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# From three dimensions to five steps: The value of deliberate metaphor<sup>1</sup>

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## Abstract

Recent interest in the nature of deliberate metaphor has demonstrated the need for a three-dimensional model of metaphor. Metaphor is not just a matter of language and thought, but also of communication. How can this starting point be connected with a discourse-psychological framework for metaphor in which it is assumed that people have to represent metaphor as part of a number of complementary mental models for discourse? And how can this discourse-analytical approach be formalized in the five-step method for metaphor analysis going from language to thought: Can this method be adjusted to cater to the formal analysis of metaphor in communication as well, so that a distinction can be made between deliberate and non-deliberate metaphor in the five-step method? These are the questions addressed in this article.

Das jüngste Interesse an der bewusst eingesetzten, gezielten Metapher hat die Notwendigkeit eines dreidimensionalen Metaphernmodells verdeutlicht. Metaphern sind nicht nur eine Angelegenheit von Sprache und Kognition, sondern auch für die Kommunikation. Dieser Beitrag möchte folgende, sich aus diesen Voraussetzungen ergebene Fragen beantworten: Wie lässt sich dieser Standpunkt verbinden mit einem diskurs-psychologischen Ansatz, in dem vorausgesetzt wird, dass man sich die Metapher als einen Teilbereich komplementärer, im Diskurs aktivierter mentaler Modelle vorstellen soll? Und wie kann dieser diskursanalytische Ansatz in einem fünfschrittigen Modell, das die sprachliche und kognitive Ebene umschließt, formalisiert werden? Kann dieses Modell auch die kommunikativen Dimensionen erfassen, so dass klar zwischen gezielter und ‚ungezielter‘ Metaphernverwendung unterschieden werden kann?

## 1. Introduction

Some metaphors are used deliberately *as* metaphors, whereas most metaphors are not. When Shakespeare asks, ‘Shall I compare thee to a summer’s day?’, he is entertaining the thought whether or not he will set up a metaphorical comparison between his beloved addressee and a summer’s day. In other words, he is attending to metaphor *as* metaphor and is about to make a decision about his intentions for his next move: ‘Thou art more lovely and more temperate’.

It is true, of course, that we are not talking about the real Shakespeare but about his persona in the sonnet cycle. Yet this is a well-known example that can easily

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<sup>1</sup> I am very grateful to useful comments by Tina Krennmayr and Gudrun Reijnierse.

stand for what can happen in regular language use. Examples of deliberate metaphor from real life may be found in the language of politicians, instructors, sports commentators, and so on (Charteris-Black, 2004; Cameron, 2003; Beger, 2011).

Deliberate metaphors differ from non-deliberate metaphors in that they involve mandatory attention to the fact that they are metaphorical. This is not meant to imply that addressees have to be able to label a metaphor as a metaphor for it to count as deliberate, though. That is a metalinguistic skill that is irrelevant. In my view, a metaphor is deliberate when addressees must pay attention to the source domain as an independent conceptual domain (or space or category) that they are instructed to use to think about the target of the metaphor.

Deliberate metaphors are constructed in such a way that the sender invites or sometimes even instructs the addressee to in fact set up a cross-domain mapping in their mental representation of the discourse in order to view one thing in terms of something else. Consider famous Dutch football coach Rinus Michels who said 'Football is war'. His utterance was intended as an invitation for his audience to pay attention to football from the independent standpoint of war, and to draw relevant conclusions (implicatures) from that figurative comparison. Deliberate metaphors are perspective changers.

This is not what happens with non-deliberate metaphor. For instance when people talk about arguments in terms of war or life in terms of a journey, they do not necessarily have to attend to the difference as well as relation between the two respective domains that may be distinguished in semantic and conceptual structures by cognitive linguists and other metaphor analysts. An utterance like 'Lakoff attacked Glucksberg' is typically meant to be understood as an utterance involving just one conceptual domain, the target domain of academic debate. Neither the sender nor the addressee is supposed to pay any attention to any issues that are related to physical fighting and war as they are representing this utterance as part of the meaning of the discourse. Even if they continue to talk about argument in terms of war, this does not necessarily mean that they activate their knowledge about war in order to think and talk about debates. They may just employ polysemous words that are conventionally used to talk about debates; these may in the past have been metaphorically derived from the domain

of war, but it is quite possible that at present they may have lost that connection in people's individual minds.

The possibility that a lot of metaphor may be processed non-metaphorically constitutes a paradox (Steen 2008). To some it has raised the question whether 'Lakoff attacked Glucksberg' can even count as metaphorical. I think it does, for it is still possible that the source domain of fighting or war is activated in the processes preceding the representation of the sentence in working memory, as has been vociferously contended by cognitive linguists and as may be supported by a range of experimental studies (Gibbs 2011a and c). If we abide by the conceptual definition of metaphor as a cross-domain mapping, linguistic expressions such as 'Lakoff attacked Glucksberg' have to be kept on board as potentially metaphorical, since they may evoke some form of mapping across conceptual domains. However, the processes leading up to the product of metaphor comprehension in working memory (or attention) are a separate issue that are largely immaterial to the question of whether their product counts as a deliberate metaphor or not—I will argue here the latter issue turns on attending to the source domain as part of the represented meaning of the utterance.

The distinction between deliberate and non-deliberate metaphor is controversial. In a recent exchange, an attempt was made by Gibbs (2011a), Steen (2011a), Deignan (2011), Müller (2011) and Gibbs (2011b) to clarify what it means to call a metaphor deliberate or non-deliberate. As a result of that exchange I now hold that deliberate metaphor is not necessarily the same as conscious metaphor (Steen 2011a): I propose that deliberate metaphor gets represented as metaphor in attention, and that it thereby affords conscious metaphorical cognition, but that conscious metaphorical cognition does not necessarily have to occur (Steen in press). Also, deliberate metaphor should not be conflated with novel metaphor, non-deliberate metaphor being conflated with conventional metaphor: conventional metaphor can also be used deliberately, as happens when newspaper headlines use conventional metaphors deliberately for the purpose of punning and humor and drawing the attention of the reader. At the same time, though, there still remain many questions about deliberate metaphor, for instance the possible asymmetry between production and reception: a metaphor may be deliberately produced as a metaphor but not received as one, or, the other way around, a meta-

phor may have been produced non-deliberately as a metaphor but still be received as a cross-domain comparison by the interlocutor or audience. Careful theoretical and empirical work will have to elaborate how the notion of deliberate metaphor can be conceived of in these contexts.

Deliberate metaphor therefore has two kinds of values: firstly, it is a special kind of metaphor use which has its particular values to language users, in that it draws their attention to the perspective of the source domain; and secondly, it is a special kind of phenomenon which has its particular values to practitioners of the academic study of metaphor, in that it reveals that metaphor is not just a matter of language and thought but also of communication. In this paper I would like to try and demonstrate both kinds of values. I will begin with the empirical and theoretical issues that have to do with deliberate metaphor as a specific part of discourse: I argue that deliberate versus non-deliberate metaphor is an issue of communication, which is an independent dimension of metaphor in discourse next to the ones of metaphor in thought and metaphor in language (Steen 2008 and 2011b). Then I will continue with a theoretical exploration of the way in which metaphor can be analyzed by means of a five-step method for analysis I proposed some time ago (Steen 1999a; Steen 2009; Dorst 2011; Krennmayr 2011): I will reinterpret and adjust the five-step method for the purpose of catering to the distinction between non-deliberate versus deliberate metaphor, and tie this back to the three dimensions of metaphor that can be distinguished in discourse. My main claim is that deliberate metaphor has been unduly ignored and that it raises fundamental and new questions about structures, functions and processes of figuration in discourse, but also about the ways these have been studied.

## **2. Metaphor and discourse: three dimensions**

My proposal for a distinction between deliberate and non-deliberate metaphor (Steen 2008; Steen 2011a; Steen 2011 b; Steen in press) is not original: various scholars before me have used the distinction in roughly comparable ways (Shen and Balaban 1999; Cameron 2003; Charteris-Black and Musolff 2003; Semino 2008). What is original about my proposal, however, and what is crucial for its further theoretical development and empirical investigation, is my aim to connect

metaphor processing, including deliberate versus non-deliberate metaphor processing, to the psychology of discourse, as represented by for instance Van Dijk and Kintsch (1983), Kintsch (1998), Van Dijk (2008), Graesser, Millis and Zwaan (1997), Perfetti (1999), Macnamara and Magliano (2009) and Graesser and Millis (2011). When metaphor is used, whether deliberately or non-deliberately, it is not used as part of isolated utterances against a background of conceptual systems that inform the meaning of the words in a sentence; instead, metaphors are always part of utterances that are typically small psychological and social acts in encompassing moves and transactions between writers and readers, or speakers and listeners. This requires a three-dimensional model for metaphor, in which its linguistic, conceptual, and communicative aspects are all taken into account. Whichever models for metaphor processing are hence proposed by cognitive linguists, psycholinguists and cognitive psychologists, they have to be compatible with such more encompassing and general models of discourse processing as developed in the community of discourse psychologists.

The main issue that needs to be addressed in this context is the need for a multi-level representation of all metaphor in discourse. Discourse psychologists have made a distinction between a number of different but complementary mental models that people construct during discourse processing, of which I have used the following four for developing my approach to metaphor analysis, eventually leading up to the concrete details of my proposal for deliberate metaphor:

1. *The surface text*, which involves the representation of the linguistic nature of the message exchanged in communication;
2. *The text base*, which involves a representation of the conceptual nature of the message in the form of a linearly and hierarchically ordered series of idea units, or propositions;
3. *The situation model*, which is another representation of the conceptual nature of the message, this time in the form of a non-propositional format which includes all kinds of referential information;
4. *The context model*, which is a representation of the discourse situation and the participants involved in exchanging the message, the medium of the message, the message as tool for interaction, and so on.

The surface text captures the linguistic dimension, the text base and situation model, the conceptual dimension, and the context model the communicative dimension of metaphor. Empirical research has shown that language users need to construct at least parts of these distinct types of mental representations during language use processes to be successful in their communicative behavior (Macnamara and Magliano 2009; Graesser and Millis 2011).

Metaphor can be connected to this multi-level approach to the psychology of discourse processing in two ways. I have collected behavioral data which show that aspects of metaphor processing can be usefully interpreted with reference to the distinct mental models for discourse processing (Steen 1994; Steen 2004 and Steen 2006). For instance, I asked participants to rate metaphors from Bob Dylan's song 'Hurricane' on a number of scales for affective value, and found that the same metaphors received different scores on these scales when presented as linguistic expressions versus depictions of a situation versus messages between interlocutors (Steen 2004). I believe that these three types of presentation are the three basic dimensions of all metaphor use (Steen 1994; Steen 1999b and Steen 2008). In this particular empirical study, they were meant to be associated with the psychological representation of metaphor in a surface text, a situation model, and a context model, respectively. It hence seems possible to experimentally distinguish between the various complementary roles metaphors can play during discourse processing.

The second way in which metaphor can be connected to the multi-level approach to discourse processing is formal instead of behavioral. I developed a formal framework for metaphor analysis which includes five separate analytical steps for the distinct representation formats of metaphor in the multi-level representation of metaphor in discourse (Steen 1999a; Steen 2009). This approach can show how one metaphorical utterance can be analyzed as a potential part of the surface text, the text base, the situation model, and the context model. The latter aspect, metaphor as part of the context model, is a recently developed interpretation of the five-step method, which I will illustrate below, and is closely related to the value of deliberate metaphor.

Before we can demonstrate the five-step method, however, let us first examine the more general connection between metaphor and discourse, involving the three dimensions of language, thought and communication, and do so by looking at deliberate metaphor. Consider the following data from Beger (2011). It is an excerpt from a university lecture on the nature of aggression as treated by a hydraulic model developed by Konrad Lorenz. Potentially deliberate metaphors have been identified by Beger and presented in italic and bold print:

“But think about this *tank of water as the reservoir within your soul, that aggressive impulses are dripping into*. Little hassles and frustrations of day-today life keep adding new bits of aggressive impulses to who you are. And as this *tank fills up*, the *pressure of the weight* of these impulses becomes *stronger* and *stronger* and they *push on this plug* that keeps it *bottled up*. Now, you don’t behave aggressively, until all this stuff kind of *explodes* and comes *shooting out of you*. And the *weight* – and there’s two different factors here. One of the factors in this model as to whether you become aggressive or not, is the *weight of the water in the tank* – or the amount of aggression that’s *piling up*. Because as that gets *deeper* and *deeper*, and *heavier* and *heavier*, there is more *pressure* for it to *come out*. But at the other end, there are stimuli out there in the world that you might be exposed to – aggression-eliciting stimuli, aggressive models, and what have you, that will be *pulling on the plug* from the other end. So, if you got a situation where there is a lot of aggression in there, and just the right things *pulling on the plug* from the other end, according to the hydraulic model, you’re setting the stage for these aggressive urges to *come pouring out*.”

All of these utterances have to be represented by readers or listeners as part of their developing surface text, text base, situation model and context model. Impressionistically, this would lead to a representation of each utterance as, respectively, a lexico-grammatical structure, a proposition, a depiction of the referents in some state of affairs, and a representation of the position of the utterance in the on-going discourse between the sender and the addressee in some concrete situation. These postulated mental representations can be formally modeled by dis-



course analysts for empirical investigation by psychologists in the following ways.

The level of surface text is meant to cater to the linguistic representation of an utterance, capturing word senses, syntactic structures, and so on. It shows that the first sentence has imperative mood, that there is clever ambivalent use of general and particular 'you' throughout the excerpt, that there is general present tense, and so on. It also shows that most of the emboldened words are used in a 'water tank' sense that is conventionally available from the dictionary, and presumably most people's mental lexicon; some of the emboldened words, however, are used in their conventional metaphorical sense about the domain of the soul, also available from the dictionary, such as *explodes* and *shooting out of you*, as is also observed by Beger (2011: 54). All of this can be explicitly and systematically modeled by any formal grammar that captures the structural-functional nature of sentences as utterances (Butler 2003).

The level of text base is intended to capture the link between words or more broadly linguistic expressions on the one hand and concepts on the other. It makes a distinction between central and more peripheral concepts by building a linearly and hierarchically ordered series of propositions that each represent the smallest idea unit that can be distinguished, in the form of a predicate and one or more arguments, all of which can be modified by further conceptual structures lower down the line. For instance, here is one possible representation of the first sentence (I am excluding *this* and *your* for the sake of convenience):

- P1 (BUT S0 S1)
- P2 (THINK-ABOUT ADDRESSEE TANK)
- P3 (AS TANK RESERVOIR)
- P4 (OF TANK WATER)
- P5 (WITHIN RESERVOIR SOUL)
- P6 (DRIP-INTO IMPULSES RESERVOIR)
- P7 (MOD IMPULSES AGGRESSIVE)

There are various formats of propositionalization, practical application being one of the prime arguments for variation between approaches (Kintsch 1998). For

present purposes, these differences of detail do not affect the substance of my argument. What is important to point out, though, is that surface text and text base show that, in discourse, language and thought are connected but not identical. For instance, the relative pronoun 'that' in the surface text is represented by the recoverable concept RESERVOIR in the text base in order to display the true conceptual structure of the discourse in the text base: there is a distinction between linguistic and conceptual structures.

Moving from the text base to the situation model involves the transition from activated concepts to the referents they designate in the projected text world, which is another way of looking at metaphor in thought than that which occurs for the text base. We shall later see that, precisely for metaphor, activated concepts and designated referents do not display a one-on-one relation either, just as with linguistic and conceptual structures in surface text and text base. In order to make this differentiation clearly visible, my impressionistic account of the first sentence and its referential representation in the situation model would be something like this:

'the addressee has to think about a tank of water as a reservoir within the soul, and aggressive impulses drip into that reservoir'

This may be paraphrased more felicitously and more elaborately, but that would already involve some form of enrichment. The present formulation is intended to capture the entities, relationships and attributes that must figure in the situation model if the addressee has successfully processed the first sentence. These are the elements of discourse that the addressee must attend to in working memory and these are the elements of discourse that are part of the referential representation of the first sentence.

The distinction between surface text, text base and situation model can be seen as a reflection at the level of discourse analysis of the generally accepted semiotic distinction between symbol, concept, and referent. The referential representation of discourse in a situation model has received a lot of attention in discourse psychology. By comparison, the context model has remained somewhat in the background, its theoretical and empirical development remaining sketchy (Van Dijk 2008). Effects of constructing a context model have been concerned with, for in-

stance, the difference between readers' representations of the same text as if it were a journalistic or a literary text (Zwaan 1993), which also affects metaphor processing (Steen 1994). Different context models influence readers' assumptions about, for instance, the goals and norms and values of the producer of a text, which in turn may interact with the ways in which the situation model is processed.

I propose that the context model for our example sentence must include the fact that the sender is using a nonliteral comparison to explain a difficult concept to the addressee. This utterance is a deliberate metaphor: it explicitly instructs the addressee to think about one thing in terms of something else. The present data have the peculiarity that 'the something else' in fact comes first in the sentence, in the form of a tank of water, and that it is the local topic. However, overall interpretation of the entire excerpt suggests that it is, of course, an aspect of our mental behavior, namely aggression and its relation to the soul, which is depicted in terms of a water tank, not the other way around. What this example shows, therefore, is that language users may in fact approach the target concept of a metaphor by first positioning the source concept as a distinct referent in the addressee's mind, and then go on to use that as a base from which the target is approached.

The point here, however, is that an analytical reconstruction of the possible content of the context model has to account for the communicative (or some might say 'rhetorical') fact that the sender instructs the addressee to construct a cross-domain mapping from a source (water in a container) to a target (emotions)—a classic conceptual metaphor in the tradition of cognitive linguistics (Kövecses 2000). The sender does so for instructive purposes that have to do with the domain of education, which has to be contrasted with the entertaining purposes connected with the domain of literature lying behind Shakespeare's famous first line of Sonnet 18. A tentative formulation of the context model representation of the above utterance therefore might be something like this:

'the lecturer is asking the students to set up an explicit metaphorical comparison between a water tank and a set of aggressive impulses to explain the working of aggression'

My think aloud data for my study of understanding metaphor in literature and in journalism contained quite a few of these context constructions, about one for every five to six metaphorical expressions (Steen 1994); whether these were all and only related to deliberate metaphors I have not been able to examine yet.

In sum, following general insights in the psychology of discourse, metaphor has to be represented at various levels of discourse processing. Each of these levels captures particular aspects of the three-dimensional nature of metaphor: its linguistic form, its conceptual structure, including its referential structure, and its communicative function (Steen 2008; Steen 2011b). I have sketched out how this may lead to distinct representations in working memory for a deliberate metaphor from data analyzed by Beger (2011). This is given more explicit and formal treatment in section 4, where the five-step method can be employed to examine how deliberate metaphor differs from non-deliberate metaphor and how one type of deliberate metaphor may be distinguished from another. These structural analyses hence point to different functions of metaphor in discourse and may eventually be connected to predictions about processing.

### **3. Analyzing metaphor in discourse: The five-step method**

The original idea of the five-step method (Steen 1999a; Steen 2009) was to forge a connection between the linguistic forms of metaphor in text and talk, on the one hand, and the conceptual structures of metaphor as assumed in cognitive linguistics in the form of conceptual metaphors such as ARGUMENT IS WAR on the other. Since most of the work in those days did not discuss deliberate metaphor or pay much attention to such forms as simile or analogy, the role of metaphor as metaphor in communication was not attended to as a separate issue. Typical data that needed to be accounted for included sentences like 'Lakoff attacked Glucksberg' or variants thereof, and the way they were used as communicative or rhetorical devices as opposed to linguistic and conceptual structures was not examined. For present purposes it is therefore most convenient to begin with an analysis of that type of metaphor, explain some of the ideas behind the five-step method, and then continue with an analysis of deliberate metaphors of the kind discussed by Beger (2011).

Table 1  
*Five-step analysis of 'Lakoff attacked Glucksberg'*

Steps	Analysis
Text	<i>Lakoff attacked Glucksberg</i>
1. Identification of metaphor-related words	attacked
2. Identification of metaphor-related propositions	P1 (ATTACK <sub>s</sub> LAKOFF <sub>t</sub> GLUCKSBERG <sub>t</sub> )
3. Identification of open metaphorical comparison	SIM { $\square F, x, y$ [F (LAKOFF, GLUCKSBERG)] <sub>t</sub> [ATTACK (x, y)] <sub>s</sub> }
4. Identification of analogical structure	SIM [CRITICIZE (LAKOFF, GLUCKSBERG)] <sub>t</sub> [ATTACK (ATTACKER, ATTACKED)] <sub>s</sub> }
5. Identification of cross-domain mapping	TARGET < SOURCE DOMAIN  CRITICIZE < ATTACK  LAKOFF < ATTACKER  GLUCKSBERG < ATTACKED  <i>possible inferences:</i>  ARGUMENTS < WEAPONS

Table 1 offers an overview of this five-step analysis of the metaphor 'Lakoff attacked Glucksberg'. Step 1 involves the identification of any metaphor-related words in a stretch of text. In our case, the word *attack* is seen as a potential expression of an underlying metaphorical mapping; what the mapping is, does not

have to be specified for the word to be identified as metaphorical. The way in which such linguistic metaphor identification can be carried out has been thoroughly researched, modeled and tested by the Pragglejaz Group (2007), Steen (2007) and Steen et al. (2010).

The second step displays the representation of the linguistic input in conceptual structures, as is also needed for the cognitive-linguistic approach and other approaches inspired by them. As suggested above, doing so by propositionalization is regular practice in discourse psychology. There is one addition that is particular to our field of study: non-metaphor related words are indexed as evoking target-domain concepts whereas metaphor-related words are indexed as evoking source-domain concepts. A proposition may be said to be related to metaphor if it has at least one concept that is indexed for belonging to some source domain.

Step 3 addresses the problem that step 2 has raised: if a proposition contains a concept from another conceptual domain than the target domain, this is a potential threat to the coherence of the text which needs to be resolved. This has to do with the widely noted characteristic of metaphor as a case of incongruity (Cameron 2003; Steen 2007). If we are dealing with metaphor we may assume that the incongruous concept comes from a source domain that can be connected to the target domain by cross-domain mapping. We can consequently postulate that, for some presupposed but unknown concepts, there is some similarity between the two incomplete propositions that are to be aligned by the suggested cross-domain mapping. This is a simple and elegant mechanism which was proposed by George Miller (1979) in an undervalued essay in Andrew Ortony's (1979) first edition of *Metaphor and Thought*. Its dependence on the operation of similarity and comparison may be controversial to some, including Lakoff and Johnson (1999) as well as Glucksberg (2001), but has been supported by experimental research on metaphor processing by Gentner and Bowdle (2001, Gentner and Bowdle 2008; Bowdle and Gentner 2005) and theoretical work by others (Steen 2007). What I have added to Miller's treatment is the explication that the top proposition designates an incomplete state of affairs in some target domain, while the bottom proposition designates an incomplete state of affairs in some source domain. This has been done by simple extraposition of the indices from the individual concepts to the encompassing propositional frame that includes all explicit

and presupposed concepts for target and source, respectively. Note that when the open slots in the frames are filled out, in step 4, they are functionally equivalent to the source and target mental spaces used in Blending Theory (Fauconnier and Turner 1998); nothing depends on their formulation as propositions in the present approach, these are just convenient and maximally precise and explicit forms of notation (Kintsch, 1998).

As soon as the open comparison has been generated by step 3, its completion by the insertion of new concepts in each of the two frames in step 4 is a natural consequence. The idea is that there is an academic context in which Lakoff does something to Glucksberg which may be compared with attacking, and conventionally this will be interpreted as strongly criticizing; this gives us an interpretation for the open slot *F*. This is even the conventionally metaphorical meaning of the verb *to attack* in the dictionary (on the systematic use of dictionaries for this analysis, see Krennmayr 2008). Conversely, the action of attacking entails two open slots *a* and *b* and these can be filled by an attacker and an attacked. Filling out the open slots in the two propositions is therefore not highly problematic, in this instance. And again, representing this analogy in a propositional format is not meant to suggest any a priori preference for propositions over other forms of representation, including, for instance, image-schemas and so on—these are empirical issues for behavioral research.

Step 5 then turns the analogy produced in step 4 into a differently ordered mapping according to the format popularized by cognitive linguists. It takes each of the correspondences projected by the analogy of step 4 as separate entities and lines them up as a list of entailments. This also enables the explication of other possible entailments that are implied by the analogy, such as the presumable correspondence between words or arguments on the one hand and weapons or for instance fists on the other. The fact that these have not been explicitly given in the text, however, changes the status of this part of the analysis.

Table 1 labels the five steps with the appropriate cognitive-scientific terms. It uses ‘metaphor-related’ for reasons that have been explained in Steen et al. (2010) and to which we will return to below. And it shows how the most likely label of the cross-domain mapping found in the present utterance would be CRITICISM IS

ATTACK. ARGUMENT IS WAR is a more general label which is clearly based on a more encompassing set of data coming from many different uses of many different terms. It raises a fundamental question about the provenance and persistence of conceptual metaphors in relation to specific instances of situated meaning (Cameron 2003; Steen 2007; Gibbs 2011c).

#### **4. Five-steps and three dimensions**

Let us now examine the connection between the five-step method demonstrated in section 3 and the three dimensions of metaphor in discourse discussed in section 2. Step 1 of the five-step method zooms in on an aspect of the representation of metaphor as part of the surface text, the fact that one of its words, *attack*, is used in a metaphorical as opposed to non-metaphorical sense. Step 2 involves the regular discourse-psychological transformation of linguistic materials into conceptual structures in the text base. Step 3 is a necessary aid to get from the conceptual text base, which displays the problem of conceptual incongruity, to the referential situation model, which should presumably comprise a coherent situation in the target domain in which entities, relations and attributes display recognizably coherent properties. The target domain proposition in step 4, suggesting that Lakoff criticizes Glucksberg, is precisely this, since it designates all referents that are projected by the sentence into the text world. All of these observations have been part and parcel of the application of the five-step method in previous publications (Steen 1999a; Steen 2007; Steen 2009; Dorst 2011; Krennmayr 2011).

The three-dimensional model for metaphor now raises new questions about the alignment between the three dimensions of discourse (language, thought and communication) on the one hand and their use in the five-step method for metaphor analysis on the other. Thus, the value of the source domain proposition in Step 4 is different for deliberate metaphor than for non deliberate metaphor, as might be the use of Step 5. Let me illustrate what may be at stake by analyzing the deliberate water tank metaphor by means of the five-step method.



#### 4.1. Steps 1 and 2

The first step, concerning the identification of the metaphor-related words, raises a complicating detail, pertaining to the role of *reservoir*, which first needs to be clarified before we can proceed to the main point. It looks as if the professor intends *reservoir* to designate something that is not a concrete water tank but its emotional counterpart in the soul, something abstract rather than concrete. This also appears to be the interpretation elaborated by Beger(2011: 54).: “Our soul is conceptualized as a container that is compared to a tank of water ...”. However, consultation of the Macmillan dictionary (Rundell 2002) shows that *reservoir* has three senses, the first two of which are concrete, while the latter is abstract but mainly literary:

- 1 an artificial or natural lake where water is stored so that it can be supplied to the houses in an area
- 2 a container, often part of a machine, where liquid is kept for a particular purpose
- 3 *mainly literary* a large quantity of something that can be used: **+of** *Nearby colleges are a reservoir of talent for employers*

Table 2

*Five-step analysis of ‘think about the water tank as a reservoir within the soul ...’*

Steps	Analysis
Text	But think about this tank of water as the reservoir within your soul, that aggressive impulses are dripping into
1. Identification of metaphor-related words	About this tank of water as ...reservoir within ... that ... dripping into
2. Identification of metaphor-related propositions	<p>P1 (BUT<sub>t</sub> S0 S1)</p> <p>P2 (THINK-ABOUT<sub>t</sub> ADDRESSEE<sub>t</sub> TANK<sub>s</sub>)</p> <p>P3 (AS<sub>t</sub> TANK<sub>s</sub> RESERVOIR<sub>s,t</sub>)</p> <p>P4 (OF<sub>s</sub> TANK<sub>s</sub> WATER<sub>s</sub>)</p> <p>P5 (WITHIN<sub>s</sub> RESERVOIR<sub>s,t</sub> SOUL<sub>t</sub>)</p> <p>P6 (DRIP-INTO<sub>s</sub> IMPULSES<sub>t</sub> RESERVOIR<sub>s,t</sub>)</p> <p>P7 (MOD<sub>t</sub> IMPULSES<sub>t</sub> AGGRESSIVE<sub>t</sub>)</p>
3. Identification of open metaphorical comparison	SIM (THINK-ABOUT TARGET AS-SOURCE) { □ <i>F, a, y</i> [ <i>F</i> (IMPULSES[AGGRESSIVE], ‘RESERVOIR’[WITHIN-SOUL])] <sub>t</sub> [DRIP-INTO ( <i>x</i> , TANK-AS-RESERVOIR[WITHIN- <i>y</i> ])] <sub>s</sub> }
4. Identification of analogical structure	SIM (THINK-ABOUT TARGET AS-SOURCE) { [ADD-TO (IMPULSES[AGGRESSIVE], ‘RESERVOIR’[WITHIN-SOUL])] <sub>t</sub> [DRIP-INTO (WATER, TANK-AS-RESERVOIR[WITHIN-ECOSYSTEM])] <sub>s</sub> }
5. Identification of cross-domain mapping	<p>TARGET &lt; SOURCE DOMAIN</p> <p>ADD-TO &lt; DRIP-INTO</p> <p>IMPULSES[AGGRESSIVE] &lt; WATER</p> <p>‘RESERVOIR’[WITHIN-SOUL] &lt; TANK-AS-RESERVOIR[WITHIN-ECOSYSTEM]</p>

On Beger’s (2011) interpretation, assuming that the professor means *reservoir* in its abstract sense, *reservoir* therefore turns out to be a metaphorically used word itself. However, its metaphorical sense comes from the same source domain as the source domain with which it is meant to be contrasted and compared, that is, the concrete sense of *tank of water*. This complication would involve embedding one metaphor (reservoir for large quantity) inside another one (the soul is a container) while the source domains of both metaphors are identical. This is technically possible and empirically plausible, but distracting for our present purposes.

(A similar point can be made about *impulse*, which I am going to ignore for the sake of simplicity too.)

There is, however, another interpretation of *reservoir*, which is equally plausible and which would preserve its concrete meaning while simultaneously utilizing the abstract meaning. It would make *reservoir* ambiguous between a synonym for *tank* on the one hand and an abstract metaphorical interpretation or replacement of *tank* for some property of the soul on the other. Such double uses of words in metaphorical contexts have been labeled as 'bridge terms' by Kittay (1987). This interpretation can be motivated by discourse-analytical considerations in which the professor has to move from the prior introduction of the source domain element of the water tank as a local topic in its own right to its use as a means to think about the true topic of the lecture, aggression: the double, ambiguous use of *reservoir* as both a kind of natural container for water as well as an abstract container for emotions embodies a natural transition between the two discourse topics. This can be transparently shown in the five-step analysis (see Table 2). The fact that the same utterance can be given more than one interpretation is of course a given in discourse analysis and should not be seen as an issue for the five-step method, as long as it can represent both options and spell out what their implications are; since my present argument is not concerned with these issues, I will leave the comparison between the two alternative interpretations aside.

#### 4.2. Steps 3 and 4

Assuming our current interpretation of the utterance as our starting point then, let us now have a look at some of the issues raised by deliberate metaphor. The first observation has to do with the way in which the threat to coherence in the text base by the presence of two conceptual domains is resolved in step 3 by the similarity operator. When we are dealing with a deliberate metaphor, chances are that the similarity operator is in fact explicitly expressed in the language, suggesting that the producer is signaling to the addressee that they have to resolve the apparent incongruity by means of a cross-domain mapping. This does not necessarily have to occur, as there is a lot of deliberate metaphor that is not explicitly

flagged as metaphorical. However, in our example we do have such a signal or metaphor flag, *think about x as y*.

For deliberate metaphors like these, the assumption of a similarity operator à-la-Miller (1979) turns into more than an assumption: it reflects an explicit instruction on the part of the producer of the metaphor for the addressee to think of one thing in terms of something else. The five-step method can naturally cater to this situation by making the SIM operator more specific, in the form of adding the relevant linguistic structure behind it as a modifier in brackets. For signaled metaphor, the presence of the SIM operator represents a linguistic fact. For non-signaled metaphor, by contrast, the SIM operator reflects a theoretical assumption. It gets introduced as such in the formalism, as could be seen for 'Lakoff attacked Glucksberg' in Table 1.

The next issue raised by deliberate metaphor is the status of the source domain proposition in steps 3 and 4. In our present example, the incomplete source domain proposition in step 3 may be held to be part of the meaning of the text as it should be represented in the working memory of the addressee. After all, it is one half of the equation which the addressee is instructed to set up as part of the local discourse. This means that the elements of the source domain which are explicitly mentioned in the text and which are represented in the incomplete bottom proposition in step 3, *drip into, tank, reservoir, within*, should all be part of the developing situation model in working memory and the attention window of the addressee.

For step 4, the question arises whether addressees are forced to attend to the full details of the complete source domain proposition. It is possible in theory that they just attend to the few source domain words represented in step 3 and leave it at that, concentrating instead on filling out the target domain proposition, which, after all, reflects the referential elements in the situation model that the text is about. People often make do with shallow processing (Sanford et al. 2006), and this could be one moment where that might happen. Whether shallow processing takes place and decreases attention to the source domain proposition in step 4 or not, the overall point here is that deliberate metaphor requires attention

to elements of the source domain, both in steps 3 and 4, which should be visible in addressees' construction of the situation model.

This is where the difference between deliberate and non-deliberate begins to affect the five-step method and reveals new opportunities for its use. We have just taken steps 3 and 4 as a representation of the situation model and argued that, for deliberate metaphor, the situation model should contain source domain elements or even a complete source domain proposition, next to the target domain proposition which reflects the topic of the metaphor in terms of the encompassing discourse. To be concrete, the situation model for the water tank sentence should comprise a referential picture of the soul having some abstract reservoir in which aggressive impulses accumulate, this picture being seen as at least partly analogous to something dripping into a water tank which acts as a natural reservoir.

With non-deliberate metaphor, this is different. When addressees derive 'Lakoff criticized Glucksberg' in step 4 (assuming that this is what they do), they can represent what they need. They do not need to represent the source domain elements or complete proposition, 'the attacker attacked the attackee', as another, analogous part of their developing situation model. Indeed, it has been the claim of cognitive linguistics that people typically do not attend to the cross-domain mapping in attention; instead, they construct the mapping before then, in order to arrive at the intended target domain meaning which would be in their attention, in the form of the referential representation 'Lakoff criticized Glucksberg'.

For non-deliberate metaphors, therefore, we might have to indicate that it is only the top proposition in step 4, the target domain proposition, which gets represented in people's situation models. The bottom proposition, representing the source domain analogue, might somehow play a part in the processes leading up to the product of comprehension in working memory, but presumably does not end up there itself. It should not be part of the situation model for non-deliberate metaphors. For deliberate metaphors, the source domain proposition should at least partly be included in the situation model. These are testable claims which we are currently undertaking to investigate in our lab.

### 4.3. Steps 4 and 5

If this argument is acceptable as a plausible account of how metaphor gets represented in working memory and the elements of the situation model that are attended to, and if step 4 of the five-step method is accepted as one useful way of representing these mental products, with possibly different outcomes for non-deliberate versus deliberate metaphors, then this may also form a basis for rethinking step 5. The original aim of step 5 was to capture the full cross-domain mapping that might be related to the local analogy derived in step 4, so that 'Lakoff attacked Glucksberg' could be connected in some controllable fashion to ARGUMENT IS WAR, and the tank of water metaphor could be connected to EMOTIONS ARE LIQUIDS IN A CONTAINER. The information in step 5 might be useful for constructing links with postulated conceptual metaphors in order to test how easy and reliable such connections might be formulated. Implicit in such an undertaking has been the idea that such elaborations would also throw light on the role of the conceptual metaphor in communication. And this is still one way in which any analysis of metaphor in discourse could proceed after step 4 has been completed.

However, I now feel that a more interesting use of step 5 would be to see it as representing the communicative dimension of metaphor, which would be useful as input for the ongoing construction of a context model for the discourse as a whole. As noted above, an impressionistic account of that representation might look like this:

'the lecturer is asking the students to set up an explicit metaphorical comparison between a water tank and a set of aggressive impulses to explain the working of aggression'

It is now clear that such a representation can be derived from the preceding information in step 4, with additional default information added from the context of the genre event the utterance is part of. The crucial point, however, is that it is the presence of an alien domain in the situation model (the source domain propositions in step 3 and 4) that may be *conditio sine qua non* for such a context model to be enabled. If we compare this with 'Lakoff attacked Glucksberg', the context

model might read something like ‘the sender is informing the addressee that Lakoff criticized Glucksberg in order to add this event to a developing account’, for instance one in which the sender himself is either praising or criticizing Lakoff.

In other words, I am suggesting that there may be a close and differential connection between the output of step 4 for non-deliberate versus deliberate metaphors on the one hand and the content of the context model on the other hand: if elements of the source domain are represented as such and hence presumably attended to in the situation model, as is the case with deliberate metaphor, then they constitute a case of discourse incongruity which can be represented as such in the context model as well; if elements of the source domain are not represented as such and hence presumably not attended to in the situation model, as is the case with non-deliberate metaphor, then they do not constitute a case of discourse incongruity and do not get represented as such in the context model either. The function of such an analysis would be to explain why some metaphors raise questions as to their use and point, whereas others do not. If the context model displays a representation like the one for the water tank above, this affords a platform for wondering about the rhetorical aim of the sender as well as the means and success of his action. If the context model only say something like ‘the sender is informing the addressee that Lakoff criticized Glucksberg in order to add this event to a developing account’, then there is no ground in the context model for continuing with paying any sort of attention to what technically and perhaps subconsciously is a metaphor. Again, my think aloud data for understanding metaphor in literary versus journalistic text processing (Steen 1994) clearly showed signs of the possibility of these processes, but in just one out of about five to six cases of metaphor—these may have been the deliberate ones, and we are now preparing to address this issue head-on.

In sum, the five-step method may be closely aligned with the various mental representations that people are assumed to make during discourse processing. The discovery of deliberate metaphor as an important manifestation of the communicative dimension of metaphor in discourse pointed out that the context model might be more important for the five step method than originally realized. Indeed, it now looks as if the content of the context model may be partly dependent on the representation of metaphor in step 4, which captures the situation model.

This became particularly clear when we looked at the difference between non-deliberate versus deliberate metaphor, which revealed that the crucial issue there may have to do with the presence or absence of the source domain in the situation model (step 4). If the source domain is part of what is attended to in the situation model, as is the case for deliberate metaphor, then it may give rise to a context model for metaphor that pays attention to metaphor as metaphor, since there is some form of discourse incongruity in the situation model; if the source domain is not part of the situation model, as is the case for non-deliberate metaphor, then there is no ground for this to occur.

## **5. Conclusion: The value of deliberate metaphor**

The crux of this proposal lies in the presence of the source domain in attention, in the situation model. How can we know that this is or is not the case? How can we decide whether to model the representation of a metaphor in discourse processing as comprising just the target domain proposition in step 4, or whether it also includes the role of some source domain elements or even a complete source domain proposition? My answer over the past few years has been to decide whether the metaphor is used deliberately or not. However, that is a controversial matter and even though there are many clear cases there probably are just as many unclear ones. Krennmayr (2011) has formulated some first guidelines but we have now started a new project with Gudrun Reijnierse that is fully devoted to this issue.

However, there are other solutions. I have two suggestions. First, we might want to turn the situation with deliberateness and representation of the source domain in attention round, and treat the whole matter as an empirical question. Since the formalism allows for source domain information to play a role until at least step 4, behavioral research could attempt to test under which conditions source domain activation remains present in the situation model. I would predict that this would be the case for novel metaphors, difficult metaphors, metaphors that are signaled, metaphors that are extended or part of a conspicuous series of metaphorical expressions, and metaphors that are combined with other figures of speech, such as hyperbole or irony. Many of these might also be experienced as



deliberate, but we might even want to treat this as a post-hoc effect on the part of the recipient, which would make this proposal compatible with some of the arguments advanced by Gibbs (2011a; Gibbs 2011 b). How all of this might work for production would be a rather different affair, and how this would be affected by using different media of communication (speech versus writing) would have to be examined as well. These are challenges that are more general for all metaphor research.

The second suggestion would be to take more seriously the possibility that many metaphors are so conventionalized that they may not give rise to activation of source domain concepts or cross-domain mappings. Thus, even though step 1 would show that *attack* in ‘Lakoff attacked Glucksberg’ is linguistically metaphorical (Steen et al. 2010), this might still be argued to lead to fast lexical disambiguation and immediate activation of the appropriate target domain concept *ATTACK* in the sense of ‘criticize’ by the addressee. If that were to happen, the text base would not show any source domain concepts that would require incongruity resolution by triggering step 3, for it would simply say *ATTACK\* LAKOFF GLUCKSBERG*, the star indicating that we are dealing with the metaphorical concept ‘attack’ (Glucksberg and Haught 2006). Instead, we would immediately proceed to step 4, which would only have a target domain representation of the sentence, in the form of ‘Lakoff attacked\* Glucksberg’, and there would be no issue about the presence or absence of source domain concepts and referents.

Even if lexical disambiguation would allow for the activation of both concrete and abstract versions of the concept *ATTACK* in the text base, this might still allow for a process of suppression of the irrelevant source domain concepts that is fast enough to prevent the start of any sort of mapping. The potential conceptual incongruity between source and target domain concepts might then be gone before it can trigger a resolution process. This could happen with most conventional metaphors that are not revitalized as metaphors in deliberate use (Giora 2003, Giora 2008).

Note that this implies that the representation of *ATTACK* as a source domain concept in Table 1 above represents just one possibility. It was chosen in order to reflect the assumptions of cognitive linguistics, in order to spell out the conse-

quences of such an assumption in the context of discourse analysis. However, this does not mean that other models of lexical and conceptual processing are not equally interesting and merit formal as well behavioral examination as well.

Both suggestions imply a need for precise formal elaboration and experimental testing of the assumptions that metaphor scholars bring to bear on their view of how metaphor is understood. Deliberate metaphor clearly offers new perspectives on this research area. Its analysis by the slightly adjusted five-step method raises some very concrete questions for psycholinguistic research, and not just for deliberate metaphor, but for the whole gamut of metaphor use in discourse. That is the value of deliberate metaphor.

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