participant 2**	**Nonparticipant**
Subscene 1: Physical manipulation of complex object	Person who manipulates object	Complex, structured physical object	
Subscene 2: Formation of mental representation of object's organisation	Person who forms cognitive representation of object	Mental representation of object's (logical) organisation	
(Perception of object's colour)	Perceiver of colour		Colour of object

Figure 1. Primary scene: manipulation of a complex object

The figure represents the simple experience of manipulating a complex physical object as consisting of two distinguishable experiential components, or "subscenes." Participant 1 in each subscene is the same person, in the roles of physical manipulator and conceptualiser, respectively. Participant 2 is the structured object itself in one case, and in the other the mental representation of the relationships holding within the object. The two dimensions of the total experience that defines these different roles for the two participants unfold simultaneously. From the point of view of the person in the scene (Partici-

1. We refer to these experiences as primary scenes because they are basic structures from which more complex conceptualisations arise.

pant 1), there is a strong association between manipulating the object and forming an understanding of its structure, since the latter is causally dependent on and temporally correlated with the former. An additional aspect of the overall scene – the potential for the person to be aware of the object's colour – is included as a reminder of the fact that any actual experience involves innumerable details to which we could potentially attend; only certain dimensions of these experiences are linked in ways which give rise to entrenched metaphoric associations.

We can construct similar figures to illustrate the scenes that motivate the following primary metaphors:

(5) a. ACHIEVING A PURPOSE IS ACQUIRING A DESIRED OBJECT
b. BECOMING ACCESSIBLE TO AWARENESS IS EMERGING FROM A CONTAINER

These primary mappings underlie data such as the following, which has previously been analysed as evidence for a complex "Conduit Metaphor" for communication (Reddy 1979)[2]:

(6) a. I didn't *get much out of* this article.
b. There's very little *content in* this paper.

The two independently-motivated, simpler mappings merge into a single metaphorical pattern which allows us to conceptualise the information we hope to obtain from a linguistic text as an object held in a container. (For more detailed discussion of such cases, and critique of Reddy's analysis, see Goossens 1994 and Grady 1998.) The Conduit Metaphor – which on Reddy and others' analyses involves a mapping between sending objects in packages (source) and linguistic communication (target), shows gaps like those illustrated in (2) for the theories-as-buildings metaphor: we cannot typically speak of *envelopes*, *boxes* or *couriers*, or of acts of *sealing* when referring to simple communicative processes.

2. For further details of the recent, decompositional analysis, see Grady (in press).

Figure 2 indicates the type of recurring scene which could give rise to the association in (5b). This diagram refers to the temporal coincidence of processes in the domains of perception and knowledge. Here X represents the object of perception and X' represents knowledge associated with X as a perceptual stimulus.

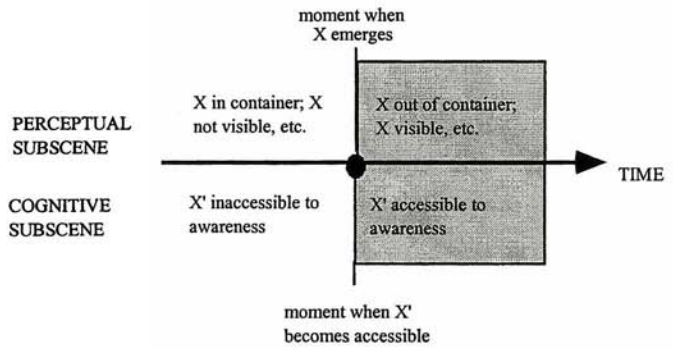

Figure 2. Primary scene: emergence of object from container

We experience scenes like the one schematised in Figure 2 many times each day – whenever we perceive something in our environment as it emerges from a containing space – and the association between the perceptual and inferential aspects of such scenes is likely to be very well established in our cognitive structure.[3]

It would be possible to give many more examples like the ones already discussed in this section. For instance, a primary metaphor along the lines of ACCEPTING IS SWALLOWING – where "accepting" means offering no resistance to a proposed claim, or to some event or situation – is motivated by a recurring event type involving an emotional/intentional subscene as well as a physical one. We experience this correlation every time we consciously swallow something (and this is certainly one of children's first experiences with accepting vs. rejecting what the world offers them).

3. For a detailed discussion of the metaphorical mappings involving "emergence" as a source domain, see Morgan 1997.

To summarise the proposal of this section, primary metaphors are motivated by tight correlations between distinguishable dimensions of recurring, locally defined experience types. We refer to these dimensions, which unfold dynamically over very brief time spans, as subscenes. (Note that because subscenes are co-occurring aspects of simple scenarios, our account might be taken to suggest that primary metaphors arise from metonymies; it is important to consider, however, that a metonymic relationship concerns conceptual and referential association, whereas our proposal refers to correlations at the level of experience, and to truly metaphoric patterns of conceptualisation which arise from these correlations.)

3. Acquisitional evidence for subscenes

In this section we consider the apparent role played by subscenes in semantic acquisition. It is argued that young children tend to map linguistic forms onto aspects of learning contexts that can be described in terms of subscenes. In particular, they tend to associate predicating words and phrases either with primary scenes – the tight correlations of subscenes which serve as the basis for primary metaphor – or with individual subscenes. We first take a brief look at data pertaining to each of these two situations.

3.1. Mapping forms onto primary scenes

There is evidence that some linguistic expressions with conventional metaphorical uses are initially associated by children with scenes that conflate their literal and metaphorical meanings; this idea is termed the "Conflation Hypothesis" in Johnson 1999. For example, consider the following sentence from Clark's (1982) Shem corpus, from the CHILDES archive (see MacWhinney 1995). This sentence was uttered by an adult to a child in response to the child's request for a toy:

(7) Oh, I see what you wanted.

This sentence can be interpreted in a literal, visual way as making a statement about the speaker's visual experience (seeing the object that the child sought). It can also be interpreted metaphorically as making a statement about the speaker's new state of awareness (understanding the child's desire). Under the latter interpretation it is an example of the UNDERSTANDING IS SEEING metaphor (Lakoff & Johnson 1980, Sweetser 1990). These are mutually compatible interpretations of the kind discussed in Norvig (1988). That is, it is not necessary for a hearer to choose between them in order to make sense of the sentence. From our perspective, this can be explained by the fact that the two interpretations correspond to different subscenes of the same coherent primary scene. One subscene is a physical act of perception, and the other is a change of awareness. The primary scene that brings them together is in fact quite similar to the one described in Figure 2:

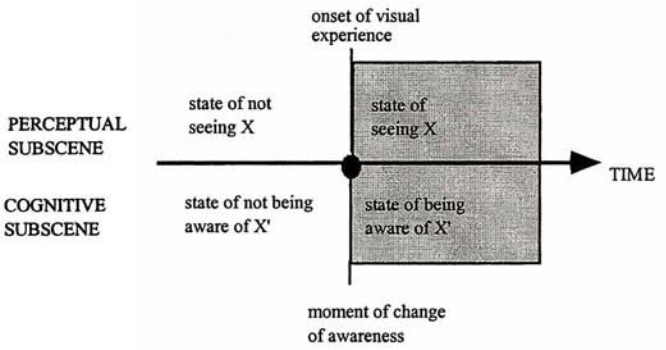

Figure 3. Primary Scene: Becoming aware by seeing

There is a specific linguistic property of (7) which makes it amenable to interpretational overlap. Not only does it include a polysemous verb, but it also includes a complement that can be analysed in two different ways: either as a free relative clause referring to an object, or as an embedded interrogative clause denoting a proposition or

piece of knowledge. These analyses correspond to participants in the perceptual and mental subscenes, respectively (i.e. X and X').

Due to this combination of semantic and formal properties, the interpretational overlap shown in example (7) can be a property of a variety of expressions of the form *see* + Wh-clause, provided they occur in contexts characterised by primary scenes like the one in Figure 3. In Johnson (1999) it is shown that such contexts are very frequent in adult speech to children, and that children produce evidence of mapping this expression type, as a lexical construction, onto the primary scene as a whole. If this is the case, then the child's process of learning to use such expressions metaphorically is a matter of differentiating the cognitive and perceptual subscenes in the semantic representation, rather than extending the expression on the basis of a more complex mapping. This allows for simple learning of metaphorical senses on the basis of positive evidence (Johnson 1997b).

3.2. *Mapping forms onto subscenes which are parts of complex scenes*

Subscenes can be seen to play a somewhat different role in the acquisition of a semi-idiomatic construction called the "What's X doing Y?" construction, or "WXDY" (see Kay & Fillmore 1994, Sag 1996). This construction superficially resembles Wh-questions about activities. However, it does not denote anything about activities. Consider the following example:

(8) What is this scratch doing on the table? (Kay & Fillmore 1994)

This sentence seeks an explanation for the fact that there is a scratch on the table. The word *doing* does not denote an activity. Rather, what is important is the predication holding between the phrase right after *doing* (the Y phrase – in this case *on the table*) and the subject of *doing* (the X phrase – in this case *this scratch*). The construction conventionally expresses that this described state of affairs requires an explanation.

In Johnson 1997a it is argued that children initially treat instances of this construction as normal Wh-questions. These interpretations are motivated by a class of expressions which allow interpretational overlap, and expressions of this type are common in adult speech to children. Consider the following:

(9) What are you doing with that knife?

This sentence can be interpreted either as a literal question about an activity, or as an instance of the WXDY construction, indicating the incongruity of the addressee's holding a knife. The difference between the two interpretations depends on whether the phrase *with that knife* is interpreted as an Instrumental associated with an activity, or as a possessive *with*, as in

(10) She stood in the doorway with a knife.

Both interpretations can be entertained simultaneously because, in order for a person to be performing an activity with a knife, they must typically be holding a knife. That is, the relatively complex scene of a person using an object in order to perform an action typically includes the simple subscene of a person holding the object.

In order to allow interpretational overlap like this, WXDY expressions must have Y constituents which can be construed as predicates on events or as predicates on individual participants in events. This is a property of *with*-phrases, as we have seen, and also a property of Locative expressions:

(11) What are you doing in my room?

Like the *with*-PP discussed above, this Locative PP has two possible interpretations: it can be construed as denoting the location of an activity, or simply the location of the addressee. With both the Locative and the *with*- PPs, one available interpretation is relatively complex (location of an event, using an object instrumentally to perform an action) and one is simple (location of a person or thing, physical pos-

session of an object). The simple interpretations correspond to what we call subscenes.

There is evidence that young children have a preference for attributing subscene interpretations to PPs. Johnson (1997a) discusses data from the Shem corpus on the child's utterances having the same form as the WXDY construction. Despite the fact that the child hears examples of such sentences with many different kinds of Y phrase, the child produces examples only with Y phrases that are Locatives or *with*-PPs – that is, only with Y phrases for which subscene interpretations are available.

4. Further characterisation of the notion of *subscene*

4.1. A more detailed characterisation of primary scenes *and* sub scenes

We view primary scenes and subscenes as the products of humans' innate tendency to "chunk" experiences in certain ways. Because they are the result of built-in ways of chunking experience, they reveal themselves in our conceptualisations and linguistic encodings of experience. Below are more detailed discussions of the properties which we attribute to primary scenes and subscenes.

Temporal locality

Implicit in the idea of chunking experience is one of the most important properties of both primary scenes and subscenes: *temporal locality*. By this we mean that, as experience-types and dynamic conceptualisations, they can unfold in their entirety over a very short time span – speaking intuitively, these experiences can be registered in an instant. Scenes which take longer to unfold necessarily involve the experience of multiple, differentiated states or events.

On the other hand, we do not mean that primary scenes and subscenes must be inherently delimited – i.e. they need not have natural endpoints or culminations, and they need not be instantaneous (or "punctual") events. In fact, they need not involve change over time.

For instance, the primary metaphor UNINTERESTING IS FLAT may be partly motivated by a subscene in which we merely observe a flat surface and find no remarkable textures or depth variations to attend to. Aside from the process of *scanning* (see Langacker 1987) there is no dynamic activity or change inherent in such a scene. A subscene like "observing flatness" would be *imperfective*, in Langacker's (1987) sense, meaning that it would be conceived as involving no change. It also would not be delimited by an inherent beginning or endpoint. Although the flatness relation is temporally unbound, the instantiation of the subscene (of observing flatness) could take place in an instant, precisely because there is no change to register, no complex sequence of states or events involved. In short, a moment within an undifferentiated succession of such moments can be the basis for a subscene or primary scene; in any given instant there is correlation between flatness and the lack of stimulus of a certain kind.

Causal simplicity

The property of temporal locality is closely related to another important property of subscenes: *causal simplicity*. The notion of causal simplicity or directness has played a role in various discussions of lexical vs. phrasal causatives (Fodor 1970, Lakoff 1977, Dowty 1979, etc.). Croft (1991) defines an *atomic event* as one involving only a single type of causation and a single aspectual type. It seems that all subscenes, if they involve change, count as atomic events in Croft's sense. However, primary scenes do not count as atomic events, because the causal properties of primary scenes are more complex.

In fact, Croft's typology of causation can shed some light on what makes primary scenes special. He recognises four types of causation: physical (typified by "billiard ball" causation between two inanimate objects), volitional (or mental-to-physical causation, e.g. moving one's arm intentionally), affective (or physical-to-mental causation, e.g. being frightened by a loud noise), and inducive (or mental-to-mental causation, e.g. persuading someone of the truth of a proposition). One interesting feature of the division of a primary scene into

subscenes is that it crosscuts the causal structure of the primary scene. For example, consider the primary scene hypothesised to characterise children's early understanding of the *see* + Wh-complement construction, illustrated in Figure 3. In each subscene there is a moment (represented as a dot on the temporal line) when one state changes to another. These moments are simultaneous because they correspond to what can be viewed as a single causal event: light carrying the information of a visual scene hits the retina and the scene enters the seer's consciousness. This event can be construed as an instance of physical causation or of affective causation, because the person who sees can be construed as either a physical or a sentient being. A cause in the physical subscene has an effect in both the physical and the mental subscenes. Therefore the mental subscene has the same temporal structure as a simple physical event by virtue of being causally connected to a simple physical event.

Subscenes and primary scenes as constraints on lexicalisation in acquisition

The discussion of the causal structure of primary scenes suggests a way in which they help children encode abstract concepts linguistically. Various researchers have made proposals about what types of events and relations children might tend to encode first. For example, Clark 1993 suggests that children use a "whole-action" assumption in mapping meanings onto verbs, similar to the "whole-object" constraint proposed for children's early noun meanings (Markman 1989). Suppose, as was suggested in the discussion of *with*-phrases and the WXDY construction, children have an innate tendency to encode what we have called subscenes. This would not be surprising, given the properties we have attributed to subscenes. The causal simplicity and temporal locality of subscenes would tend to make them maximally individuable as eventualities in the child's experience. Furthermore, the temporal locality of subscenes would tend to make them relatively available for ostension. That is, assuming children in the early stages of acquisition tend to map forms onto aspects of the immediate context in which they hear the forms, it is natural that they

would map words for states and events onto those that are temporally local in the utterance contexts.

Primary scenes can then be regarded as providing the child with special opportunities to linguistically encode relatively abstract meanings, since in primary scenes, abstract subscenes share the simple temporal and causal properties of physical subscenes.

4.2. Theoretical context: Other hypothesised units of meaning and experience

In order to provide a fuller understanding of how we conceive subscenes and primary scenes, in this section we briefly compare them with several other theoretical proposals regarding ways of parsing experiences into units relevant to language and conceptualisation.

Metaphor domains: It should be clear from the foregoing discussion that subscenes are quite different from the *domains* of conceptual metaphor. One clear difference is that there are many different types of events and scenes which make up our experience with any particular domain, whether it is a richly elaborated domain such as travel or a relatively schematic, unidimensional domain such as vertical elevation. In the latter case, for instance, we have experiences with lifting objects, lowering objects, ascending or descending staircases, observing that certain actions are easier or harder depending on our relative elevation (e.g., being able to better observe a scene from a raised position), and so forth. Subscenes cross-cut rich domains – since entities emerge from containers whether we are travelling, cooking, or fighting, for instance – and combine to inform our understandings of even narrowly defined domains.

Semantic primitives/atoms: Subscenes have something in common with semantic primitives or atoms – as discussed for instance by Katz & Fodor (1963), Wierzbicka (1972), Norman, Rumelhart et al. (1975), and Schank (1975) – in that subscenes are conceived as irreducible units. They are units of experience, however, rather than semantic representations per se. Furthermore, a semantic atom like CAUSATION (Norman, Rumelhart et al.) is not equatable with a sub-

scene, even if we are permitted to understand it as a component of experiences, as opposed to stored representations. This is because causation is a phenomenon which inheres in all sorts of scenes which we participate in. Lifting a book, heating a cup of coffee, and informing people of news (i.e. causing them to know it) are all instances of causation, yet there is no self-contained component shared by all these experiences; when we observe causation we are necessarily observing some additional detail(s) of a scene, for instance that lifting, heating, or changes in knowledge states are involved. Causation, therefore, is more schematic as a concept than any particular subscene. The schematicity of subscenes is constrained not by our ability to perform logical decompositions of concepts – e.g., into causation plus other elements – but by our ability to consciously attend to aspects of experience.

Schematic concepts: Like certain accounts of semantic atoms, Ron Langacker's discussions of *schematic* concepts such as "extensionality" and "abstract motion" (e.g., 1987: 169–170) present a picture which differs from our characterisation of subscenes in that the schematic concepts include less detail. For instance, abstract motion includes "reciting the alphabet" as well as the process of milk going sour (170). This category of events (as construed by a human conceptualiser) is broader than any category defining a subscene could be. Events which Langacker would categorise as instances of abstract motion would constitute distinct subscenes, in a way parallel to those involving CAUSATION, as discussed above.

Prototypical events: Slobin's (1985) *prototypical events* – including "object manipulation" and "transfer" – are also slightly more schematic than subscenes, since object manipulation, for instance, could include grasping, pushing, squeezing, pulling apart, etc., each of which would be a distinct subscene; we cannot, in real-time, attend to a process of object manipulation without being aware of additional details of the process. (Note that we can attend to an act of squeezing without attending to various other details of the overall scene, such as whether we are standing or sitting, the colour of the object, what the purpose of the squeezing is, and so forth.)

Semantic frames and mental spaces: Subscenes are distinguishable from various other theoretical constructs on the basis that subscenes are more narrowly constrained, and by definition may include less detail. For instance, *semantic frames* (Fillmore 1982) may include richly elaborated scenarios and bodies of cultural background knowledge, such as are involved in the restaurant dining frame. *Mental spaces* (Fauconnier 1985) too can be quite rich in detail – e.g., the space evoked by a phrase like *in the Impressionist painting hanging above my uncle's love seat.* Another imprint property which distinguishes subscenes from mental spaces is the grounding role played by subscenes in conceptual structure. While mental spaces may include counterfactuals, unreal entities and impossible scenarios, subscenes are by definition components of actual experiences, and primary scenes involve tight, literal correlations between these dimensions of experience.

Image schemas and basic-level categories: These are two other types of theoretical entities which bear comparison with subscenes, since they are conceived as fundamental units in terms of which we understand experience. In the limited space we have here it is impossible to do anything more than point out some possible distinctions between subscenes and these cognitive structures. Based on published accounts, image-schemas can be distinguished from subscenes on the basis that they can include such static representations as "a flat bounded planar space" (Turner 1991: 57) and because there can be many subscenes which make up our experience of a given image-schema. (See, for instance, Johnson's discussion (1987: 21–23) of the extremely varied scenes which involve types of containment.) Basic-level categories (Brown 1958, Rosch 1975, etc.) have only received substantial treatment as categories of objects, rather than experiences; DOG is an instance of a basic-level category for most speakers of American English, but clearly not an instance of a subscene. It might be interesting, however, to consider whether a basic level of activities could be described in terms of subscenes. (For a brief reference to the possibility of defining basic-level activities, see Lakoff 1987: 271.)

5. Conclusion and prospect

Based on evidence from children's acquisition of semantic structure and from metaphorical language – both the particulars of data and the possibilities for accounting plausibly for the data – we conclude that experiences at the level of the subscene are very relevant to conceptualisation and the linguistic forms that follow from particular conceptualisations. Representations with a minimal level of complexity, and constrained to very local temporal and causal frames, are apparently at work behind metaphoric mappings and at least some semantic structures formed by children as they acquire English. Key to the characterisation of subscenes is that they appear to be at the lowest level of cognitive processing to which we can consciously attend – that is, they are self-contained dimensions of subjective experience.

We speculate that subscenes may prove useful as analytic units in many areas of language study. For instance, they may help account for cross-linguistic differences in the organisation of important semantic domains, such as spatial relations. Choi & Bowerman's (1991) study of Korean acquisitional data and Talmy's (1983) study of Atsugewi spatial suffixes illustrate the fact that spatial concepts which seem basic to English-speakers (e.g., containment) do not play a distinct part in all grammatical systems for representing space. It may be the case that subscenes define the most basic units for organising the spatial domain, and that more general concepts such as containment are well-motivated but non-universal generalisations over more particular relations. These relations inhere directly in particular experience types (i.e. subscenes). Different languages might then sort these more specific concepts in various ways.

In language acquisition, we can speculate that the tendency for young children to map forms onto subscenes and primary scenes is a universal. If this is the case, then the phenomenon observed in the child's interpretations of the WXDY construction should reflect a more general phenomenon concerning children's interpretations of

Instrumentals[4] in other contexts. This means that, in other languages in which the Instrumental has the same form as a "possessive" marker, we would predict that the possessive meaning would be learned first, since it corresponds to a subscene. In languages in which the Instrumental does not share a form with a possessive marker, we would expect the Instrumental to be learned relatively late, because it is characterised by a complex scene involving the relation between an object, a person and an activity (see Jackendoff 1990).

Subscenes and primary scenes may also contribute to explanations of historical semantic change. Primary scenes, we claim, are the kinds of correlations in experience which are the most likely to result in compatible but distinguishable construals of situations and events. They may therefore be significant factors in semantic/pragmatic reanalysis (see, e.g., Traugott 1988).

In conclusion, we feel that the notions of *subscene* and *primary scene* have an important foundational role to play in cognitive approaches to semantic structure, and they may serve as the basis for analysis and predictions in a number of subfields of linguistics.

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Blending the past and the present: Conceptual and linguistic integration, 1800-2000*

Brigitte Nerlich and David D. Clarke

Abstract

This article retraces the forgotten history of a theory of metaphor and blending. Such a theory has its roots in various philosophical, linguistic and psychological reflections on metaphor production and comprehension which stretches (at least) from Locke's recognition that our basic mentalistic concepts are metaphorical to Bühler and Stählin's psychological and experimental work on metaphorical blending in the 1930s. These early theories were forgotten after the positivist turn in psychology and the structuralist turn in linguistics. Analysing these beginnings of a theory of blending might give modern theories firmer roots, roots that might prevent them from being swept away by the next wave of positivism and reductionism.

Keywords: blending, conceptual domain, conceptual integration, conceptual metaphor, cognitive linguistics, figure, *Gestalt*, history of ideas, integration, mental space, projection, schema, selectivity, semantics, verbal metaphor.

> *Meanings are not mental objects bounded in conceptual places but rather complex operations of projection, binding, linking, blending, and integration over multiple spaces.*
>
> *(Turner 1996: 57)*

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1. Introduction

1.1. The two-domain model of blending

In 1980 George Lakoff and Mark Johnson published their seminal book *Metaphors We Live by*, in which they introduced two important new concepts that revolutionised cognitive linguistics: 'conceptual metaphor' and 'conceptual domain.' They defined conceptual metaphor as carrying a structure from one conceptual domain (a "source") to another (a "target"). Conceptual metaphors, such as LIFE IS A JOURNEY, ARGUMENT IS WAR, or HAPPY IS UP are said to integrate our conceptual domain knowledge of arguments (the target domain) and wars (the source domain) (the concepts of 'domain,' 'domain highlighting' and 'domain mapping' are extensively discussed in this volume, but see in particular Croft*).

Our knowledge of conceptual metaphors is tapped every time when we create what – in contradistinction to 'conceptual metaphors' – one could call 'verbal metaphors.' Examples are: *I have come to the end of the road, my life is not worth living any more*; *She bombarded him with arguments*; *His spirits soared.*

A 'conceptual domain,' such as our knowledge of war, refers to a vast organisation of knowledge. It has a basic structure of entities and relations. As Mark Turner has pointed out, the conceptual domain for JOURNEY, for example, has roles for traveller, path, origin, destination, and so on.

The mapping process, both from conceptual source domain to conceptual target domain, and from conceptual metaphor to verbal metaphor, is constrained by our knowledge of *image schemata*, as well as by cultural knowledge, that is, knowledge of certain situational and cultural 'frames.'

The concept of 'image schema' was the focus of Johnson's 1987 book *The Body in the Mind*, where he gives the following definition: an "image schema is a recurring, dynamic pattern of our perceptual interactions and motor programs that gives coherence and structure to our experience." (Johnson 1987: xiv). An example is the VERTICALITY schema, which emerges from our tendency to employ an UP-

DOWN orientation in picking out meaningful structures of our experience, and which underlies the conceptual metaphor HAPPY IS UP and the verbal metaphor/idiom *I am on cloud nine*. This notion of image schema, as mediating between perception and conception and as integrating conceptual domains (the source and the target domains), emerged from a criticism of Immanuel Kant's concept of 'schematism' introduced in the *Critique of Pure Reason* (1781 [1968]), a concept that itself goes back to the Greek word σχημα (schema), the root of the term 'figure' (of speech) (see Turner 1998).[1] Whereas in Kant schemas were conceptual, in Johnson they are seen as pre-conceptual. However, the relation between conception and perception has been maintained.

In Kant's philosophy, the function of a schema is to provide a picture of a pure concept which functions as a bridge between perception and cognition. Schemata are the products of our productive imagination. They are the means of establishing a relation between concepts and objects, that is, of creating meaning, in the sense of establishing a relation between an object and a concept.[2] However, during the 19th century opponents of Kant, such as Johann Gottfried Herder and Johann Georg Hamann, who wanted to put language back into reason, that is, un-purify it, declared that some aspects of language *itself* are a schematism for reason and thought. Towards the end of the 19th century, metaphor assumed the role of schema, as we shall see. Towards the end of the 20th century abstract reason was regarded by some, such as Lakoff & Johnson (1999), as metaphorically grounded and as ultimately rooted in embodied imagination.

One should also point out that the modern concept of image schema is rooted in German Gestalt psychology, which again had an enormous influence on early thoughts about blending in the first part of the 20th century. As Suzanne Romaine has pointed out in her review of Johnson's book:

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1. Cf.: http://www.wam.umd.edu/~mturn/WWW/figure.WWW/fcframe.html).
2. "Also sind die Schemata der reinen Verstandesbegriffe die wahren und einzigen Bedingungen, diesen eine Beziehung auf Objekte, mithin *Bedeutung* zu verschaffen, ..." (Kant 1781/1978: B184/A145-B185/A146).

> Image schemata are gestalt structures consisting of parts standing in relations and organized into unified wholes. Johnson emphasizes two aspects of image schemata: one is their non-propositional analogue nature and the other is their figurative character as structures of embodied imagination. (Romaine 1990: 687)

1.2. The many-space model of blending

In 1994, Gilles Fauconnier and Mark Turner replaced Lakoff and Johnson's two-domain model of conceptual integration (between source and target domain) by a many-space model (Fauconnier & Turner 1994; Turner & Fauconnier 1995; Turner & Fauconnier*). They argued that "the two-domain model is actually part of a larger and more general model of conceptual projection," and they called this new model the "many-space" model.[3]

Both the earlier two-domain model and the later many-space model of conceptual integration are part of ongoing research into blending (see Coulson & Oakley, eds. 2000). The most widely disseminated definition of blending can be found on Turner's web-site (http://www.wam.umd.edu/~mturn/), as well as in many of his articles and will therefore be reproduced here as the standard definition:

> Conceptual blends arise from conceptual integration. ... In blending, structure from input mental spaces is projected to a separate, "blended" mental space. For example, in "They are digging their financial grave," there is projection from one input of gravedigging and another of financial investment. In "This surgeon is a butcher," there is also projection from two input spaces. In both cases, the central inference is constructed in the blend. The projection is selective. Through completion and elaboration, the blend develops structure not provided by the inputs.

Four concepts are central to this definition: *mental space*, *projection*, *selectivity*, and *integration*. We shall encounter these concepts again later on when reviewing some historical antecedents to this proposal.

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3. See http://www.uoregon.edu/~rohrer/turner.htm.

The term 'mental space' was first introduced by Fauconnier in 1985 and is now used more and more by cognitive linguists. Unlike 'conceptual domains,' which can cover vast arrays of knowledge, mental spaces are smaller and feed on more local and, to some extent, ephemeral knowledge (see Fauconnier 1994). They allow us to construct the meaning of texts in contexts using pragmatic and linguistic indicators. As earlier psychologists of language, such as Wegener and Bühler would have put it (see below), they allow us to integrate linguistic knowledge and conceptual knowledge with knowledge derived from both the *Kultursituation* and the *Sprechsituation* and so to achieve what Taylor (*325–326) calls contextual modulation.

The following remark made by a young man in the 1998 *ITV* series *Where the Heart Is* can serve as an example. Envious of his friend, who is more outgoing and more 'lucky with the girls,' he tells a new acquaintance: "He thinks the whole world is his own private 'Disney Land' and everybody else is there to play Goofy." In this case our knowledge of 'Disney Land' and about 'Goofy' is projected onto the life of an outgoing and quite arrogant young man. To understand the projection, we have to know what 'Disney Land' is and who 'Goofy' is, something quite different from our knowledge of the more abstract conceptual domain of, say, 'journeys.'

Turner and Fauconnier also point out the main difference between their new many-space model and the two-domain model, a difference that sets this model apart from the majority of the historical antecedents discussed below, which, for the most part, operate with the more parsimonious two-domain concept of blending.

> The many-space model assigns roles to the two input spaces ("source" and "target" in a metaphor or analogy) but also to two middle spaces – a generic space – which contains skeletal structure that applies to both input spaces – and a blended space – which is a rich space integrating in a partial fashion specific structure from both of the input spaces. The blended space often includes structure not projected to it from either input space.

1.3. The 'conditions of possibility' for the emergence of theories of blending

How did these new conceptions of 'metaphor' and conceptual blending come about? For theories of blending to develop a few pre-conditions must be fulfilled:

- The view that language is a mere instrument for the representation of thought has to be replaced by a view according to which thought and language are intricately linked up with one another, and according to which they structure each other mutually.
- The view of word meaning as being based on a one-to-one fixed mapping relation between a word and a well-defined object or concept must be abandoned for a view of meaning as having fuzzy boundaries, as being elastic and context-sensitive.
- The view of word meaning as pinpointing a real or ideal object or concept must be replaced by a view of word meaning as delimiting a roughly drawn and changeable 'area of meaning(s).'[4]
- The view that sentence meaning is the sum of the meanings of the words used in the sentence must be replaced by a view of sentence meaning as being the result of integrational and inferential processes feeding on clues other than those contained in the meaning of each word in isolation, that is, clues arising from the co-text of the sentence and the wider context of the situation of discourse.
- The view that (words and) sentences can be understood in isolation must be replaced by the view according to which a sentence can only be produced and understood in a hierarchy of contexts, including the situation of perception, memory, discourse, and culture.
- The view that there is a radical distinction between the literal and metaphoric in grammar and semantics has to be replaced by the

4. A sign near a pond saying "No swimming," can mean various things to various people, such as 'Don't swim in this pond, it's too dangerous,' or 'Ok, swim here if you like, but don't think we didn't warn you,' but it can't mean 'The cat sits on the mat' – that would be outside the roughly drawn area of meaning outlined by this sign.

view that language (and thought) are metaphorical through and through.

All these 'new' approaches to word and sentence meaning were explored during the 19th and early 20th centuries, and are not just the outcome of a critique of modern objectivist, componential, compositional, and truth-conditional semantics.[5] However, it was only by opposing itself to such theories of meaning, that the new cognitive semantics (as opposed to its 19th-century predecessor) could become a new paradigm.

2. The philosophical roots of the concept of 'blending'

Since Antiquity, the figures of speech have been studied in rhetoric; they have been listed, defined and memorised, but they played only a small role in mental philosophy. All this changed after John Locke (see Oosthuizen Mouton, in prep.). Like Francis Bacon before him, Locke had still regarded metaphors as "perfect cheats," because they obscured the link between words and ideas and hindered the unimpeded flow of information between language users (Smith 1997: 34). However, he couldn't help but observe the following fact:

> It may also lead us a little towards the Original of all our Notions and Knowledge, if we remark, how great a Dependence our Words have on common sensible Ideas; and how those, which are made use of to stand for Actions and Notions quite removed from sense, have their rise from thence, and from obvious sensible Ideas are transferred to more abstruse Significations, and made to stand for Ideas that come not under the cognizance of our senses ... v.g. to Imagine, Apprehend, Comprehend ... &c. are all Words

5. The historical part of this paper could never have been accomplished without the previous work done by Heike Hülzer (Hülzer 1987; Hülzer-Vogt 1989; see also Schmitz 1985 and Musolff 1993). On the history of metaphor in 19th-century Germany read now Nerlich & Clarke (2001b). On the history of metaphor in empiricism, rationalism, and romanticism, read Oosthuizen Mouton (in prep.) and Chamizo Dominguez (in prep).

> taken from the Operations of sensible Things, and applied to certain modes of Thinking. (Locke 1689 [1975]: III, i, 5)

"In other words, Locke recognised that our basic mentalistic concepts are metaphorical" (Leary 1990: 14). Quite insidiously, the insight into the metaphorical nature of language and mind undermined the representational view of language, which, albeit in attenuated form, Locke had still adhered to. And once liberated from the single function of representing things or thoughts, language could become the free possession and tool of the communicating subject. The language user could come into focus instead of the language, and this again facilitated social, cognitive, and pragmatic insights into language and meaning.

A century and a half after Locke, César Chesneau Du Marsais thrust metaphor not only into the philosophical arena, but also into the view of those interested in the analysis of *ordinary*, and not only *poetic*, language. He wrote the famous words:

> ... il n'y a rien de si naturel, de si ordinaire, et de si comun que les Figures dans le langage des homes. ... En éfet, je suis persuadé qu'il se fait plus de Figures un jour de marché à la Halle, qu'il ne s'en fait en plusieurs jours d'assemblées academiques. (Du Marsais 1757: I, 1)

This passage can be directly compared to the following quote from *More Than Cool Reason* by Lakoff & Turner:

> It is commonly thought that poetic language is beyond ordinary language – that it is something essentially different, special, higher, with extraordinary tools and techniques like metaphor and metonymy, instruments beyond the reach of someone who just talks. But [m]etaphor is a tool so ordinary that we use it unconsciously and automatically, with so little effort that we hardly notice it. ... metaphor is an integral part of our ordinary everyday thought and language. ... It allows us to understand ourselves and our world in ways that no other modes of thought can. (Lakoff & Turner 1989, Preface)[6]

6. Cf. http://www.wam.umd.edu/~mturn/WWW/mtcrx.html.

Insights into the mysterious contribution of metaphor to ordinary thought and language were sparked off by both Locke's and Du Marsais' famous quotes, as well as by other 18th-century reflections on the metaphorical nature of thought and language (Nerlich 1998b). There were Giambattista Vico's cultural philosophy of metaphor, proposed in his *Principles of a New Science* (1725 [1948]), and Johann Heinrich Lambert's semiotics of metaphor put forward in his *Neues Organon*, published in 1764. Vico's work in particular persuaded many scholars that metaphor characterises human thought and language in a truly fundamental way (see Leary 1990: 3). Yet another influence on the burgeoning research into metaphor was Kant's aesthetics as expressed in his *Critique of judgement*, published in 1790, and which, together with Vico and Romanticism, gave *imagination* a new role in thought and language.

But unlike Kant, who only reluctantly accorded imagination and language an important place in his philosophy, Vico gave language and *imagination*, not reason, a central status in his conception of the mind. According to Danesi (1990), Vico located the metaphorising capacity in imagination. It allows us to understand reality and ourselves.

> For when we wish to give utterance to our understanding of spiritual things, we must seek aid from our imagination to explain them, and like painters, form human images of them. (Vico, quoted in Danesi 1990: 228)

Integrating Kant and Vico, Bernhardi wrote as early as 1801:

> Der Erklärung: Sprache sei in artikulierten Tönen dargestellter Verstand und Urteilskraft, werden wir hinzufügen müssen: sie ist auch dargestellte Einbildungskraft; denn ein jeder Satz spricht ein Bild aus; und nur unsere Gewöhnung daran verursacht, dass wir es nicht merken. (Bernhardi 1801: 98–99; quoted by Gerber 1871 [1885]: I, 223).

All these 18th-century insights had a profound effect on the philosophies of language elaborated in the 19th and early 20th centuries by Herder and Humboldt, Goethe and Gerber, Nietzsche and Biese, Wegener and Gardiner, Mauthner and Bühler (see Nerlich & Clarke

2001b). As Smith has pointed out recently in his overview of the history of semantics:

> After centuries of philosophical disparagement, the crucial role of metaphor in language and the structuring of thought was finally recognized by the likes of Friedrich Nietzsche and Fritz Mauthner (Leary 1990), setting the stage for such 20th-century developments as Bühler's (1934) declaration that metaphor is fundamental to all concept formation (Smith 1997: 45).

In the following we shall review some contributions to metaphor research, conceptual and experimental, made by philosophers, linguists and psychologists, and especially those who, in one linguistic guise or another, used the concept of 'blending' in their research.

> Metaphor has been likened to a filter, a fusion, a lens, a pretence, a screen, a tension, a displacement, a stereoscopic image, a form of linguistic play, a false identity, a semantic fiction, a contextual shift, a translation of meaning, a twinned vision, and an incongruous perspective, to mention only a few of its common metaphors. (Leary 1990: 4)

Depending on how we see metaphor itself *as* something else or *as if* it was something else opens up ever new doors for the exploration of the mental space that we designate by the concept of 'metaphor' in relation to many other connected mental spaces or domains of experience.

3. From fuzzy meaning to blending

3.1. Whitney: Areas of meaning

In the latter half of the 19th century, when Darwin, Lyell, Wallace and others tried to unravel the mysteries of evolution, there was one linguist who, inspired by these works, attempted to do the same for human language, its forms and its meanings, and this was William Dwight Whitney. His pioneering work has been summarised elsewhere (see Nerlich 1990). In the context of this article we only want to point to some insights, which gave the impetus to much of the

more progressive research into the nature of meaning carried out in the late 19th century.

For Whitney words do not pinpoint meaning as a static, well-defined idea or object. As meaning is based on use (see Whitney 1875: 98), meanings expand and get restricted, they multiply and change, and this especially through the discovery of resemblances and analogies which get exploited in metaphors: "Hardly a term that we employ is not partially ambiguous, covering, not a point, but a somewhat extended and irregular territory of significance" (quoted in Anttila 1992: 38). In another context he uses the term "sphere of application of a word" (Whitney 1875: 87). Following in Locke's footsteps, Whitney points to the "indispensable importance in the history of language," which "is the application of terms having a physical, sensible meaning, to the designation of intellectual and moral conceptions and their relations" (Whitney 1875: 88). Linking up with thoughts expressed by Dugald Stuart and Michel Bréal and foreshadowing Gerber, Whitney points out that "we have often had our attention directed to the imperfection of language as a full representation of thought [Locke, BN]. Words and phrases are but the skeleton of expression, hints of meaning, light touches of a skilful sketcher's pencil, to which the appreciative sense and sympathetic mind must supply the filling up and colouring" (Whitney 1867: 407). Words are but prompts for the imaginative construction of meaning in context.

3.2. Gerber: Language as art

One of the most intriguing and most influential students of metaphor in Germany was the philosopher Gustav Gerber. Gerber's first interest was to continue Kant's investigation of reason, but not in form of a critique of *pure* reason, but 'as a critique of impure reason, of objectified reason, that is, as a critique of language' (Gerber 1871 [1885]: I, 244). This quest for a 'critique of language' was later continued in Fritz Mauthner's *Kritik der Sprache* (1901/02) and in English analytic philosophy.

Gerber agreed with Wilhelm von Humboldt that Kant's view of language as a mere instrument for the representation of thought should be rejected. They both subscribed instead to the 'law of reciprocity' (Gerber 1871 [1885]: I, 239) between language and thought. Gerber declared that 'the formation of concepts is no less a speech act than a thought act' (Gerber 1871 [1885]: I, 241). This linguistic 'formation' of concepts is basically a 'figuration' or configuration of thought.

In his appropriately entitled book *Die Sprache als Kunst*, Gerber compared the linguistic representation accomplished by the word and the sentence with artistic representation (*Darstellung*) (see Nerlich 1998a). To represent something through language, we use the lexicon and grammar as paint-brushes and the situational context as a 'frame' or background. This is the reason why all linguistic representations, not only the tropes, are pictorial (*bildlich*) in the sense of figurative. "[J]ust as there is no difference between literal and figurative speech, so the word is from its very beginning essentially a trope and remains one throughout its life." (Gerber 1871 [1885]: I, 241). Words are pictures in the sense of artistic *Darstellungen*, they are not *Abbildungen* of reality. They can only mean something when we go beyond the individual brush strokes and perceive the emergent picture as a whole or *Gestalt*.

Every word is originally a representation of a schematised image of an idea (Knobloch 1986: 166). Hence, as words and sentences are figurative from the very beginning, as there is never a 'literal' meaning, words can only ever be understood in the *co-text* of the discourse and the *context* of the situation. They do not so much designate things in the world, they *design* them against a background or frame. Designation in this sense always involves the blending of linguistic, conceptual, and situational knowledge. So as to designate something in particular the sound-image has to be supplemented by something, such as a gesture, by perception, and by the knowledge of the circumstances under which it is heard (see Gerber 1884: 104). This also means that

> Die Wörter haben nicht eine Bedeutung, sondern sie vertreten *Bedeutungsgebiete*, deren Umkreis beständig gezogen wird, niemals aber gezogen ist, so lange die Sprache des Wortes lebt. (Gerber 1884: 161, italics ours)

> Natürlich meint in jedem konkreten Falle der Redende das Einzelne, Individuelle, nie aber kann er es s a g e n , und die sinnliche Welt, die Umgebung, der Zusammenhang muss seine Meinung ergänzen. Darum versteht auch keiner den Anderen vollständig durch die Rede; er versteht ihn nur, soweit er seine Stimmung theilt, seine Weltauffassung, Erfahrung; soweit er im Stande ist, sich in seine Seele zu versetzen. (Gerber 1871 [1885]: I, 233)

This view of meaning as fuzzy and as representing a more or less vaguely defined conceptual domain, and as always being in need of situational support, had a huge influence on post-historical semantics. The term 'area of meaning' was widely used by Erdmann, Gardiner and Bühler, as we shall see later on.

Gerber's linguistic aesthetics had a wide influence and was read together with the philosophical aesthetics advocated by Friedrich Theodor Vischer for example. Vischer was the first (perhaps) to use the term 'sphere' in relation to metaphor, a term synonymous with domain, which was later employed more prominently by Bühler. Vischer pointed out that "Gleichniß und Metapher bringen ihr Bild aus fremder Sphäre" (Vischer 1857, III, 1229). And: "Die mehr äusserlich, aber farbenreichere Hauptform des indirekten Verfahrens, der Tropus, zieht vergleichend eine Erscheinung aus einer anderen Sphäre herbei; verschweigt sie den Akt und scheint sie das Verglichene identisch zu setzen, so ist sie eigentliche Übertragung, Metapher" (Vischer 1857, III, 1226; paraphrased by Stählin 1913: 310).

This passage was quoted by the philosopher of metaphor Alfred Biese in his book *Die Philosophie des Metaphorischen* (1893: 14), in which he brings to a synthesis the philosophical and linguistic discussion on the nature of metaphor carried out in the 18th and 19th centuries. Following in the footsteps of Vico, Lambert, Goethe (who had said that language anthropomorphises reason and reality, that reasoning and categorisation are inherently embodied), Gerber, and Nietzsche (who had said that rhetoric is "eine Fortbildung der in der Sprache gelegenen Kunstmittel," quoted in Meyer 1930: 5), and ar-

guing to some extent against Vischer (who still called metaphor a 'trope'), Biese declared in astonishingly modern terms: "Die Metapher ist daher *kein poetischer Tropus*, sondern eine ursprüngliche Anschauungsform des Denkens." Metaphor is "das eigentliche innerste *Schema* des Menschengeistes" (Biese 1893: VI, italics ours). The old Greek term of 'schema' and the Kantian term of 'schema' are brought to a linguistic synthesis so as to analyse the role of metaphor in thought and language.[7]

The *philosophy of metaphor*, elaborated by Gerber, Vischer, Biese and others influenced in various ways the *linguistics of metaphor* and the *psychology of metaphor* as elaborated for instance by Wegener, Bühler, and Stählin.

3.3. Wegener: Understanding meaning in context

Wegener was one of the first linguists in the 19th century to ask how language is understood in the context of discourse (see Nerlich 1990; 1992). To conceptualise the process of understanding language in situation Wegener introduced various concepts, which were to be crucially important for some more modern research into metaphor, as undertaken for example by Gardiner, Stählin, and Bühler.[8]

The main factors in producing and understanding speech and writing, are, what Wegener calls, 'exposition' and 'predicate.' An exposition (or, as Wegener sometimes says, 'logical subject') is everything that prepares the ground for the appearance and understanding of the predicate. The exposition is the given, the predicate the new. The predicate can also be used alone in the situation of communication, the situation thus serving as exposition, securing the understanding of the predicate. This mechanism of foregrounding/back-

7. Stählin criticises Biese for his view that metaphors are just there to anthropomorphise nature and to naturalise reality. There are other metaphors which do much more menial jobs and don't fit this pantheistic view of metaphor (see Stählin 1914: 366).
8. For a modern attempt to develop a theory of contextual competence according to Wegenerian lines, see Nerlich (2001).

grounding agrees with the general laws of perception, as later discovered by Gestalt psychology.

The situation of communication itself has four dimensions: the immediate perceptions, recollection or memory, consciousness (the speaker's interests and intentions), and the more general context of a certain culture (Wegener 1885: 21–27). The exposition is a concession to the listener to secure his/her understanding of what the speaker wants to convey in the predicate. Keeping the right balance between exposition, that is, help for the hearer, and predicate, or the speaker's 'news,' that is, between figure and ground, is a most valuable communicational skill.

But how does language understanding in general work? It draws on the following resources: the four types of situation, attention to the speaker-hearer's expectations, gesture, intonation, the proportional relation between exposition and predicate, and the congruence or incongruence between the form and the function of words and sentences (see also Bréal 1868). All these factors allow the hearer to understand 'imperfect' and 'incongruent' utterances because the total situation enables gaps to be filled. When we use the imperative to give an order, form (imperative) and function (expression of a command) are congruent, but a command can also be expressed by a statement or a question, in which case there is no such congruence. In the case of 'Can you pass me the salt?,' for example, form and function are strictly speaking incongruent, but from the point of view of communication they have become congruent through a process of what Traugott calls 'invited inferencing' (Traugott 1999).

This gradual fading of incongruence is also characteristic of the evolution of metaphors. At first the hearer achieves congruence by relying heavily on inferences drawn from the situation of discourse. Sentence understanding in general and metaphor understanding in particular are a filtering and blending process. The predicate is seen through the lens or filter of the exposition, and the exposition is filtered through the predicate (see Hülzer 1987). When a word is used in the co-text of a sentence the collocation with other words filters out those mental representations which are congruent in this sentence. The others drop below the level of consciousness (see Wege-

ner 1885: 50). This insight into word and sentence understanding would be explored experimentally in the Würzburg school of psychology.

In the case of metaphor we achieve congruence by a process of selective cognitive filtering and inferencing. These inferences become gradually absorbed in the (incongruent) word or sentence itself, so that in the end the situation is no more needed as inferential support system. As an example Wegener discusses the more or less dead metaphors of "Der Krieg bricht aus" (war breaks out) (where congruence has been achieved) and "Der Krieg entbrennt" (war flares up) (where incongruence is still felt) (Wegener 1885: 114–115).

In general, words are instruments of communicative interaction. They are in fact summonses (imperatives) to the hearer to remember the situation in which they were spoken before. They do not so much *carry* meaning as *prompt* the hearer to *retrieve* already known information associated with the sound, to tap the (conceptual) domain knowledge associated with the word (see also Bréal 1866). A series of such reminders is a sentence, which again is an instruction to the hearer to construct meaning.

Taking inspiration from Kant, Wegener argues that these instructions would not be of great value if the hearers did not have at their disposal certain *schemata* for the construction of meaning. The linguistic instructions are given in linear order, whereas what they want to convey might not be, as, for instance, the course of an action (e.g. "He is ploughing the field"). Some basic (image) schemata for the understanding of action-descriptions are, for example, that events follow each other in time, which ones come first, as well as schemata of space and movement, and schemata of how certain actions are executed normally, which activities and movements are involved, what purpose or goal they have, and so on. If we lack a schema, we can build a new one in analogy with already known ones. In this way, inference, analogy and metaphor underlie the evolution and understanding of language in general.

3.4. Erdmann: The fuzziness of meaning

The view that word meanings have fuzzy boundaries, are relatively vague and broad, and that they only receive specification and structuring through an interaction with the co-text and context, was also a point of view advocated by Karl Erdmann in his seminal book *Die Bedeutung des Wortes* (1910), in which he dealt with the topics of polysemy, vagueness, denotation, and connotation (see Nerlich & Clarke 1997). On the topic of the fuzziness of meanings, he has the following to say:

> But whatever theories about the essential nature, the meaning and the origin of concepts one may adhere to, from the point of view of logic one will always have to require that they exhibit unambiguous, clear boundaries, that their extent and content are clearly specified. But words do not simply indicate concepts of that kind. Words in general are rather signs for fairly unspecific complexes of psychological representations that belong together more or less loosely.
>
> ... the boundaries of word meanings are vague, unclear, indeterminate. The situation is, I think, even more adequately described if one simply does not talk about the borderline of the range (of a word), but ... if one talks about a border area that includes a central area. If one usually represents the range of a logically perfect concept by means of a sharp borderline, such as is approximately drawn by a well-sharpened pencil, one can represent the boundary of the content of a word by means of a more or less wide, gradually narrowing band, such as is produced on a flat surface by a brush that has been dipped into paint. (Erdmann 1910: 4–5; Engl. transl. Geeraerts 1988: 677)

And just like Wegener, Erdmann not only speaks of *areas of meaning*, but also of their *interaction and integration* in the process of sentence understanding. In this way words with vague meanings as well as words with multiple meanings (which are actually the norm in human language) can be used in discourse without posing any major problems to understanding. For Erdmann, the meanings of words condition each other and delimit each other. And it is just as right to say that the sense of all the individual expressions used depends on the sense of the whole sentence, as to say that the sense of

the sentence depends on the meaning of the words used (Erdmann 1910: 43–44).[9]

Words are always 'defined' in the actual use we make of them in discourse, and through their relation to other words in the language. But understanding would nevertheless be impossible if speaker and hearer did not want to collaborate, an 'ethical' point also made by Wegener and Bühler. One could call this the *principle of semantic charity* (already evoked by Lambert 1764), which, together with the *principle of contextual clarification*, brings about mutual understanding. Like Wegener's work, Erdmann's book was read by Gardiner, Stählin, and Bühler.

3.5. Gardiner: Meaning, the thing-meant, and metaphor

The Egyptologist and general linguist Sir Alan H. Gardiner put forward his conception of words, meanings and metaphors in his book *The Theory of Speech and Language* (1932), which he dedicated to Wegener. In this book, as well as in an unpublished manuscript written in 1952, Gardiner declares that the meaning of a word (in a language) is an accumulation of former applications of a word (in speech) to refer to specific things-meant. A word therefore has "many widely divergent possibilities of application." Gardiner calls this field of past and possible applications, the word's "area of meaning" (Gardiner [ms. 1952], 11).

It is only through the situation in which a word is used that the listener can make out the thing-meant. The situation is like "a circle of light focused on the thing-meant and then shading off first into a penumbra of obscurity and finally into darkness" (Gardiner [ms. 1952], 12). This focused projection enables the listeners 'to see' what the speaker means (Gardiner [ms. 1952], 12–13), or, to use another metaphor, to find their way through the territory of possible mean-

9. This type of contextualism can already be found the works of Thomas Reid, a Scottish common sense philosopher, and his disciples Dugald Stuart and Benjamin Humphrey Smart (see Nerlich & Clarke 1996).

ings. Sometimes a narrow beam of light is sufficient to 'expose' the thing-meant, sometimes a stronger and wider one. Echoing Wegener, Gardiner writes that a "large part of the art of speech consists of a nice calculation on the part of the speaker as to how much of the situation he needs to disclose" (Gardiner [ms. 1952], 18–19).

In his book Gardiner points out that under the guidance of the situation of discourse the meaning of a word or a sentence emerges as a *fusion* between the traditional range of meanings of the word and the thing-meant:

> ... at the very moment when any word is ... applied to some thing-meant, a fusion takes place and leaves a greater or lesser mark upon this particular item in the speaker's vocabulary. If the word be used in complete agreement with tradition ..., the effect is merely to confirm and strengthen a central feature in the accepted area of meaning. ... It is the slight departures from habitual usage, which are the main sources of change in language. (Gardiner 1932 [1951]: 110ff)

That is to say, the potential meaning of a word guides the listener towards a 'target' – the thing-meant, but the fusion between potential and actual meaning also forms and changes the potential meaning of the word used. Gardiner writes that (conventional) word meanings are "primarily instrumental, that their function is to force or cajole the listener into looking at certain things" (Gardiner [ms. 1952], 33). They are clues, pointers or prompts provided by the speaker so that the hearer can discover the thing-meant. In situated discourse the potential applications are thus backgrounded, leaving only the actual application and the reference to the thing-meant in the foreground. From this perspective, meaning is not given, but constructed through understanding in a hierarchy of situations, and "[n]o amount of words will ever 'complete the meaning' of an utterance, if by 'meaning' is intended the thing-meant" (Gardiner [ms. 1952], 50).

Meaning in language is not a quasi-Platonic 'idea' attached to the word, it is an area or field of applicabilities, circumscribed by the various things-meant in discourse. But, writes Gardiner, "the meaning of words often covers applications between which it is impossible to discover any points of resemblance" (Gardiner [ms. 1952], 43).

What holds them together is more a network of family resemblances, as Wittgenstein would have put it. "We can perhaps best picture to ourselves the meaning of a word such as horse by considering it as a territory or area over which the various possibilities of correct application are mapped out." (Gardiner 1932 [1951]: 36)

From this insight, Gardiner developed what one would nowadays call a 'prototype-theory' of meaning. In the case of *horse* the area of meaning indicates that "cows," for example, are off the map. "But within the legitimate range of word-meaning horse, the various things meant will be differently grouped, some rather near the borderline, and others distinctly central" (Gardiner 1932 [1951]: 37). What is central depends on the speaker. In most cases this would be some kind of live horse. According to this 'prototype,' other applications are felt to be more or less strange:

> A light strain is felt when horse is applied to a toy horse, a greater strain when it is applied to the gymnasium horse, and still greater strain when it is applied to a towel horse. In terms of our map, these applications grow increasingly peripheral. (Gardiner 1932 [1951]: 37)

This mixture or blending of potential meaning and situated meaning or thing-meant is exploited to its fullest in the production and understanding of metaphors.

> The chief point wherein metaphor resembles incongruent word-function is the sense of a *blending*, a mixture, which arises from it; not a disharmony, however, since the feeling excited is that of enrichment rather than the contrary. The one ingredient of the mixture is derived from speech and from the thing-meant; the other from language and from established semantic usage. (Gardiner 1932 [1951]: 165, italics ours)

Like Turner (1996), Gardiner sees the "most full-blooded form" of metaphor in parable or allegory, where the speaker wants to communicate an abstract and complete message and "conceives the best way to the heart of his audience to be through the description of some homely incident embodying the lesson to be taught or the truth to be inculcated" (Gardiner 1932 [1951]: 167) (see Musolff 1993: 268).

4. Bühler and blending

4.1. The beginnings of a new 'understanding' of understanding

What had started in the 1880s with Wegener's question 'How do we understand language?,' developed into a full-blooded research programme in psychology and in philosophy (hermeneutics, but also speech act theory) in the early 20th century. The question of *Verstehen* attracted the attention of all those interested in the nature of language and its relation to thought, in short in the question of meaning.[10]

But the new, psychological, theories of *understanding* could now draw on insights into the nature of *perception* which had emerged since 1890, when Christian von Ehrenfels had published his seminal article "Über 'Gestaltqualitäten'." Ehrenfels's most important insight was that the elements of a perceptual field are synthesised by thought to form a *schema* or *Gestalt*. Continuing studies by Ernst Mach, Ehrenfels analysed the apperception of melodies, for instance, which goes beyond the mere sequence of sounds heard and the linear associations between them. He wrote:

> Unter *Gestaltqualitäten* verstehen wir solche positive Vorstellungsinhalte, welche an das Vorhandensein von Vorstellungskomplexen im Bewußtsein gebunden sind, die ihrerseits aus voneinander trennbaren (d.h. ohne einander vorstellbaren) Elementen bestehen. – Jene für das Vorhandensein der Gestaltqualitäten notwendigen Vorstellungskomplexe wollen wir die *Grundlage* der Gestaltqualitäten nennen. (Ehrenfels 1890 [1960]: 21)

A *Gestalt* is ultimately based on relationships. It is, as Theodor Erismann said, "*die Gesamtbeziehung der Beziehungen*" (Erismann 1967: 132). The second important point is that the 'figure' or *Gestalt*

10. In his influential philosophy of the 'as if,' Hans Vaihinger wrote for example: "All cognition is the apperception of one thing through another. In understanding, we are always dealing with an analogy, and we cannot imagine how otherwise existence can be understood ... all conception and cognition are based upon analogical apperception" (Vaihinger 1911/1924: 29; quoted in Leary 1990: 26, note 6).

needs a ground or background so as to be perceived properly. In this process, the perceiving organism always adds a surplus of meaning to what it perceives; the total perception is more than the sum of its individual parts (the concept of *Übersummativität*). A third important characteristic of *Gestalts* is a "certain groping for invariants, seeking them, finding them, and so creating them," that is, finding a constant in variation and transposition (Antilla 1992: 53–54). One can see again the influence of Kant's notion of *schema*.

Gestalt psychology was further developed by Max Wertheimer, Wolfgang Köhler, and Kurt Koffka in Berlin, and influenced research in and around the Würzburg school of psychology undertaken, for example, by Otto Selz and Oswald Külpe. Selz pointed out in 1913 that *Gestalts* are domains or dispositions of knowledge, and as such they are "relativ geschlossene komplexe ... Einheiten" (Selz 1913: 175). They can "als Ganze Assoziationen eingehen. Ebenso werden sie als Ganze Glieder anderer Wissensdispositionen und ermöglichen so die Reproduktion des Bewußtseins von zusammengesetzten Sachverhältnissen, die andre Sachverhältnisse als Glieder enthalten" (Selz 1913: 175).

Following in Wegener's footsteps, the Würzburg psychologist and psycholinguist Bühler argued very early on in his career, in his article on language understanding (Bühler 1909), that understanding language is more than associating words with things. This article, together with Wegener's and Erdmann's work, Vischer's aesthetics, experimental psychological work by Karl Marbe (1901) and August Messer, were to inspire Wilhelm Stählin to attempt a first empirical study of metaphor understanding and blending in 1913. We shall analyse it after reviewing Bühler's much more influential work on language understanding and metaphor, which was however itself influenced by Messer, Stählin and Othmar Sterzinger's 1913 article on reasons why we like or dislike certain poetic images.

Messer had done experiments on instant and delayed understanding in which subjects often reported about the consciousness of a 'sphere' (*Sphäre*) or 'domain' (*Gebiet*), to which the heard stimulus belonged. In fact, Messer distinguished between three types or uses of the term 'sphere.' In one use it refers to a superordinate concept

(see Messer 1906: 78), in another it refers to a 'domain' of knowledge, or as one would say nowadays a mental space or frame (this is the variant taken over by Bühler and Stählin), and lastly it refers to a 'co-ordinated concept.' These three types of 'spheres' seem to structure three types of cognitive processes, which, in turn, underlie the formation of synecdoches, metaphors, and metonymies respectively (see Hülzer-Vogt 1989: 12). Unlike Bühler, Stählin took up this distinction and pointed out that *metaphor* is based on the integration of two disparate domains, whereas *metonymy* is based on exploiting relations inside one domain (e.g., person-object; cause-effect; container-contained; and so on) (see Stählin 1913: 383; see now Nerlich and Clarke 2001a). But let us now come back to what Stählin learned from Bühler's article on language understanding.

For Bühler, language understanding is more than associating words with things or evoking a socially shared meaning in the head of the hearer, as Wilhelm Wundt had argued (see Nerlich & Clarke 1998). For Bühler, sentences are instructions to the hearer to reconstruct the speaker's meaning. In this process of the social construction of meaning the speaker does not have to 'express' linguistically everything that he or she wants to say (the sentence can be elliptical), and the hearer does not have to follow slavishly the sequence of words (Bühler 1909: 113). What the speaker has to do, however, is to calculate carefully (as Wegener had already pointed out) the balance between what the hearer can reconstruct from the linguistic clues on the one hand and the situational and other cues on the other. For Bühler, understanding is based on integrating new structures into already existing structures of thought: "der neue Gedanke wird durch das Bewußtwerden einer bestimmten Beziehung zu einem anderen, schon bekannten, ideell eingeordnet, er erhält, bildlich gesprochen, seinen logischen Platz in der Gedankenwelt des Hörers, und dadurch wird er verstanden" (Bühler 1909: 117).

This insight had been central to Bühler's psychology of mental processes (*Denkvorgänge*) proposed as early as 1907, and was linguistically elaborated in Bühler's theory of the interaction between the symbolic, deictic and practical *fields* of language use, put forward in his *Sprachtheorie* of 1934. Meaning emerges from an integration

of *symbolic* and *encyclopaedic* knowledge (for more information on Bühler's functionalist approach to language and its relation to metaphor and metonymy, see Dirven *105).

4.2. Metaphor

Although admiring Stählin's empirical work on metaphor (Bühler 1918 [1930]: 359; 1934 [1990]: 391),[11] Bühler's aim in his *Theory of Language* is different. He wants to find "the *sematological core* of a well-constructed theory of the metaphor" (Bühler 1934 [1990]: 392/343). And this semiotic core lies in the fact that in metaphor production and understanding we are dealing with a mixing of spheres, *Sphärenmischung*, that is with the *blending* of linguistic and non-linguistic knowledge.

> A duality of spheres ... and something like a transition from one to the other can often be detected in the experience [of understanding], and this often vanishes only when idiomatically familiar constructions are involved. (Bühler 1934 [1990]: 392–393/343)

Bühler's most beloved example of a mixing of spheres in metaphor is the following, suggested to him by Sterzinger:

> A boy, eight years of age, observes the motion of the long antennae of a butterfly and explains that the animal is 'knitting socks' (motion of knitting needles). This is no bad analogy, but also no great effort from a psychological point of view, merely an association by similarity. (Bühler 1930: 105; see also Bühler 1918 [1930]: 359; Bühler 1934 [1990]: 346/395)

However, to understand even this simple mixing of spheres, a great effort *is* needed from the psychologist's point of view, as it goes beyond *Gestalt* perception and ordinary compounding.

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11. The concept of meaning spheres was tested empirically by his wife Charlotte Bühler, who analysed the role of meaning spheres in the reconstruction of text-meaning for sets of lexemes (cf. A. Musolff 1993: 265).

> The question that will help us along is as follows: what specifically does *composition that mixes spheres* contribute in comparison with the summative whole and the ordinary compound? (Bühler 1934 [1990]: 394/349)

To imagine how this mixing of spheres in metaphor works, Bühler tries out various analogies. The one most suited to this mixing process or, as he sometimes metaphorically says, *Cocktailverfahren* (Bühler 1934 [1990]: 393/343), is the comparison with binocular vision. Here,

> the same thing is projected onto two retinae and still seen as one under normal circumstances ...; binocular vision is simple, and more plastic than vision with one eye alone when the minimal differences between the images (their lateral disparation) is used for the effect of more precise and clear vision in depth. However, the remark that the binocular union *omits* everything genuinely disparate which cannot be united is much more important for the comparison attempted here. (Bühler 1934 [1990]: 394–395/344–345)

Bühler thinks that the most important difference between *Gestalt* perception in general and understanding of metaphor is that in integrating two domains of knowledge, as we do in metaphor, we are not dealing with the phenomenon of over-summativity, but instead with under-summativity. We select and project some features across the domains and *omit* others. It should however be pointed out that this is a rather singular view of metaphor, as in metaphors we normally not only omit selectively certain elements of the two superimposed domains, we also create 'more' knowledge and understanding in doing so. As modern cognitive linguists say, the blend is both less and more than the composition of the input spaces.

Again inspired by Sterzinger (1913: 30),[12] but forgetting to mention him, Bühler compares the metaphorical meaning constitution to a visual projection that passes through two filters covering each other partially, so that only those parts of the projection can be seen that are not covered or cancelled out by either of the filters. The listener

12. Sterzinger wrote about a unification or concentration of two mental representations in a poetic image, of the way in which one representation has an influence of similarity of on the other (cf. H. Hülzer-Vogt 1989: 34).

creatively selects those semantic aspects in a metaphor that fit into his or her (deictical) *field* of communicative interests (see Musolff 1993: 265, note 30). Bühler uses here the distinction between what he calls the symbolic and the deictic *field* (again a term that was a seminal importance in Gestalt psychology). The word or words used in the metaphoric speech act are drawn from "established symbol fields, but provided the listener is initiated deictically to the particular situation, new *blendings* of semantic spheres may be employed that give a vivid image of the intended meaning." (Musolff 1993: 268, italics ours). Bühler thus conceives the emergence of metaphor as a filtering process that is both *projective* and *selective*.

In using the term 'sphere,' Bühler shows that we do not look at things in isolation, but that we perceive and conceptualise them inside the network of relations in which they stand to other objects, which, together, constitute a sphere or domain as an overall 'Gestalt.' Through the use of signs we attribute meaning to these objects, as well as to the relations themselves, so that the emergent meanings form a semantic or symbolic sphere (see Hülzer 1987: 71–72). However, so as to understand metaphors like *Hölzlekönig* (wood-king) (the name of a huge tree in the Black forest, see Bühler 1934 [1990]: 391/342), we cannot rely on the symbolic field alone (the integration of the words 'wood' and 'king'), we have to access our indexical field knowledge. Hence, to understand a metaphor, we have to achieve a blend between two symbolic spheres, based on our world or domain knowledge in that situation of discourse.

5. Metaphors, spheres and blending

As already mentioned above, Bühler's work on metaphor had been partly inspired by an article written by Wilhelm Stählin in 1913. Stählin had been a disciple of the Würzburg school of psychology; he had studied under Külpe and knew Bühler's 1909 work on language

understanding.[13] However, his psychological interest in metaphor was but a short interlude between studying theology and becoming a vicar and bishop.

In his article on 'the psychology and statistics of metaphors' (which was also his Würzburg thesis), Stählin applied the concepts of sphere (*Sphäre*) and domain (*Gebiet*) so as to emphasise the psychological 'tension' that arises from the presence of competing meanings in the minds of those who utter and receive metaphors, a *Bewußtseinslage der doppelten Bedeutung* (an awareness of a double meaning) (but even understanding a single word always relies on being aware of potential *relations* inside a domain, on clues from the *context* [*Situation*] and the *co-text* [*Zusammenhang*] Stählin 1913: 315–321). This awareness triggers a meaning merger or blending (*Verschmelzung*), a blending process, which cannot be reduced to either the perception of similarity or the construction of an analogy (Stählin 1913: 339–343). Blending, in this sense, leads to the construction of a new semantic unit, a construction that is very similar to problem solving. It generates (*erzeugt*, Stählin 1913: 346) a novel understanding of the target and establishes novel connections (Stählin 1913: 348).

> ... der metaphorische Ausdruck steht jedesmal *in einer gewissen Spannung mit dem Zusammenhang*. Er stammt aus einem Gebiet, von dem hier nicht die Rede ist, und wird auf ein Gebiet angewendet, auf dem er nicht daheim ist. Er ist der Name eines Gegenstandes, der hier gar nicht "gemeint" ist, und muß erst übertragen werden auf den Gegenstand, der hier in Rede steht. Er ist ein Fremdkörper in dem Zusammenhang und kann mindestens als solcher zum Bewußtsein kommen. (Stählin 1913: 321–322)
>
> ... kurzum: ich ziehe nicht nur das Bild in die Sphäre des Sachgegenstandes, sondern auch die Sache in die Sphäre des Bildes hinein. Es findet ein Austausch der Merkmale, eine Vereinigung der beiderseitigen Sphären, eine Verschmelzung von Bild und Sache statt. (Stählin 1913: 324)

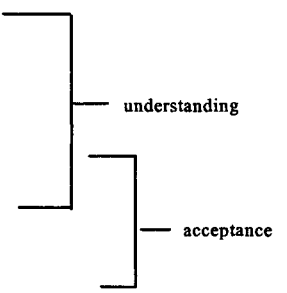
In the ideal case the two spheres on which metaphor builds (the *Sache* and the *Bild,* or, to use later terminologies, the *tenor* and *vehicle*

13. He also knew the French literature on language understanding, such as the work by Binet and the French literature on metaphor, such as the work of Darmesteter and Bréal.

or the *target* and *source*) form a 'perfect' blend or fusion (*Verschmelzung*). There are however cases where such a perfect blend is not achieved in understanding, as when the hearer focuses too much on either the 'target' or the 'source' (Stählin 1913: 332).

Stählin's conception of metaphor which is, unlike Bühler's, not a model of the *emergence* of metaphor, but a model of its *understanding* and (graded) *acceptance*, can be summarised as follows (Hülzer-Vogt 1989: 28):

1. the spheres that are brought together to produce the metaphor must be compatible
2. the metaphor should be in harmony with any already existing impression of an object
3. the tertium comparationis should be surprising and apt
4. the metaphor should result in the enrichment of knowledge
5. there should be a balance between the pregnancy of a metaphor and the concision of the image (ease of understanding)



It is also important to point out that for Stählin, as nowadays for Lakoff, Johnson, and their followers, metaphor has quite deep cognitive roots, and is certainly not just a decorative flourish (see Nerlich & Clarke 2001):

> ein sehr grosser Teil solcher Verwandtschaften [in Metaphern] scheint doch dem individuellen Geschmack und der Willkür ganz entrückt zu sein und in dem menschlichen Geistesleben seinen notwendingen Grund zu haben. (Stählin 1913: 365)

Stählin's work did not have the impact that Bühler's had. It was however mentioned by Cornelis Stutterheim in 1941, in his book *Het Begrip Metaphoor*, and rediscovered in 1976 in J. J. A. Mooij's book *A Study of Metaphor*, in which Mooij noted the similarity between Stählin's view of metaphorical blending and Ivor Armstrong Richards' and Max Black's *interaction theory of metaphor*.

Two years after Bühler published his *Sprachtheorie*, Richards had written some important chapters on metaphor in his *Philosophy of*

Rhetoric. In 1936 Richards had argued that "metaphor is the omnipresent principle of language" and of thought: "In the simplest formulation, when we use a metaphor we have two thoughts of different things active together and supported by a single word or phrase, whose meaning is a resultant of their interaction." (Richards 1936: 93) Metaphor is "a borrowing between and intercourse of thoughts. ... Thought is metaphoric ... and the metaphors of language derive therefrom." (Richards 1936: 94) This interactionist view of metaphor was further elaborated in Black's focus and frame theory of metaphor put forward in his famous book *Models and Metaphors* (Black 1962: 39) (on the relation between the interaction theory of metaphor and modern metaphor studies, see Gibbs 1994; on differences, see Barcelona *214).

At the same time that Richards was popularising his view of metaphor, field theory or field semantics was becoming a popular field of linguistic exploration in Germany (see Nerlich & Clarke 2000). Between the 1930s and 1950s a whole line of linguists from Jost Trier onwards became interested in studying fields of metaphors or what is now called 'conceptual metaphors.' Trier studied certain domains of experience that become major sources for metaphors ("bildspendende Felder," Trier 1934: 197–198) and major sources for making sense of the world. Taking up the notion of *Bildfeld*, Harald Weinrich then developed a theory of metaphor based on the observation of everyday language (Jäckel 1999: 23). In 1958 ("Münze und Wort") he made a distinction between *Bildspender* and *Bildempfänger* (Weinrich 1976: 284; see also 1967, 1980), which can be compared to that between source and target domain or, as they are sometimes called, donor domain and recipient domain. There are obvious similarities between Weinrich's theory of metaphor and that developed by Bühler and Stählin at the beginning of the 20th century and the interaction theory of metaphor developed by Max Black in the 1960s. But there are also differences.

According to Lipka, Weinrich stressed "that metaphors must not be seen as isolated phenomena. On the contrary, they relate a 'bildspendendes' and a 'bildempfangdes Feld,' terms which are not equivalent to Richard's *vehicle* and *tenor*. Rather, they emphasise the

insight that metaphor is based on certain conceptual and lexical fields, paradigms, or domains." (Lipka, 1990: 125) Lipka quotes Leisi as making a similar point when writing: "eine Metaphor enthält oft eine ganze Situation" (Leisi 1985[1955]: 183) Weinrich had written: "Wie das Einzelwort ... gehört auch die Einzelmetaphor in den Zusammenhang ihres Bildfeldes. Sie ist eine Stelle im Bildfeld." (1976: 283) So, metaphors contain whole situations or domains, but they also mark places in (blended) domains of experience. In being thus situationally or contextually grounded in multiple ways they can evoke a multitude of new experiences. The examples that Weinrich (1976: 125) uses to illustrate his theory of metaphor as part of or indicators for certain 'Bildfelder' are all what modern blending experts would call formal blends: *Wortmünze, Liebeskrieg, Welttheater, Lebenssaft, Liebesjagt, Tierreich, Verstandeslicht, Textgewebe.* (Lipka 1990: 125). Weinrich didn't go into the intricacies of the meaning-construction involved in the understanding of such blends, as modern theorists would do, but he at least saw the importance of understanding this process for linguistic theory.

There was one German linguist, even less known than Trier or Weinrich who, in 1954, examined certain domains as sources for metaphors from an onomasiological perspective: Franz Dornseiff (Liebert 1995: 149-151). Amongst many other conceptual metaphors (such as the container metaphor, the metaphor of grasping for understanding, of agitation for anger, and of verticality as an image schema projected onto social hierarchies), Dornseiff discusses what one can call in cognitive linguistic terms the projection of the image schema SOURCE-PATH-GOAL onto the domain of GOAL and GOAL-ATTAINMENT:

> So sprechen wir davon, daß wir uns Ziele "setzen," die wir dann "erreichen" wollen. Wir überlegen uns dazu die notwendingen "Schritte," bis wir einen geeigneten "Weg" gefunden haben. Aber dieser Weg kann auch eine "Sackgasse" sein. Und falls wir keinen "Ausweg" sehen, können wir uns mit dem Sprichwort, das diese Metaphern-Beziehung ausspricht, Mut zusprechen: "Wo eine Wille ist, is auch ein Weg." (based on Dornseiff 1954: 142-143; Liebert 1995: 151)

During the 1970s and 1980s new psychological theories of metaphor comprehension emerged which should be analysed in a full 'history of a theory of blending,' but this would lead too far in the space of this article (e.g., the salience imbalance model, proposed by Ortony 1979; the domains interaction model, by Tourangeau & Sternberg 1982; the structure mapping model, by Gentner 1983; and the class inclusion model, by Glucksberg & Keysar; see Honeck 1996: 3).

6. Conclusion

In the 1970s and 1980s the theoretical and empirical work on metaphor accomplished by Bühler and Stählin was compared to the interaction theory of metaphor. Nowadays, one can see similarities between the older theories of metaphor and the newer cognitive theories of metaphor and blending. There are however, a few differences between the older and the newer theories, which need to be pointed out.

Although Bühler's psychology of language was in part influenced by new developments, not only linguistics and psychology, but also in physics (he knew Einstein's theory of relativity), and in mathematics and geometry (he knew Hilbert's work), the link between his theory of blending and these new developments is rather tenuous. The theory of blending, by contrast, has been developed by cognitive linguists who are also well versed in mathematics. Although a formalisation and a computer (connectionist) implementation of a theory of mental spaces and blending is only just beginning, these modern theories of blending are much more than mere speculations about what happens when we say that a butterfly is knitting socks. They 'really' tell us something about the linguistic, conceptual and even neural structure of thought and language and how they are integrated.[14] However, one should not forget that others before them had

14. Researchers around Jerry Feldman and George Lakoff, such as Srini Narayanan are developing a Neural Theory of Language (NTL), in which metaphorical mappings are neural connections allowing source domain inferences (activations in this model) to activate target domain structure (cf. contribution by Lakoff to the cog.ling list, Monday, 22 June 1998 (cf. cogling@ucsd.edu).

begun to tell the tale of the metaphoricity of language and the embodiment of thought. These investigations were interrupted abruptly in middle portion of this century by the Second World War as well as by the rise of behaviourism, positivism and structuralism(s). Retelling the story of these beginnings of a theory of blending might give modern theories firmer roots, roots that might prevent them from being swept away by the next wave of positivism and reductionism.

However, there is a danger that cognitive semanticists are going too far in opposing older so-called 'objectivist' feature-type theories of meaning. Meaning is not only *constructed*, a construction which has been studied from Gerber to Fauconnier, it is also *given* in a language, and it is this givenness that structuralist theories of meaning try to capture, especially in Europe (see Coseriu 1990; Koch 1998: 113–114). Whereas the study of metaphor and blending sheds light on the interaction between cognition and language, between encyclopaedic and linguistic knowledge, European structuralists try to shed light on linguistic and semantic knowledge itself. Both study *meaning*, but from different perspectives.

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