The contemporary theory of metaphor — now new and improved!*  

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This paper outlines a multi-dimensional/multi-disciplinary framework for the study of metaphor. It expands on the cognitive linguistic approach to metaphor in language and thought by adding the dimension of communication, and it expands on the predominantly linguistic and psychological approaches by adding the discipline of social science. This creates a map of the field in which nine main areas of research can be distinguished and connected to each other in precise ways. It allows for renewed attention to the deliberate use of metaphor in communication, in contrast with non-deliberate use, and asks the question whether the interaction between deliberate and non-deliberate use of metaphor in specific social domains can contribute to an explanation of the discourse career of metaphor. The suggestion is made that metaphorical models in language, thought, and communication can be classified as official, contested, implicit, and emerging, which may offer new perspectives on the interaction between social, psychological, and linguistic properties and functions of metaphor in discourse.  

**Keywords:** metaphor, language, thought, communication, linguistics, psychology, social science  

1. Introduction  

The title of this article is a playful allusion to Lakoff’s (1993) ‘The contemporary theory of metaphor’. It is not meant to be disrespectful. On the contrary, Lakoff has made an essential contribution to present-day metaphor research. But his approach is not identical with ‘the’ contemporary theory of metaphor. There are other sellers on the market. And, to change metaphors, the game of metaphor research could do with some serious fun, too. Hence my own title.  

Until the late seventies, metaphor was commonly seen as a matter of language and rhetoric. This changed with Ortony’s (1979) important edited volume, *Metaphor and thought*, marking a shift that has also been labeled as ‘the cognitive turn’:
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metaphor was turning into a matter of thought. Ortony’s edition set the scene in important respects for the year after, when Lakoff and Johnson (1980) published their equally revolutionary *Metaphors we live by*. When a second, revised edition of *Metaphor and thought* was published fourteen years later (Ortony, 1993), it naturally included a new chapter by George Lakoff (1993), which represents one of the main reasons why a second, revised edition was needed.

Lakoff (1993) sketched out the cognitive-linguistic approach to metaphor that had been developed since Lakoff and Johnson (1980) and, in the process, was bold enough to claim much of the intellectual credit for the cognitive turn: the definite article in the title of the piece does have certain intended implications. Whether that claim to fame is legitimate is a moot point, but it does offer a convenient and natural point of attraction for the present argument, in which I will challenge the adequacy of the cognitive-linguistic approach as ‘the’ contemporary theory of metaphor. Instead, I will argue, we need a new and improved contemporary theory of metaphor. It will include a number of the assumptions and findings of the old contemporary theory, but it will also situate them in a more encompassing theoretical framework, and require an adjustment of the prediction of the overall prevalence and importance of metaphor in thought.

The new contemporary theory of metaphor offers an improved paradigm for research in which old answers receive new interpretations and novel questions can be posed. The cognitive-linguistic framework is too limited for addressing a number of crucial issues about metaphor, for which a more encompassing interdisciplinary approach is required. Metaphor is not just a matter of language and thought, but also of communication; and metaphor cannot just be approached from a linguistic (or more generally, semiotic) as well as a cognitive (or more adequately, psychological) perspective, but it also demands a social approach. If new research findings are combined with each other in this more encompassing framework, it can be argued that metaphor in thought may be much less frequent than has been predicted by the old contemporary theory of metaphor. This is not because metaphor is not important, but because it works its wonder not just or mainly in thought, but also in language and in communication. It is the main task of the new contemporary theory to establish the interaction between these three dimensions of metaphor and to point the way to doing the relevant empirical research.
2. Problems with Lakoff’s contemporary theory of metaphor

2.1 From metaphor in language to metaphor in thought

The old contemporary theory of metaphor was formulated by Lakoff (1993) on the basis of a dozen years of research triggered by Lakoff and Johnson (1980). Its main assumption is that metaphor is not a matter of language but of thought: metaphor is ‘a cross-domain mapping in the conceptual system’ (Lakoff, 1993, p. 203). In our culture, for instance, argument is conceptualized as war and therefore we talk about arguments as if they are wars, not the other way around. Since metaphorical expressions in language are not the only type of manifestation of metaphor as part of conceptual structure, or ‘metaphor in thought,’ alternative forms of expression of metaphor outside language have also been revealed in gesture, images, and other modes of symbolization (e.g., Cienki and Müller, 2008; Forceville and Urios-Aparisi, 2009). The cognitive-linguistic approach to metaphor hence involved a radical reversal of the dependency between language and its interpretation in terms of ideas: metaphor in language used to come first but was now relegated to second position and regarded as derivative of metaphor in thought.

This has had a profound impact on theory and research, as may also be gleaned from the new overview of research on metaphor and thought, Gibbs (2008), which has replaced Ortony’s second edition of *Metaphor and thought*. Lakoff’s contemporary theory claimed that metaphor in thought is not deviant or rare, as was and probably still is the unquestioned assumption for the general public, but that metaphor in thought instead is highly conventional, ubiquitous and used in many quarters of experience. This is because people need abstract categories whenever they have to deal with anything else than their concrete body and their physical environment. Abstractions are typically thought of as categories labelled as ‘time’, ‘thoughts’, ‘emotions’ or ‘relations’, but this direct labelling and expression of abstractions is not the only way to conceive of abstract thought: as has been amply shown by followers of Lakoff’s contemporary theory, abstractions are also constructed in indirect ways, via metaphor, metonymy, and synecdoche.

Metaphor has turned out to be a conceptual mechanism, a ‘figure of thought’, by which specific and operational knowledge about more concrete phenomena and experiences is projected onto a wide range of more abstract ones. Thus time is typically conceptualized as space (e.g., Evans, 2004), love, or more generally emotions, as natural forces (e.g., Kövecses, 2000), thoughts as objects that can be manipulated (e.g., Lakoff and Johnson, 1999), and organizations as plants or machines (e.g., Morgan, 1997/2006). This projection from concrete to abstract knowledge structures works via analogy, similarity, and comparison between elements of distinct conceptual domains, and naturally contributes to the formation
of many abstract categories. Metaphor is one of the very few basic mechanisms for abstract categorization, which in turn is fundamental for human cognition, communication, and language, as may be illustrated by the following well-known linguistic examples of the conceptual metaphor love is a journey:

“Look how far we’ve come. It’s been a long, bumpy road. We can’t turn back now. We’re at a crossroads. We may have to go our separate ways. The relationship isn’t going anywhere. We’re spinning our wheels. Our relationship is off the track. The marriage is on the rocks. We may have to bail out of this relationship.” (Lakoff, 1993, p. 206)

There is hence a generally conceptual orientation to Lakoff’s contemporary theory of metaphor: it focuses on thought, not language. This, in itself, was not completely new, as is acknowledged in the preface to Lakoff and Johnson (1980), but its impact in the eighties and nineties should be understood against the background of the rise of the new interdisciplinary enterprise called cognitive science, in which philosophers, linguists, psychologists, biologists, and computer scientists, amongst others, do innovating research on a wide range of phenomena, including language, mind, brain, and their embodied basis. The arena for metaphor theory and research was consequently broadened considerably by the cognitive turn at the end of the seventies, breaking entirely new ground. Indeed, since 1993, Lakoff has focused on one of the most daunting aspects of this cognitive-scientific endeavor, narrowing down the consequences of his version of the contemporary theory of metaphor to their neural substratum (e.g., Lakoff, 2008a). This type of innovation is clearly one reason why the cognitive-linguistic approach looked like the contemporary theory indeed.

Yet the central discussion of the contemporary theory of metaphor is not about its neurolinguistic ambitions. For one thing, there are not many students of metaphor who have sufficient expertise in neuroscience. But a more general and pertinent issue is whether all interesting questions about metaphor can or have to be answered with reference to the neural structure and processes of the brain. Although Lakoff himself holds that even the results of American elections can be explained in that way (e.g., Lakoff, 2008b), it is not generally accepted that all or many social and psychological processes can or even should be reduced to neuroscientific causes and effects. People do not just behave, decide, and act as the immediate result of neural activation, conscious reflection being unable to monitor and re-direct initial impulses. Higher-level and conscious cognitive processes have their own momentum and reality, playing a crucial role in social and cultural interactions (cf. Baumeister and Masicampo, 2010). Neurolinguistic and neuropsychological associations may have been demonstrated for some aspects of metaphor, indeed, but their precise relevance to the wide range of questions about the
structure, function, and use of metaphor in all kinds of actual practices remains to be precisely theorized and researched. This is related to another limitation of neural research, which is also acknowledged by Lakoff himself:

“Indeed, it is in cognitive linguistics where the actual content and linguistic expression of frames is studied. Emotion research with fMRIs, however vital, cannot tell you conceptual content — what you are emotional about. Emotion research alone cannot distinguish one idea from another …” (Lakoff, 2008b, p. 196)

Of course, it is not just in cognitive linguistics where the actual content and linguistic expression of metaphorical frames is studied, but the methodological distinction between research on human behavior versus the content of linguistic expressions does have a bearing on the complete field of research, as will be detailed below (Section 3).

2.2 Problems with metaphor in thought

As Lakoff was writing up his contemporary theory of metaphor, fundamental objections to details of the cognitive-linguistic approach to metaphor in thought were formulated by other linguists interested in cognition, such as Wierzbicka (1986) and Jackendoff and Aaron (1991), as well as by cognitive psychologists such as Glucksberg and Keysar (1990, 1993). They contested Lakoff’s interpretation of one of his three most robust types of evidence for metaphor in thought (Lakoff, 1993, p. 205), the role of metaphorically motivated polysemy in the lexicon. Glossing over many details, the problem is this: even if words like defend, attack, win, lose, and so on display systematic polysemy in that they all have ‘war’ senses as well as ‘argument’ senses, this does not entail that when they are used in their metaphorical sense they also always reflect the presence and use of metaphorical conceptual systems in on-going metaphorical cognition, mappings presumably being constructed from concrete source domains of fighting and war to abstract target domains of discussion and debate. This is the cognitive-linguistic claim, but quite a few other linguists and psychologists simply deny that this type of mapping has to take place during on-line language processing. They offer the alternative explanation that such mappings may have been needed at some point of usage in the history of the language, but that these mappings have become irrelevant to the thought processes of the contemporary language user, precisely because the metaphorical senses of the words have become equally conventional, and sometimes even more frequent, than the non-metaphorical ones.

This is valid criticism of an approach that claims to be usage-based (Steen, in press a): why would people have to re-enact the same mappings across conceptual domains, spaces, or categories over and over again if they have conventionalized
metaphorical senses at their disposal that they can pull directly from their mental dictionaries when needed? And why would children acquire the ‘war’ senses of *defend, attack, win, lose* and so on first, as basic senses from which they have to project figurative mappings, if many children grow up in an environment where argument is fortunately much more prevalent than war? Or, alternatively, why would they privilege the ‘war’ sense over the ‘argument’ sense as being more basic if they acquire such words as wholes and then start differentiating them into distinct uses, as is the new position in Lakoff and Johnson (1999)? (And how would this work in a society that, at an early age of development, has computer games on offer in which war has become play?) If the overall point of this critique can be substantiated, the general thesis that the ubiquitously metaphorical structures of language reflect massive amounts of on-going metaphorical thought would be seriously weakened (although less bold versions may of course remain defensible).

The idea that there may be alternative explanations of the same language data has been promoted for some time within the framework of Lakoff’s contemporary theory by one of its staunchest advocates, psychologist Ray Gibbs (e.g., Lakoff, 1993, 1999). The historical explanation, stating that contemporary metaphorically motivated polysemy is largely a matter of diachronic language development and does not spill over into persistent on-line metaphorical processing, is one of Gibbs’s list of options. This historical alternative was developed during the nineties in concrete detail in experimental research carried out by two other psychologists and their associates, Sam Glucksberg (cf. 2001, 2008) and Dedre Gentner (e.g. Gentner and Bowdle, 2001, 2008; Bowdle and Gentner, 2005); it currently presents a viable and well-supported competitor to Lakoff’s audacious and evidently still inspiring position.

In retrospect, Glucksberg’s main contribution was to question Lakoff’s claim that such on-line metaphor comprehension requires cross-domain mapping by comparison. Instead, Glucksberg argues, the process works by categorization (or more simply, abstraction). Thus, according to Glucksberg, when processing a sentence like *My lawyer is a shark*, people would not project a comparison from *shark* to *lawyer*, simply because the sentence tells them that lawyers are not like sharks but part of the category of ‘sharks’. Because this is blatantly incorrect, people would then attempt to find the set of attributes that *shark* exemplifies and use that set of attributes to form a new, ad-hoc superordinate category within which the concept of ‘lawyer’ can be seen as another instance. If this happens often enough, the term *shark* becomes polysemous, acquiring a figurative superordinate sense next to its original basic sense. This in turn can then explain that conventional metaphors, already having readily-available figurative senses, do not require the conceptual process of categorization or abstraction anymore. Experimental evidence to this effect was adduced in various places (for an overview and references, see Glucksberg, 2008).
The distinction between conventional and novel metaphor was placed in an even more explicitly historical perspective by Gentner and Bowdle when they proposed the Career of Metaphor Theory (Gentner and Bowdle, 2001, 2008; Bowdle and Gentner, 2005). They suggest that metaphor requires different mental processes when it is novel (at the beginning of its career) than when it is conventional (in the middle) or has died (at the end). They agree with Glucksberg that some metaphor may require processing by categorization (or abstraction) and not cross-domain mapping (or comparison), but they have offered experimental evidence that this works differently than predicted by Glucksberg. The main contribution of the Career of Metaphor Theory in this connection is that it is not just the novel or conventional conceptual structure of a metaphor that affects the way it is processed, by comparison or categorization, but that this conceptual dimension of metaphor interacts with the linguistic form in which the cross-domain mapping is expressed: genuine metaphors work differently than similes. An example may help to make this more concrete.

Just as Glucksberg takes statements such as *My lawyer is a shark* at face value, in that it is a class-inclusion statement that supposedly triggers categorization, so Gentner and Bowdle take the lexico-grammatical form of similes such as the conventional *Time is like a river* at face value and predict that they trigger comparison (the ‘grammatical concordance hypothesis’). If these predictions are crossed with the demonstrable influence of conventional versus novel mappings, there is an interaction effect on preference for processing strategy of linguistic form combined with conceptual structure. In a task asking for people’s preference for a metaphor or simile form of sentences like *My lawyer is (like) a shark* or *Time is (like) a river*,

“preference for the metaphor form was far higher for conventional figurative statements than for novel figurative statements. Indeed, participants’ preference for the comparison form was as strong for novel figurative as it was for literal similarity statements. The conventional figuratives were more mixed, consistent with the claim that conventional figuratives may be treated as either comparisons or categorizations.” (Gentner and Bowdle, 2008, p. 120)

Comprehension times confirmed this interaction effect on processing strategy:

“First, conventional figuratives were interpreted faster than novel figuratives. And second, there was an interaction between conventionality and grammatical form, such that novel similes were faster than novel metaphors, but conventional metaphors were faster than conventional similes.” (Gentner and Bowdle, 2008, p. 121)

The Career of Metaphor Theory therefore offers a sophisticated description of the relation between metaphor in thought (conventional versus novel conceptual structures), metaphor in language (metaphor versus simile form), and metaphor in processing (comparison versus categorization).
In other words, from the publication of Lakoff and Johnson (1980) on, the contemporary theory of metaphor developed some bold claims about metaphor and the way it plays a role in thought (which was held to be reflected as such in language), and this led on to new research and more precise questions and predictions in the framework of a number of competing alternative explanations. At the moment, the main question about the relation between metaphor in language and thought in psychological structure and process has become: When is metaphor in language processed by on-line cross-domain mapping (or comparison)? This is not just the explicit target for Gentner and Bowdle in their development of the Career of Metaphor Theory, which offers a complete and motivated account of a number of possible scenarios. It has also become the new goal for Glucksberg and his co-workers, who at first claimed that all metaphor was processed by categorization, but is now trying to develop a more sophisticated account (e.g., Glucksberg, 2008; Glucksberg and Haught, 2006). And it has even begun to affect the position of Lakoff, who at first argued that all metaphor was processed by cross-domain mapping but now writes (Lakoff, 2008a, p. 35): ‘Does up in Prices went up always activate the More is Up? It depends.’

Distinct researchers have different expectations, depending on their theoretical framework. The main original tenet of the cognitive-linguistic approach, that all metaphor in language requires on-line cross-domain mapping in thought, is in difficulty, and it has become an empirical question with uncertain outcome when metaphorical thought in fact takes place. In its wake, the general validity of the notion of conceptual metaphor and its precise relevance for specific conceptual systems has also come up for further scrutiny. Overall, however, each of these theories may still be described in terms of an encompassing cognitive-scientific framework that may still be labeled as compatible with the contemporary theory of metaphor, metaphor in thought leading the way to empirical research on metaphor in language processing, knowledge representation, reasoning, and so on (see Steen, 2007).

A slightly more substantive and programmatic re-construction of where the old contemporary theory of metaphor stands today could point at the following five more detailed issues for research.

1. The notion of metaphor as a cross-domain mapping in conceptual structure is an essential theoretical starting point for studying how novel versus conventional metaphors are processed, by comparison or categorization (Lakoff’s Conceptual Metaphor Theory versus Glucksberg’s Class-Inclusion Theory versus Gentner’s Career of Metaphor Theory). New evidence has been offered, for instance, that on-line metaphorical mapping may still be important for some conventional metaphors (e.g., Boroditsky, 2000). It is possible, however, that these conventional conceptual metaphors, including Time is space, may...
be special cases: they may be primary metaphors with an embodied basis in image schemas which may exhibit persisting neural entrenchment (Hampe, 2005; Gibbs, 2006). This may constitute a contrast with other metaphors that do not have such an image-schematic basis, and offers a new way in to the issue of the validity of conceptual metaphors as such; but empirical research still has to address this question.

2. The notion of metaphor as a cross-domain mapping in conceptual structure is also essential for the study of how distinct linguistic forms are processed, by comparison or categorization again. As suggested just now, the interaction between the conceptual (conventional versus novel) and linguistic (metaphor versus simile) properties of metaphors is one area of attention, but the available evidence is still inconclusive. Moreover, it is largely based on highly infrequent linguistic constructions (A is [like] B); other forms of metaphor will also have to be included (Goatly, 1997; Steen, 2007).

3. Metaphor as a cross-domain mapping in conceptual structure is furthermore essential for theory and research on how deep processing of metaphors in language can and needs to go. The comparison-categorization debate in psychology focuses on metaphor in thought, or on the need to understand metaphorical utterances by activating corresponding conceptual domains and setting up mappings across them, by whichever cognitive operation. In essence, it looks at metaphor as a mechanism for categorization. New evidence has been offered (Giora, 2003, 2008; cf. Coulson, 2008), however, that on-line linguistic as opposed to conceptual processing of such utterances, by lexical disambiguation, may also account for the data regarding conventional metaphor (which constitutes the bulk of all metaphor). This type of analysis looks at the role of the semantic salience of word senses, not concepts. If conventionalized metaphorical senses are sufficiently salient, which they often are, this analysis can be made fully compatible with the historical explanation that suggests that people simply retrieve the appropriate senses and do not have to go to conceptual structures (cf. Steen, 1994).

It should be noted that this is an explanation which has been impossible for a while in cognitive linguistics because cognitive linguists do not make a hard-and-fast distinction between lexical semantics and conceptual structures (but cf. Evans, 2009). The central cognitive-linguistic assumption about the cognitive inseparability of words and concepts, however, does not mean that lexical disambiguation cannot still be a rather different psychological process than the construction or retrieval of complete conceptual categories and mappings between them. I have suggested that there may be more ‘shallow’ processing of this kind than is acknowledged in many metaphor studies (Steen, 1994, 2007, 2008).
4. There are other issues regarding the relations between metaphor, language and thought, such as production versus comprehension, the multimodal nature of metaphor in production and comprehension, and longer-term processes of language acquisition and learning, maintenance, and loss. One central problem involves the precise identification and demarcation of metaphors in thought, both with regard to local and isolated instances as well as the large-scale systematic complexes of metaphor like *love is a journey* or *time is space*. But these topics can and have been addressed in the same cognitive-scientific framework (Steen, 2007) and are typically treated in cognitive psychology as dependent on how the above issues are resolved (e.g., McGlone, 2007).

5. The historical explanation of the way metaphor works advanced so far may also be applied to conceptual structure. In particular, even though it may be true that specific conceptual domains may have been used in a culture to conceptualize other conceptual domains in more specific and precise terms, such as time as space, or organizations as machines or plants, this does not necessarily mean that those mappings should still remain cognitively available as (parts of) conceptual systems, still and always getting activated during on-line thinking, reasoning, long-term knowledge representation, and so on today. The mappings might have done their work in the past and the conceptual organization of the more abstract domains could be autonomous from the original source domains.

In order to produce evidence for the more general cognitive-scientific claim about metaphor in thought, and in order to get away from the dependence on linguistic data for the thesis about metaphorical thought, non-linguistic research focusing on metaphor in thought has shown that people do think metaphorically when they perform various tasks (e.g., Casasanto, 2008). These findings make a case for one of the central claims of the contemporary theory, that metaphor is essential to the way we think. Yet it should also be realized that, first of all, it is not clear for which class(es) of conceptual metaphors this holds, and, secondly, that this does not have a direct bearing on the relation between metaphor in thought and language, which may still be explained along the lines suggested above, precisely because of the non-linguistic focus of the other studies. What is needed, therefore, is a more precise model of the relation between metaphor in thought and metaphor in language processing (cf. Boroditsky, 2000).

All of these issues, as they are perceived now, can be comfortably integrated in revised forms of the old contemporary theory of metaphor. They may be seen as serious problems, too, for the contemporary theory by those cognitive scientists
who do not endorse the cognitive-linguistic approach. However, from a more general angle they may also be interpreted as variations on the constant cognitive-scientific theme of metaphor in thought that forms the bedrock of the contemporary theory.

2.3 The role of metaphor in communication

There is one type of problem, however, which does require stepping outside the old contemporary theory. This is the notion of deliberate metaphor. Even though at first glance deliberate metaphor looks like a problem that could be key to the cognitive-linguistic approach to metaphor as a matter of thought, in that it goes back to the old and thorny problems of intentionality and consciousness, it is much more complex than that. I will argue here that the opposition between deliberate and non-deliberate metaphor rightfully belongs to a different dimension than thought or language, namely communication. It therefore promotes a radical reconsideration of the two-dimensional paradigm of the old contemporary theory of metaphor (Steen, 2008).

The question of whether a metaphor is used deliberately or not may be approached in different ways (e.g., Cameron, 2003; Charteris-Black and Musolff, 2003), but here I will look at it from the traditional rhetorical perspective. The issue may then be phrased as follows: when do people use a metaphor deliberately as a metaphor? In other words, when do they use a linguistic expression in such a way that they are aware of its foundation in a cross-domain mapping, and in such a way that they may also want to alert their addressee to this fact as well, apparently for specific rhetorical reasons?

In practically all contemporary metaphor research, the question of metaphor deliberateness has been ignored. There are no psycholinguistic experiments that have examined the role of conscious and deliberate metaphor use. This is also due to the main thrust of the cognitive-linguistic contemporary theory of metaphor, which has been to assert that metaphor works conventionally, automatically, and unconsciously. This radical position was needed to get away from the traditional view of metaphor as a rhetorical device with which language users consciously and deliberately manipulated their message for communicative purposes, and the remove has served its purpose. But the concomitant distance to the rhetorical role of metaphor now needs to be redressed (cf. Billig & MacMillan, 2005; Wee, 2005; Holmgreen, 2008).

Metaphor in language displays a crucial opposition between metaphor and simile, and metaphor in thought displays a crucial opposition between conventional and novel metaphor, as we have seen; in the same way, metaphor in communication exhibits a fundamental contrast between deliberate and non-deliberate
metaphor. Deliberate metaphor is an overt invitation on the part of the sender for the addressee to step outside the dominant target domain of the discourse and look at it from an alien source domain. This clearly happens when people use similes such as *Science is like a glacier*: the addressee has to step outside the target domain of science, which functions as the local discourse topic, and re-view it from the angle of the alien conceptual domain of glaciers and, more broadly, our natural environment. The lexical signal *like*, moreover, makes it explicit that the sender wants the addressee to perform a cross-domain mapping between these two conceptual categories, from glaciers as a source to science as a target. This could also be signaled in other ways, such as *metaphorically speaking, science is like a glacier*. Moreover, it would be entirely appropriate for the addressee to respond to the metaphorical status of such an utterance, by way of explicit metaphor recognition, slightly more extended metaphorical interpretation, or overt metaphor appreciation (cf. Steen, 1994).

Non-deliberate metaphor does not have this particular communicative aim of changing an addressee’s perspective on the current local topic of a discourse event. Communicatively, it intends to stay on topic (the dominant conceptual domain of discourse, which may even be limited to the confines of a single clause or discourse unit): it does not ask the addressee to pay conscious attention to the structure of an alien source domain that may be involved in the semantics of the words used. I would claim that this holds for many examples adduced in cognitive linguistics, including sentences like *Lakoff attacked Glucksberg*. It would be inappropriate and distracting if an addressee spent time on accessing the war domain during their interpretation or appreciation of this utterance if it were conventionally used to talk about an academic debate. It would also be inappropriate and distracting if the speaker drew attention to the metaphorical nature of this lexical usage, by adding in a lexical signal to that effect, as in *Lakoff attacked Glucksberg, so to speak* (cf. Goddard, 2004). The same would hold for a response by the addressee that called attention to the figurative nature of the utterance as an utterance: ‘Why did you use that metaphor there?’ would raise an eyebrow or two.

The opposition between deliberate and non-deliberate metaphor is about the presence or absence of a change in perspective on the target domain that is communicatively shared between the producer and the recipient: it is as if the sender could have said, ‘Look at it this way …’ It is a distinction which has been glossed over and is now a new and crucial topic on the agenda for metaphor research. It also offers exciting opportunities for application and intervention in the diverse practice of language users, in the media, education, organizations, health and care, politics, and so on.

This is particularly important because of the possible relation of deliberate metaphor to processing: the linguistic forms and conceptual structures of deliber-
ate and non-deliberate metaphors may vary, and the communicative reasons for using metaphors deliberately or non-deliberately may also diverge; but when metaphors are used deliberately, it may be expected that all of them are to be processed by comparison, not categorization. This is simply because they are presented as explicit invitations for the addressee to move away from the target domain and construct a cross-domain mapping from some alien source domain. If deliberate metaphors are not processed by forging correspondences between a source and a target domain, they misfire as (parts of) utterances. Thus, it is inevitable for an addressee who aims to make sense of the above example sentence about science to consider some part of glaciers. Some form of comparison will be ineluctable there, from the standpoint of glaciers, which consequently entails a shift in position from which the local topic of the discourse, science, is approached. However, it is not inevitable for an addressee to consider some part of the category of war to understand Lakoff attacked Glucksberg: retrieval of the correct metaphorical sense of the lexical unit attack can also do the job, and since that sense is an ‘argumentation’ sense, not a ‘war’ sense, there will be no observable change of perspective, from argumentation to war, within the parameters of the discourse.

Introspection and casual observation suggest that, generally, people do not often use metaphors deliberately. And there may be good discourse reasons for this: we cannot keep changing our perspective all the time as we need to stay focused on one conceptual target domain at a time, the topic. Nor can we keep doing comparisons or cross-domain mappings all the time, for they cost additional energy. This general explanation is complementary to the one addressing the special role of metaphor in for instance literature, where the probably more frequent use of deliberate metaphor is held to function as a device for the defamiliarization of cognition (e.g., Semino and Steen, 2008). This conclusion about the paucity of deliberate metaphor in communication is almost the opposite of the ubiquity view developed in the cognitive-linguistic approach to metaphor presented as the contemporary theory, and it raises the question how these views can be reconciled.

2.4 Towards a three-dimensional model for metaphor

The cognitive-linguistic thesis that metaphor is ubiquitous and a general-use tool for thought sharply contrasts with the rhetorical position that metaphor is relatively scarce and a special-use tool for communication. These views can only be reconciled in a framework that allows for a distinction between the non-deliberate versus deliberate use of metaphor in communication. If we include the other important oppositions between conventional versus novel metaphor (conceptual structure) and simile versus metaphor (linguistic form), we arrive at a three-dimensional framework which allows for the study of every metaphor from three
complementary angles, metaphor in language, thought, and communication (Steen, 2008). It suggests that important differences between metaphors can be captured by a taxonomy that may be schematically represented as in Table 1.

Of course, this taxonomy is a simplification, since some metaphors may be conceptually conventional but linguistically novel, as in Bob Dylan’s *Time is a jet plane, it moves too fast*, but we will have to leave these and other desirable refinements aside for now. All combinations of values can be easily illustrated, with one exception: it is hard to come up with good examples of novel metaphors and similes that are not deliberate. This is because novelty seems to suggest some degree of awareness of choosing an alien source domain to talk about some current target domain, which in turn suggests that such a novel metaphorical mapping is deliberate. This is not the complete story though, for what is conventional to one interlocutor may be novel to another (Steen, in press b) and further theoretical work on the distinction and interaction between these categories is clearly needed.

This leads on to a related point, which is also clarified by the structure of Table 1: conventional metaphor is not identical with non-deliberate metaphor, and it is therefore not the opposite of deliberate metaphor. Conventional metaphor can be used either non-deliberately or deliberately, as is illustrated by the examples. This is because conventionality is part of one dimension, metaphor in thought, which is orthogonal to the other dimensions, in this case the communicative dimension, which includes deliberateness. Categories of one dimension may be

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**Table 1. Three-dimensional taxonomy for metaphor properties**

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<thead>
<tr>
<th>Communicative values</th>
<th>Conceptual values</th>
<th>Linguistic values</th>
<th>Examples</th>
</tr>
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<tbody>
<tr>
<td>Non-deliberate</td>
<td>Conventional</td>
<td>Metaphor</td>
<td>Lakoff attacked Glucksberg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Simile</td>
<td>He's as stubborn as a mule</td>
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<td></td>
<td>Novel</td>
<td>Metaphor</td>
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<td>Simile</td>
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<tr>
<td>Deliberate</td>
<td>Conventional</td>
<td>Metaphor</td>
<td>Wasp, the wrong weather, and why this summer’s got a very nasty sting in the tail (newspaper headline)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Simile</td>
<td>More like the shadow of his thoughts or something (BNC JSU 136)</td>
</tr>
<tr>
<td>Novel</td>
<td>Metaphor</td>
<td>Juliet is the sun</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Simile</td>
<td>Every junkie’s like a setting sun</td>
<td></td>
</tr>
</tbody>
</table>
highly correlated with categories on another one, but a three-dimensional model prevents the illegitimate conflation of these aspects of metaphor on one scale, as happens in for instance Cameron (2003), who sets up a contrast between conventional and deliberate metaphor.

These comments can only begin to suggest the value of this three-dimensional approach to the study of metaphor. Other aspects include the following programmatic points: most of these are relatively new questions for the contemporary theory of metaphor.

1. The contrasts between deliberate versus non-deliberate metaphor, conventional versus novel metaphor, and simile versus metaphor are important but also illustrative (cf. Steen, 1999a).
   a. More categories are needed for some of these scales, such as other linguistic forms than A is B metaphors and A is like B similes for the scale of ‘linguistic form’, and ‘dead’ for the scale of ‘conventionality’.
   b. Further scales for each of the three dimensions are also needed: in the linguistic dimension, simple lexico-grammatical distinctions have to be included to examine how metaphor behaves across them; in the conceptual dimension, metaphor aptness has recently drawn much attention as a potential competitor to metaphor conventionality in its potential for explaining which metaphors are processed in which way, by comparison or categorization (e.g., Jones and Estes, 2005, 2006; but cf. Gentner and Bowdle, 2008); and in the communicative dimension, other rhetorical figures, including hyperbole, irony, and so on, have been shown to affect the function and use of metaphor.

2. The contrasts used in Table 1 are theoretically important for the development of theory and research in the contemporary theory in that they feed into the research issues summarized in 2.2 above. However, they should not be taken as suggestive of the frequency or distribution of each of these categories in natural discourse. Thus, as we shall see in more detail below, simile accounts for a very small percentage of all linguistic forms of metaphor, the bulk of metaphor being expressed as ‘true’ or ‘simple’ metaphor. A comparable proportion holds for novel versus conventional conceptual structures of metaphor. A similar argument can be made for deliberate versus non-deliberate metaphor, which facilitates reconciliation of the cognitive-linguistic position that metaphor is ubiquitous with the rhetorical position that it is rare: the top half of the figure contains the bulk of metaphor in discourse while the bottom half only has a small proportion.
3. We have seen above that current psycholinguistic research has concentrated on the relation between metaphor processes (comparison, categorization) on the one hand and the interaction between linguistic (simile versus metaphor) and conceptual (conventional versus novel) metaphor properties on the other. It is now possible to raise more precise questions about this relation by taking into account the interaction between linguistic form and conceptual structure on the one hand and the communicative dimension of metaphor on the other:
   a. Is it correct that deliberate metaphor requires processing by comparison, and non-deliberate metaphor not necessarily?
   b. Furthermore, when does deliberate metaphor processing by comparison take place: does it take place from the start for both novel and conventional deliberate metaphor (that is, from the stage of initial comprehension on, see Gibbs, 1994)? Or is conventional metaphor (perhaps sometimes) different, in that it can also be first processed by categorization or lexical disambiguation during comprehension, with the cross-domain mapping taking place as a matter of post-comprehension recognition and interpretation, when it has post-hoc been realized that a metaphor has been deliberately used as a metaphor?
   c. And finally, and vice versa, is it possible that some non-deliberate metaphors are processed by comparison anyway, during comprehension, not post-comprehension, for instance because they are based in image-schematic mappings that are neurally entrenched, as suggested above?

4. One more specific concern is the question when, precisely, metaphors count as deliberate, both in structure as well as in processing (Steen, in press b). The notion of deliberateness is complex and problematic. It has connections with intentions and consciousness and these need to be made explicit (Steen, submitted). But just as with metaphor itself, or as with metaphor conventionality and aptness, the fact that there are graded areas in deliberateness does not mean that for many purposes of research, clear and functional contrasts can be defined whose differential effect on behavior can be empirically researched. In practice, there are entirely clear and important cases of deliberate metaphor use, and entirely clear and important patterns of non-deliberate metaphor use, that can be compared with each other regarding their workings.
   a. Some linguistic forms typically indicate deliberate metaphor use, including a lexical signal such as like, or the extension of a metaphor beyond one phrase or clause. Extended comparisons and analogies between parts of texts are also deliberate, requiring discourse-strategic as opposed to lexico-grammatical decisions on the part of their producer. Instances of word-play that rest on a contrast between a metaphorical and a non-
metaphorical word sense, or other combinations between metaphor and different tropes, such as hyperbole, irony, and so on, all seem to require relatively conscious rhetorical planning. Even entire genres (allegory, parable, poetry) may count as including expected instructions to take any or most metaphors in their texts as deliberate, constituting well-known exceptions that allow for high density and processing of deliberate metaphor. For an initial attempt at an inventory which may be connected to this discussion, see Goatly (1997).

b. Recognition that a metaphor has been used as a metaphor may be a clear indication that a metaphor has been processed as deliberate. However, people may have different targets of awareness of metaphor as metaphor, ranging from a simple or vague sense of linguistic or conceptual indirectness, through their awareness of a need for a non-literal comparison, to the realization that a particular utterance counts as an instance of the figure of thought called metaphor. And there is the question of the relation between intention and uptake: is a metaphor only deliberate if it was meant as such by the sender, or if it was recognized as such by the receiver, or both? Here, too, more theoretical work is to be done to guide the way to sensible empirical research.

Overall, these issues may be summarized in terms of the following overall central question: When does metaphorical thought in fact take place during individual cognitive processes of language use, learning, remembering, reasoning, and interacting? And more specifically, for language use, when does metaphorical thought exactly take place in comprehension and understanding and during production?

This general question still much resembles what lay behind the old contemporary theory of metaphor’s research program; it also goes back to my old distinction between metaphor processing versus metaphoric processing (Steen, 1994). We still have not completely left the cognitive-scientific approach, as we are focusing on psychological processes of language, thought, and communication. The question can be developed, however, into a novel, more specific version in the next section, where we will promote other approaches, too; moreover, the expected answer to the question will be: ‘much less frequently than predicted by the old contemporary theory’.

By way of concluding comment, it should be noted that the three-way division between language, thought and communication sounds very much like the approach developed in Relevance Theory (Sperber and Wilson, 2008). Relevance Theory also makes a distinction between precisely these three levels of analysis and takes language as a code which underdetermines situated meaning, therefore requiring enrichment in processes of cognition and communication. There are indeed interesting possibilities for collaboration between that approach and the
cognitive-linguistic approach to metaphor that is central to the contemporary theory (e.g. Gibbs and Tendahl, 2008). However, one major problem is that Relevance Theory does not take metaphor as a distinct phenomenon in the first place, but prefers to see it as a form of loose talk and pragmatic inference only:

“There is no mechanism specific to metaphor, no interesting generalization that applies only to them. In other terms, linguistic metaphors are not a natural kind, and “metaphor” is not a theoretically important notion in the study of verbal communication.” (Gibbs and Tendahl, 2008, pp. 84–85)

This is rather a different starting point than the one developed here. Moreover, the present approach takes pragmatics, together with semantics and syntax, as belonging to the dimension of language, not thought and communication. The latter two offer their own indispensable views of metaphor in use: the basis of metaphor lies in mappings across conceptual domains (thought, or cognition), and, although all language use involves intentional or goal-directed behavior, some metaphorical language use is deliberately metaphorical as a ploy in communication. It is at present not completely clear how all of this can be compared with each other, which is one task for future theoretical discussion and modeling.

3. The new contemporary theory of metaphor

The old contemporary theory of metaphor reversed the relation between metaphor in language and metaphor in thought, and set up a cognitive-scientific paradigm for the study of metaphor. With the development of other approaches to metaphor that were inspired by this development, such as particular brands of functional and applied linguistics as well as discourse analysis, it has become clear that the cognitive-linguistic approach is too limited to account for all important aspects of metaphor. The discovery of the importance of deliberate metaphor is one seminal result of this development: it is not just the linguistic forms (e.g. metaphor or simile) and conceptual structures (e.g. conventional versus novel) of metaphor that demand our attention, but so do its communicative structures and functions (such as deliberate versus non-deliberate use). As we have seen, we need a three-dimensional model for metaphor, where linguistic, conceptual, and communicative properties of metaphor are examined as relatively independent and interacting aspects that may affect all kinds of processes in production, reception, interaction, acquisition, learning, maintenance, and so on. The transition of metaphor from language to thought in the old contemporary theory is being followed today by another transition, from metaphor in thought to metaphor in language, thought, and communication.
3.1 Dimensions and approaches

Many questions about the new contemporary theory of metaphor may arise at this point, but we can only address them if another important issue has been cleared up. This is the distinction between dimensions and approaches. When we look at the old contemporary theory, there were two dimensions, metaphor in language and metaphor in thought, and these have been at the center of discussion in a number of disciplines, thought being most central, as can be seen from the titles of Ortony (1979/1993) and Gibbs (2008). With the addition of communication, we now have three dimensions that pertain to the phenomenon of metaphor, and these dimensions should be distinguished from the disciplines concerning themselves with metaphor, which represent distinct approaches. Thus, there are linguistic, or more broadly semiotic, approaches to metaphor in language and metaphor in thought, the best-known of which is cognitive linguistics; but there are also psychological approaches to metaphor in language and thought, including the ones referenced above (cf. Steen, 2007, for a full overview). In addition, Cameron (2007) and Goatly (2007) have recently argued that the cognitive approach should be complemented by a social approach to metaphor in language and metaphor in thought, reflecting a central concern of those applied linguists, sociolinguists and discourse analysts who have examined the variable relation between metaphor, language and thought across situations of use and groups of people (cf., e.g., Charteris-Black, 2004; Koller, 2004; Caballero, 2006; Müller, 2008; Semino, 2008; Musolff and Zinken, 2009; Steen, Dorst, et al., 2010a, b). Since these three approaches can also all be distinguished for the new dimension of metaphor in communication, we can now present a three-by-three division of the complete field of research (see Table 2).

Table 2. Metaphor research: Dimensions and approaches

<table>
<thead>
<tr>
<th></th>
<th>Behavioral</th>
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<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Semiotic</td>
<td>Psychological</td>
<td>Social</td>
</tr>
<tr>
<td><strong>Language</strong></td>
<td>The linguistic forms of metaphor</td>
<td>Individual processes and products of metaphor use</td>
<td>Shared processes and products of metaphor use</td>
</tr>
<tr>
<td><strong>Thought (cognition)</strong></td>
<td>The conceptual structures of metaphor</td>
<td>Individual processes and products of metaphor use</td>
<td>Shared processes and products of metaphor use</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>The communicative functions of metaphor</td>
<td>Individual processes and products of metaphor use</td>
<td>Shared processes and products of metaphor use</td>
</tr>
</tbody>
</table>
Lakoff’s contemporary theory of metaphor and the research it has triggered has mostly been concerned with the four areas in the upper left hand corner of Table 2, which can be further divided into more specific areas of research such as grammar versus usage (Steen, 2007). But even in this restricted set of domains, distinctions between dimensions and approaches have at times been confused or confounded, which is important for evaluating various types of evidence as converging (Steen, 2007). That is why I will only make a few very cursory comments here about the potential of this map of the field. I see it as a horizon that needs more theoretical discussion and development but which can help metaphor scholars to become more precise about their specific research goals and contexts.

One way to illustrate this map is by examining metaphor identification. What counts as a metaphor to analysts can receive diverging answers in each of the nine areas in Table 2. However, since we are speaking of dimensions of the same phenomenon, and approaches to the same phenomenon, i.e. metaphor, the answers should all be compatible with the same theoretical definition of that phenomenon, for instance as a cross-domain mapping. An overview of how this can be achieved for the top four areas in the left hand corner was offered in Steen (2007), some of the main points of which feed into the following discussion.

1. Linguistic metaphor identification can be done by means of a reliable procedure which has been developed over the past decade (Pragglejaz Group, 2007; Steen et al., 2010a, b). It does not make substantial assumptions about conceptual or communicative metaphor identification. It is based on the idea that metaphor in language exhibits indirect meaning, producing local semantic incongruity, which needs to be connected to the encompassing semantic frame of a text, paragraph, sentence, clause or even phrase by some form of (non-literal) comparison (Steen, 2007). This operational definition is compatible with the study of conceptual metaphors in thought by cognitive linguists, but does not rely on it: all linguists can identify metaphor in language by this tool, provided they accept its theoretical assumptions about indirectness and comparison.

2. The identification of metaphor in thought can take place in two ways: inductively and deductively. The deductive approach sets out from a predetermined set of conceptual metaphors, such as argument is war, love is a journey, happy is up, and so on, and attempts to find linguistic expressions that are compatible with those conceptual frames. The inductive approach can make use of a dataset of linguistic materials that are presumably metaphorical and which have been collected independently during linguistic metaphor identification, and then needs to proceed to the re-construction of cross-domain mappings on the basis of groupings of linguistic cases. Both methods are
problematic but can offer rich data analyses and interpretations for further research.

3. The identification of metaphor in communication that has now also been placed on the agenda can make use of both linguistic and conceptual metaphor datasets and needs to decide which of these metaphors count as metaphorical to the language users participating in the discourse. As I have suggested, one important question in this regard is whether metaphors can be identified as deliberate or non-deliberate (Steen, in press b). In particular, which formal, conceptual and communicative aspects in the semiotic structure of metaphor can be seen as signaling the deliberate use of a metaphor? A method for this type of identification still needs to be developed and tested.

We are currently working on the development of analytical tools for conceptual and communicative metaphor identification within the framework of a new interpretation of the five-step method of metaphor identification and analysis (Steen, 1999b, 2009). Methodological difficulties vary between the three dimensions of metaphor in language, thought, and communication, and this raises fundamental questions about the comparability of our semiotic knowledge about metaphor in those dimensions. These questions need to be addressed in order for metaphor research to become eventually applicable in all sorts of domains of practice.

Metaphor identification from a semiotic angle is different to metaphor identification from a behavioral angle, which looks at psychological or social processes involving real people in real time. For a semiotic approach, we investigate symbolic data, typically texts and transcripts, and identify particular classes of signs and sign structures as metaphorical; as illustrated just now, this may take place in distinct ways for the dimensions of language, thought, and communication. But for a psychological or social approach, we need to answer the question how metaphor can be identified in behavioral data, including language and thought processes and their products, and patterns of communicative interaction. This is the type of methodological difference that Lakoff (2008b, p. 196) also alludes to in the quotation above, when he speaks of the difference between content analysis and fMRIs.

The psychological approach has to look at individual behavior, and the social approach at co-ordinated behavior between individuals or groups of individuals. The psychological approach is based on the assumption that individuals need mental representations of metaphor in language, thought, and communication, as they need mental representations of all parts of language, thought, and communication (for well-known models, see van Dijk and Kintsch, 1983; Clark, 1996). The social approach assumes that there are supra-individual or shared representations of metaphor in language, thought, and communication, which are
abstractions across individuals who are interacting with each other; this social level of representation is a complex area of research, which has recently begun to be studied from a complex systems perspective by for instance Cameron and her colleagues (e.g., Cameron, Maslen, et al., 2009).

For a psychological approach to identify a metaphor in language, we would need to have empirical evidence that two distinct senses are in fact activated and related to each other in an individual’s mind. And for a psychological approach to identify a metaphor in thought, we would need to have evidence that two distinct conceptual domains are in fact activated and related to each other in an individual’s mind. The psychological identification of metaphor in communication, finally, would need to produce evidence that an individual is aware that they are producing or receiving a metaphor as a metaphor; this would relate to evidence for metaphor recognition, which is typically a post-comprehension process. All of these targets can only be achieved by looking at the psychological behavior of people in action, whether in natural or experimental situations.

For the social approach, the criterion would shift from finding metaphor in individual behavior to finding metaphor in behavior between individuals. It would raise the question when metaphor occurs in language, thought, or communication from the perspective of interaction as distinguished from individual behavior. For a social approach to metaphor in language, the question might arise whether what counts as a metaphor in language to one party in a discourse event also counts as a metaphor in language to another party, which might vary on account of people using diverging language varieties. For the social approach to metaphor in thought, we would have to collect evidence that both parties in a discourse event are engaged in thinking about the same idea in terms of the same alien source domain — that a metaphor is there in their shared (as opposed to private) representation of a particular topic. For a social approach to metaphor in communication, we would need to have evidence that an utterance or part of an utterance is perceived as metaphorically used by both parties in the discourse — that a metaphor is seen as being metaphorical at the shared level of representation. Again, all of these targets can only be achieved if they are based on behavioral data involving all participants in a discourse event. What is more, they are new questions that have not been addressed in the old contemporary theory, which tended to reduce them to individual, psychological ones, or would assume that cognitive representations are also socially shared in identical forms between people. The social variant of the central question for metaphor research formulated in the previous section therefore asks: When does metaphorical thought in fact take place during shared processes of language use, learning, remembering, reasoning, and interacting? And more specifically, for language use, when does metaphorical thought exactly take place in co-ordinated interaction?
Why is it important to make this distinction between dimensions and approaches? This is mostly for conceptual and terminological reasons. For instance, the extension I have proposed of the contemporary theory of metaphor from language and thought to communication is not the same as shifting from a psychological to a social approach, as might be natural to assume. Communication is not just a social affair but is also studied from a psychological perspective, as typically takes place in social psychology. Thus, Sopory and Dillard (2002) have reviewed the persuasive effects of metaphor in discourse from a social-psychological angle, where effect is often examined in the framework of the Elaboration Likelihood Model, which is one useful social-psychological way of looking at the communicative function of metaphor in discourse processing. Vice versa, thought or cognition is not just a matter of psychology but can also be looked at from a social perspective, as has happened in some applied-linguistic, discourse-analytical and anthropological approaches. This careful differentiation between dimensions and approaches is another part of what distinguishes the new contemporary theory from the old one: there, communication and the social approach were either ignored or reduced to cognitive-scientific issues about language and thought only. Individual and social differences and variation have only recently been placed on the cognitive-linguistic agenda (e.g. Blasko, 1999). It also opens up a natural connection with studying the course of metaphor in discourse over time (e.g., Billig and MacMillan, 2005; Musolff and Zinken, 2009).

Moreover, it has often been de-emphasized in cognitive linguistics that ‘cognitive’ is not identical with ‘psychological’: many ‘cognitive’ analyses of metaphor constitute semiotic approaches to metaphor in thought, analyzing conceptual structures and systems as sign complexes, not as behavioral, psychological processes and their mental products — as has also been pointed out by for instance Gibbs (2006) and McGlone (2007). This conflation, it should be noted, is the main reason why ‘metaphor in thought’ can refer to two aspects of the map of the field: either to the row labeled ‘thought’, to be contrasted with language and communication (but potentially including semiotic, psychological, and social approaches to thought); or to the column labeled ‘psychological process’, to be contrasted with semiotic structure and social patterns (but potentially including linguistic, conceptual, and communicative processes). In the new contemporary theory of metaphor, these distinctions are explicitly and systematically kept in view, which produces a number of new perspectives on how metaphor works.

Having said all this, the radically conceptual point of departure of the old contemporary theory, that metaphor is defined as a mapping across conceptual domains, may clearly be retained as the most productive and best embedded theoretical definition of metaphor. This has been the major achievement of the old contemporary theory. It affords formulating operational definitions that may
naturally vary between the areas of research distinguished in the above map of the field. The map, moreover, explains how it is possible to have one stable theoretical definition of metaphor as a mapping between conceptual domains or spaces or categories, on the one hand, which may on the other hand be used in more specific ways to study metaphor in thought, language, and communication in a range of semiotic, psychological and even social approaches. Only in this way is it in fact possible to study metaphor in its various manifestations across the social and cognitive sciences as well as the humanities while keeping an eye on the position of these manifestations in the overall picture, including areas that lie outside ones immediate purview. And only in this way is it possible to remain respectful of alternative approaches, and not dismiss their theoretical concepts as ‘convenient fictions’ (contra Glucksberg and Haught, 2006, p. 377).

An appropriate label for the interdisciplinary framework of the new contemporary theory of metaphor might be ‘discourse-analytical’. Discourse analysis comes in various forms, but it clearly encompasses both the three dimensions of language, thought, and communication, as well as the three approaches of semiotic, psychological and social analysis (e.g., Hamilton et al., 2001). A review of Critical Discourse Analysis by Teun van Dijk suggests the same complexity and interdisciplinarity (Van Dijk, 2001). There are several metaphor scholars who have recently framed their work in this type of interdisciplinary environment (e.g., Caballero, Cameron, Charteris-Black, Chilton, Goatly, Koller, Musolff, Müller, Semino), and it naturally accommodates the multimodal as opposed to merely linguistic expression of metaphor, so that the label is sufficiently reflective of current trends in metaphor research.

Yet there is one problem with calling this framework ‘discourse-analytical’: it seems to privilege attention to short-term matters of metaphor performance in discourse at the cost of long-term questions having to do with metaphor competence. Acquisition and learning, knowledge representation and memory, variation and change and so on are not typically studied as such under the label of discourse studies. It is also true, though, that these types of studies often have to make use of performance data from discourse events to abstract and reconstruct long-term semiotic, psychological and social processes and products of language, thought, and communication. As long as this caveat is born in mind, calling the new contemporary theory of metaphor ‘discourse-analytical’ might be just as informative and agenda-setting as calling the old contemporary theory ‘cognitive-scientific’.

3.2 Metaphor in discourse

The developments of the past two decades have contributed to producing the following new findings in our own research on metaphor in discourse (Steen, Dorst,
Gerard Steen

Herrmann, Kaal, Krennmayr, & Pasma, 2010; Steen, Dorst, Herrmann, Kaal, & Krennmayr, 2010). Our observations are based on the application of a uniquely reliable method of metaphor identification, four independently working analysts achieving on average over 90% unanimous agreement in their decisions about which words count as an expression of metaphor or not. Moreover, this was done in two relatively large-sized sets of materials, about 190,000 words of British English from the British National Corpus and over 100,000 words of Dutch sampled from existing newspaper and conversation corpora.

A precise indication of the assumed ubiquity of metaphor in discourse has so far been missing. Our research shows that, at the level of linguistic forms, the average percentage of metaphors in natural discourse is 13.6%. These are words that have been identified as potential expressions of underlying cross-domain mappings on the basis of MIPVU, an extended and refined version of MIP, the Metaphor Identification Procedure published by the Pragglejaz Group (2007). One in every seven to eight words is metaphorical, which means that all other ones are not. Metaphor may be ubiquitous, but our lives tend to be non-metaphorical rather than metaphorical.

A precise indication of the proportion of conventional versus novel conceptual structures of metaphor in discourse has also been missing. We have found that an estimated 99% of all metaphor-related words have their metaphorical sense described in contemporary language users’ dictionaries. The bulk of metaphor in discourse is conventional, and only 1% is novel. Metaphor may be made up on the spot, but as a rule it is not — not even in fiction, which was part of our data. If this is a direct reflection of our conceptual systems, then most metaphorical thought would also be conventional.

About 0.5% of all metaphorically used words are accompanied by a lexical signal for metaphor, such as the preposition like. It is possible that our definition may have been too strict here, for it excluded words like mental in mental incontinence (cf. Goatly, 1997), but random visual inspection suggests that this will not dramatically alter the overall proportion. Our finding suggests, then, that only one in every hundred metaphorically used words has an explicit linguistic signal for its metaphorical use. Metaphor in discourse is typically not signaled.

Signaling corresponds with one group of deliberate metaphors, but does not exhaust it, because multiple, serialized and extended metaphor are often deliberate and do not have to be signaled. Moreover, signaled metaphors typically comprise more than one metaphor-related word. There are hence much more deliberate metaphor-related words than novel ones, the latter comprising about 1%. It follows that deliberate metaphor is conventional rather than novel, which goes against Cameron’s (2003) taxonomy and puts a different light on Semino’s (2008, p. 19) intuition that ‘Other things being equal, the more conventional a metaphori-
The contemporary theory of metaphor — now new and improved!

cal expression, the less likely it is that it will be consciously used and recognized as a metaphor. Deliberate metaphor typically seems to be a matter of revitalization of available linguistic forms and conceptual structures, not the creation of novel ones, which raises interesting new questions for metaphor in language, thought, and communication (cf. Billig and MacMillan, 2005).

There is considerable variation in the spread of these metaphor-related words across three functionally different linguistic forms of metaphor:

1. 98% of all metaphor is of the form typically used in cognitive-linguistic illustrations of conceptual metaphors, such as the love is a journey metaphor exemplified at the beginning of this article: these are ‘indirect’ metaphors, in that they depend on the indirect meaning of a word used in context (cf. Lakoff, 1993; Gibbs, 1994). An example is Lakoff attacked Glucksberg, where attacked is metaphorical because it indirectly designates an ‘argument’ action in the state of affairs it is about, namely via its more basic ‘war’ sense — or so the cognitive-linguistic argument goes.

2. About 1% of all metaphor is not indirect but ‘direct’: it works by directly designating a referent from a source domain from which a conceptual mapping has to be made to a target domain by the addressee if they want to interpret the sentence. This is typically the case for simile, as has also been noted by Glucksberg in the framework of his dual-reference theory for categorization (cf. Glucksberg, 2008). In Science is like a glacier, the addressee is instructed to set up a state of affairs in which we have both science and a glacier. In our work, we assume that all linguistically direct metaphor is also deliberate in communication, since it forces language users to set up an alien conceptual and referential domain in the on-going discourse that is about something else. These alien referents require attention which is just as conscious as the attention paid to the target-domain referents (Steen, submitted). Going by the figure that this is just one percent, the conclusion here is that direct metaphor, and therefore also this particular type of deliberate metaphor, occurs extremely seldom.

3. Another 1% of all metaphor-related words in discourse is ‘implicit’. An example may help to illustrate the nature of this type of linguistic expression of metaphor:

   For three reasons such a move should be welcomed. First it[move, M] would bring Britain into line with the best European practice, … Second it[move, M] would ensure that workers enjoyed positive rights under law and reduce the emphasis of union immunities (A1F-fragment09)
Some metaphor in thought is expressed by words that are not semantically related to any source or target domains, but that typically have general lexi-co-grammatical functions: they are devices of cohesion (Halliday and Hasan, 1976). The above example shows that, if move is seen as the linguistic expression of a cross-domain mapping in thought, then it in the two following sentences should be too. (And if this category is deemed unworthy of attention, then so should the previous category, which basically concerns simile, be scrapped from the agenda.)

There is considerable variation in the spread of these metaphor-related words across eight distinct word classes. Average percentages place metaphorical use of prepositions and determiners (including this, that, these, those) at the top, above 30%; of verbs, nouns, adjectives, and adverbs in the middle, between about 25% and 10%; and of conjunctions and all other function words at the bottom, at less than 2%. That prepositions come highest is no surprise, as they have frequent temporal and abstract uses (time is space). That determiners are in second place is news, and has not been given much attention in the literature so far; the high score is due to their frequent use in establishing coherence by abstract anaphora to previous parts of a discourse (discourse is space). For the four major content word classes, there is a clear cline in metaphorical use from verbs through nouns and adjectives to adverbs, but in general, it is the cluster of prepositions, verbs, and nouns that accounts for the bulk of metaphor-related words in discourse: between the three of them, they comprise an average low 65% of all metaphor in conversations to an average high 80% in news and academic discourse. Conjunctions and other function words in general do not have enough semantic content to allow for frequent oppositions between basic non-metaphorical and contextual metaphorical senses.

There is considerable variation in the spread of these metaphor-related words across four registers. The highest percentage of metaphor-related words can be found in academic discourse (18.5%), followed by news texts (16.4%) and fiction (11.8), while conversation has the lowest (7.7%). The surprisingly high position of academic discourse and low position of fiction can in part be explained by noting that the overall order reflects the way these four registers score on Biber’s (1988, 1989) register dimension of informational versus involved production: the high information value of academic discourse and news contrasts with the low information value of conversation, while, vice versa, conversations are highly involved whereas news and academic texts are not. Fiction, combining narrative plus dialogue, sits in the middle. Metaphor apparently co-varies with this (biggest) register dimension. This may be brought in line with metaphor’s generally assumed conceptual function; it provides substantial corpus-linguistic support for a central tenet of the old contemporary theory, that metaphor is for understanding one piece
of information in terms of another. One caveat needs to be borne in mind though: the nature of the conversations used in our research is relatively light on content, and only includes casual verbal interaction; the question arises what happens to the information value of ‘conversations’ if lectures, classes, business meetings, or political gatherings are added.

It turns out that both of these findings, about metaphor in word class and metaphor in register, should be explained by a newly revealed three-way interaction between register, word-class and metaphor. We know that there is a two-way association between register and word-class, described by Douglas Biber (1988, 1989). When we now add in the overall rank order of the four registers regarding metaphor frequency mentioned under (5b), we note that the relation between metaphor and word-class generally follows the ups and downs of a word class within a particular register (Steen, Dorst, et al., 2010a): for instance, a high figure for metaphorical verbs in conversations correlates with a regularly high use of verbs in conversation in general. However, prepositions, determiners, and verbs tend to have relatively higher metaphorical uses than may be expected against this background, which makes them relatively metaphorical word classes. By contrast, conjunctions and all other grammatical words display the opposite tendency: they have relatively lower metaphorical uses than may be expected on the basis of their expected frequencies in specific registers. More specific and diverging variation in the three-way relation between metaphor, word class and register is displayed by nouns, adjectives and adverbs (for discussion, see Steen, Dorst, et al., 2010a). Overall, then, the bulk of metaphor in discourse is not special but can be explained with reference to general properties of the relation between word class and register (cf. O’Halloran, 2007) while, at the same time, there may be a little surplus or lack per word class which may need additional explanation.

The three-way interaction between register, word-class and metaphor is basically due to patterns of variation in indirect metaphors of the type of in 1999 or defending a thesis, since they comprise 98% of all metaphor. However, this is not the whole story. The distribution of the one percent of direct metaphor (notably, simile and extended comparison) does not parallel the distribution of indirect metaphor. As noted, indirect metaphor goes down from most frequent in academic through fiction and news to conversation. Direct metaphor, by contrast, occurs most often in fiction while it seems to be least frequent in academic discourse and conversation. Since we may assume that direct metaphor is one form of deliberate metaphor, this finding entails that the important role of metaphor in literature may in fact be attributable to the role of direct, deliberate metaphor. Literature may be a domain of discourse that allows for the rhetorical exploitation of metaphor to a greater extent than most other domains of discourse, such as conversation (Steen, 1994). And even though deliberate metaphor may not be very frequent overall, it
is the only type of metaphor that impinges on our consciousness as metaphorical, which may be one of the most relevant facts about metaphor in literature versus other types of discourse to the general public (Semino and Steen, 2008).

These findings about metaphor in discourse are quite compatible with an overall view in which not a lot of metaphorical thought in the sense of on-line cross-domain processing goes on, even in literary reading: if most metaphor is indirect, conventional and not deliberate, it may also turn out to be processed by lexical disambiguation. This has created a paradox of metaphor: it is likely that most metaphor is not processed metaphorically, by cross-domain mapping (Steen, 2008). A caveat that needs to be inserted here is that we do not know how many of these indirect, conventional and non-deliberate metaphors may still be processed by cross-domain mapping during immediate unconscious comprehension, for instance because they are primary metaphors that are based in embodied cross-domain mappings in the brain. In general, it is therefore important to specify which types of metaphors may be processed metaphorically in which contexts of discourse.

3.3 The discourse career of metaphor

This naturally leads on to a consideration of the social aspect of metaphor in language, thought, and communication. For the typical question raised in a social-scientific as opposed to either a cognitive-scientific or semiotic approach is: how does metaphor in language, thought and communication work in and across situations of use in a particular domain of discourse, such as literature and the arts (Kennedy, 2008; Semino and Steen, 2008; Shen, 2008), organization and management (Morgan, 2006; Cornelissen et al., 2008), health and care (e.g., Borbely, 2008; McMullen, 2008), education and science (Brown, 2003; Low, 2008), politics and government (Carver and Pikalo, 2007), or religion and the law (Charteris-Black, 2004; Winter, 2008). From a social perspective, the question becomes how a particularly interesting or important metaphor or set of metaphors is formulated, developed, shared, passed on, exploited, transformed, and so on, between individual and groups of participants within and across discourse events. Well-known in science and education, for instance, are the metaphorical models of electricity as a fluid, or of light as waves. How have these been developed and accepted, and how are they used in teaching, research, and in public discourse? Do they always require processing by cross-domain mapping, in all of the various stages in which they are utilized in a community? Or are they off-loaded on to culture in the way described by Gibbs (1999)?
“Most cognitive scientists supportive of the conceptual view of metaphor tacitly, and sometimes explicitly, assume that conventional metaphorical mappings must be internally represented in the individual minds of language users. I want to examine this assumption and suggest that cognitive linguists and cognitive psychologists, like myself, should think about metaphor and its relation to thought as cognitive webs that extend beyond individual minds and are spread out into the cultural world.” (Gibbs, 1999, p. 146)

This is a question about the social dynamics of metaphor. Together with its semiotic and psychological complements, it leads to nothing less than a full-blown discourse-analytical version of Bowdle and Gentner’s (2005) Career of Metaphor Theory: how does metaphor arise, develop, die, and how can it be revitalized in discourse (of which language processing is just one part) (cf. Müller, 2008; Musolff and Zinken, 2009).

Pursuing these ideas a little further, we may raise the question whether it is possible to make a functional distinction between at least four classes of ‘metaphors in thought’ when they are approached from the social perspective circumscribed above:

1. **Official metaphorical models**
   Metaphors in thought that are officially instilled by formal education on the basis of explicit formulation in written or spoken texts as culturally sanctioned models of reality; these would include all accepted religious knowledge as well as scientific models of reality that are based on metaphor, such as the atom as a solar system, the mind as a computer, or the organization as a machine (e.g. Brown, 2003; Morgan, 2006; Goatly, 2007; Semino, 2008).

2. **Contested metaphorical models**
   Metaphors in thought that for some time are in the focus of the public debate, typically in the news media, as potentially (in)adequate or (in)appropriate metaphorical models of some phenomenon; these would include all politically controversial metaphorical images of reality, such as HIV/AIDS as ‘the plague’ (Sontag, 1988) or George Bush’s ‘war on terror’ (e.g. Klein, 2007) (cf. Musolff, 2004).

3. **Implicit metaphorical models**
   Metaphors in thought that reflect cultural models that are on the one hand typically implicit but that on the other hand are also typically made explicit as folklore in cultural artifacts such as popular songs and images (*love is the drug, love is suicide, life is a stage*), advertising, as well as high-level cultural traditions in literature and the arts (e.g., Forceville, 2008; Kennedy, 2008; Semino and Steen, 2008).
4. **Emerging metaphorical models**

These metaphors in thought typically emerge in other types of social interaction, for instance in professional or private business situations (e.g., Cameron, 2007; Cornelissen et al., 2008). They are based on any of the above metaphorical models, but also in embodied experiences of reality representing correspondences between image schemas and abstract thinking (primary metaphors, including *purposes are destinations* and *happy is up*, which appear to display a relative constancy within a culture and are therefore typically assumed and socially shared between members of that culture, Kövecses, 2005).

Of course, there might be more classes, but this set offers a useful starting point for presenting a number of theoretical possibilities. What exactly is socially shared in the use of one of these classes, and how this takes place in concrete, dynamic processes of social interaction, is potentially very different from what happens in another of these classes (cf. Palmer, 1996; Shore, 1996; Musolff, 2004; Semino, 2008; Musolff and Zinken, 2009).

1. In the group of official metaphorical models, scientific ones may once have been novel but must later have become sufficiently conventionalized and validated in practice to end up in the domain of public knowledge. When novel, they would have been introduced deliberately in probably extended discursive forms for conceptual development and fine-tuning of their information value; when conventionalized, they would tend to be used automatically and unconsciously in reduced forms as professional jargon pointing to complex conceptual systems. Alternatively, they might be revitalized as metaphorical models for explanatory and instructive purposes in specific discursive contexts.

2. By contrast, contested metaphorical models might be typically novel, at least in their linguistic and rhetorical forms. They are socially shared precisely in order to test their validity and appropriateness for further use in language, thought, and communication about a particular topic in a specific domain of discourse. Their evidently deliberate use resembles the early stage of metaphorical modeling in science but takes place in the more general, public arena of the mass media. Their main function in discourse would be persuasive, and metaphorical comparisons might be teased out for those very purposes, in argumentation and counter-argumentation. When a debate gets settled or moves away from the public interest, the comparisons might get reduced again and conventionalized non-deliberate metaphor that are not processed by cross-domain mapping might be re-established as the norm.

3. The group of implicit metaphorical models, again by contrast, could be either linguistically novel or conventional, as in the case of a lot of pop songs, but would typically involve formulations of conventional wisdom. This would
mean that revitalization could be a central issue for this class of metaphorical models, too. Their frequently deliberate use would have a predominantly entertaining function which also might elicit reflection by explicit non-literal comparison drawing attention to implicit or concealed features.

4. The last group, emerging metaphors, would be somewhat more unpredictable in their behavior, in comparison with the other three groups, also because they might include part of the processes of the other three classes. This happens, for instance, in therapeutic situations when people discuss relationships and emotions, in meetings in business and political contexts, and so on.

These are clearly just a few incomplete speculations, but the social behavior and use of these four groups of metaphors can be explored by further theoretical and empirical research, for instance in the framework of Luhmann’s social systems theory (cf. Hellsten, 2009).

What is suggested by this discourse-analytical approach is that ‘metaphor in thought’ requires a more sophisticated model which includes both its social behavior in a wide range of contexts as well as its relation to its deliberate versus non-deliberate use as metaphor in communication. As hinted, this would eventually lead to a discourse-analytical version of the Career of Metaphor Theory (Gentner and Bowdle, 2001, 2008; Bowdle and Gentner, 2005), in which the course of the development of a metaphorical model can be studied between and within events of discourse (cf. Cameron et al.’s 2009 metaphor-led discourse-analysis). This type of study would not only have to look at the textual extension or restriction of these metaphorical models in varying discourse events, or of the way it is expressed across modalities and media, but also include relations with for instance more encompassing narratives and arguments that such socially shared metaphors often partake in; for an interesting case study, concerning the evolving use of ‘smoking gun’, see Billig and MacMillan (2005) (cf. Eubanks, 2000; Musolff, 2004; Holmgren, 2008; Lakoff, 2008b). Moreover, relations of these four types of metaphorical models to discourse participants also vary widely, in terms of participant roles, expertise, and general identities and backgrounds. In all then, the functions and effects of metaphor in discourse could benefit from an encompassing genre approach to the full range of aspects that may be discerned in distinct events of discourse (Steen, in press c).

What sort of effects could this have on academic practice? Psychologists may be able to point out that particular cognitive processes can occur in well-manipulated conditions, but the relevance of these findings to the diversity of all language use in diverse discourse contexts needs to be placed more seriously on the psychological research agenda, for instance by developing the social-psychological perspective. Linguists, in turn, may be able to point out that particular metaphorical
forms tend to occur in specific language varieties, but the relevance of these findings to the on-going psychological as well as social processes within and between people in real time then still demands empirical enquiry. And social scientists may focus on what is shared in groups of discourse contexts, but need to include distinct attention to the psychology of individuals and the way diverging linguistic expressions still or perhaps primarily reflect generalized semiotic structures and patterns beyond their situated use. Only in this way can we begin to chart the discourse career of metaphor. It is this constant and informed attention to the peculiar roles of the interdisciplinary parameters of all discourse-analytical metaphor research which characterizes the new contemporary theory of metaphor.

4. Conclusion

The contemporary theory of metaphor forwarded some time ago by Lakoff (1993) has served its purpose. It has shown how metaphor is not a matter of language and rhetoric, but a phenomenon that can be best defined with respect to thought. It cannot be reduced to thought, for it is manifested in language and other modes of human symbolization. But the traditional focus on those modes of symbolization themselves prevented a deeper understanding of what the metaphorical symbols were based in, that is, cross-domain mappings in conceptual structure and even systems. It is the merit of Lakoff’s (1993) contemporary theory that it enabled this deeper understanding of metaphor.

Today, however, the cognitive-scientific approach in which the contemporary theory was based also appears to be too limiting. Recent developments have suggested that two corrections and improvements need to be added: on the one hand, the cognitive-scientific bias to language and thought has prevented adequate engagement with the communicative dimension of metaphor use; on the other hand, the cognitive-scientific approach has privileged an at heart psychological perspective on metaphor in use, whereas it has become clear that this needs to be complemented by both a semiotic as well as a social angle. This has led to a new map of the field, a whole range of new questions, and some reinterpretations of the old findings.

The new contemporary theory is still based in a theoretical definition of metaphor as a cross-domain mapping in conceptual structure. However, this theoretical definition can be operationalized in distinctly specific terms for empirical research on metaphor in thought, language, and communication from either a semiotic, psychological, or social perspective. These distinct areas of research all form pieces in the overall puzzle that is called metaphor, none of them being essentially more important than any of the others. It is this phenomenological plus methodological
pluralism that characterizes the new contemporary theory of metaphor (Steen, 2007).

As a result, metaphor may be theoretically defined as a matter of conceptual structure, but in empirical practice it works its wonders in language, communication, or thought. Contrary to the position of the old contemporary theory, it may predominantly reside in language structure without giving rise to much metaphorical thought, simply because it is processed via lexical disambiguation. That is one way in which we may have off-loaded metaphor out of our heads on to culture (Gibbs, 1999), and it is the way in which the paradox of metaphor may be sensibly resolved (Steen, 2008). Or metaphor may manifest itself in communication when it is used deliberately, and then it is a matter of conscious thought by challengeable metaphorical models with a predominantly social function, as an official, contested, implicit or emerging metaphorical representation of some aspect of the world. That is one important way in which metaphor may facilitate social and cultural interaction as well as change, by means of conscious metaphorical thought (cf. Baumeister and Masicampo, 2010; Steen, submitted). Or metaphor may be a matter of backstage cognition, automatically but unconsciously utilizing entrenched cross-domain mappings which have been acquired during people’s cognitive and linguistic development. That is the way in which the original thesis of cognitive linguistics has developed over the past three decades, and the scope of its validity is now under ongoing examination.

I have termed these three aspects of metaphor naming (linguistic function), framing (conceptual function), and changing (communicative function). The division of labor between these three dimensions of metaphor forms the crucial area of interaction for further developing a full-blown theory of the discourse career of metaphor. Such a theory can then guide the collection of converging evidence by methodological pluralism for metaphor in either language or thought or communication, which may turn out to typically not work in parallel. Indeed, there may be a lot more naming going on than either framing or changing. But especially the latter may turn out to be essential for our social and cultural survival (Baumeister and Masicampo, 2010; Steen, submitted).

Note

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The contemporary theory of metaphor — now new and improved!


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