# THE CLASS-INCLUSION THEORY OF METAPHOR: A CRITICAL VIEW

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**Abstract:** The class-inclusion theory of metaphor was proposed by Glucksberg and Keysar (1990), and directed against the view that metaphoric statements of the form *X is Y* are implicit comparisons, and their interpretation involves a process of feature matching between topic ('X') and vehicle ('Y'). The authors suggest instead that such sentences qualify as explicit class-inclusion assertions, in which the topic is ascribed to a superordinate ad hoc category typified by and named after the vehicle. I will argue that, although superordinate categories comprising both the topic and the vehicle of a metaphoric statement can indeed be constructed in a large number of cases, they fail to provide an adequate theoretical foundation for the interpretation of metaphor. Furthermore, the prototype status attributed to the vehicle obscures the difference between metaphor and certain metonymic patterns in which the name of a prototypical category member stands for the category as a whole.

**Keywords:** metaphor interpretation, mapping, superordinate category, prototype

## 1. Introduction

One of the most prominent theses advanced in metaphor theory connects metaphor with a form of semantic conflict or anomaly translating in category violation[1]. Thus, a metaphoric sentence such as *Man is a wolf* (Black 1981 [1954]: 73) seems to place man in the class of wolves, which clearly runs counter to the conventional delimitation of semantic categories. Similarly, the statement *My car is thirsty* is characterized by category violation in that it attributes a property of an animate entity ('being thirsty') to an inanimate object (*my car*) (Way 1991: 42-43).

The need to resolve this tension has posed a major challenge to metaphor theory, and materialized in a number of competing approaches. One notable attempt at dealing with the semantic conflict typically present in metaphor was provided by the so-called comparison view, which treats metaphor as an implicit comparison (cf. Rolf 2005: 21-22). According to this theory, a sentence like *Man is a wolf* can be said to mean roughly 'Man is *like* a wolf.'

A series of metaphor-processing models have been devised based on the comparison view. The most rudimentary versions postulate a simple matching of properties between the terms of the implicit comparison (the metaphor vehicle 'wolf' and the topic 'man')[2]. In keeping with such models, the metaphoric statement quoted above,

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[1] This aspect was brought to the fore of modern metaphor research by Beardsley's controversion theory (1958). Although it is generally acknowledged that metaphor taken literally involves some form of conflict, it has been pointed out that semantic deviance is neither a necessary nor an exclusive feature of metaphor, but one that is nevertheless present on a large scale (Black 1993 [1977]: 34).

[2] I am using the terms "topic" and "vehicle" to refer to linguistic forms (*man, wolf*), but also to the corresponding concepts ('man,' 'wolf') and referents (man, wolf). Strictly speaking, metaphor as I understand

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*Man is a wolf*, is interpreted by identifying a set of commonalities between 'man' and 'wolf' (e.g. 'being aggressive,' 'being reckless', etc.); these commonalities constitute the ground of the metaphor.

Although at first sight they provide an intuitive approach to metaphor processing, matching models are problematic on a number of counts. The class-inclusion theory, developed by Sam Glucksberg and Boaz Keysar in 1990, and refined in later years by Glucksberg and his associates (Glucksberg and Keysar 1993; Glucksberg et al. 1997a; Glucksberg et al. 1997b; Glucksberg 2001; McGlone and Manfredi 2001), was intended as a critical response and an alternative to matching algorithms.

The present paper offers a critical discussion of the theory, using as a starting point the versions found in Glucksberg and Keysar (1993) and Glucksberg (2001). I will argue that, despite certain advantages, the class-inclusion model does not provide a viable basis for metaphor interpretation. My argumentation is structured in five main parts. The next two sections outline the context which motivated the emergence of the class-inclusion view. They introduce matching models as a subgroup of metaphor-processing theories (section 2), and call attention to their major weaknesses (section 3). Section 4 summarizes the core tenets of the class-inclusion theory, which is subsequently compared with the matching models it was intended to counter (section 5). Finally, I discuss the role of prototypicality within the class-inclusion view, and its implications for the accuracy of the theory (section 6).

## 2. Metaphor-processing models

Wolff and Gentner (1992) distinguish between three classes of metaphor-processing theories: matching models, mapping models, and a combination of the two: matching-then-mapping models.

According to the first type of approach, metaphor interpretation involves a comparison of topic and vehicle concepts, from which common features are extracted. For example, the metaphoric statement *My surgeon is a butcher* can be interpreted by recognizing that both surgeons and butchers share the property of cutting flesh (Wolff and Gentner 1992: 504). Moreover, the surgeon to whom the topic refers resembles a butcher in that he performs this operation in a sloppy, imprecise manner (but cf. 5.4.).

Mapping models are centred around the phenomenon of property attribution. They postulate the creation of a higher-order category that uses the features of the vehicle as a starting point, and functions as an instrument for the attribution of certain properties to the topic. The sentence *My surgeon is a butcher* is comprehended by mapping the property of cutting flesh sloppily from the vehicle ('butcher') onto the topic ('surgeon') (Wolff and Gentner 1992: 504).

In matching-then-mapping models, processing begins by aligning vehicle and topic representations to establish common features (e.g. 'cutting flesh'), and continues with a mapping process, during which further properties of the vehicle that are consistent with

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it only includes the vehicle; the sentence in which the topic and the vehicle occur will be termed *metaphoric statement* or *metaphoric sentence*.

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the system of shared predicates are transferred to the topic (e.g. the attribute of sloppiness) (Wolff and Gentner 1992: 504-505).

## 3. Criticism of matching models

The class-inclusion theory of metaphor is a mapping model developed as an alternative to matching theories. In particular, it opposes simple matching models, whose assumptions are objectionable in a number of respects.

### 3.1 Metaphor vs. simile

Perhaps the most obvious weakness of matching models, and of the comparison theory in general, is that they focus on the resemblances between metaphor and simile, while failing to address the differences. Metaphor and the corresponding simile (where such a simile can be identified) are not equivalent, although the interpretation of both relies to a certain extent on comparison:

> The simile says there is a likeness and leaves it to us to pick some common feature or features; the metaphor does not explicitly assert a likeness, but if we accept it as a metaphor, we are again led to seek common features (Davidson 1981 [1978]: 210).

In other words, the simile asserts that there is a similarity between two terms, whereas metaphor merely suggests it.

It is a subtle, yet significant distinction, which results in different truth values for metaphor and simile at the literal level (Davidson 1981 [1978]: 212), and has crucial implications for metaphor semantics. In addition to their figurative meaning, metaphorically employed expressions also evoke the possibility of literal interpretation, although the latter is mostly overlaid by the metaphorical reading (Netzel 2003: 110). It is a property that clearly distinguishes metaphor from simile. Even when its processing involves establishing metaphoric parallels between features (cf. 3.4.), simile remains a form of literal language. As such, it exhibits neither the semantic conflict nor the possibility of double interpretation that are typical of metaphor.

### 3.2 Feature selection

One of the most frequent criticisms levelled against matching models regards the criteria for feature selection. Basing metaphor comprehension on common features (or common category membership) of the topic and vehicle requires further specification of the restrictions operating on the selection of these features. Not all the commonalities that can be established between the topic and the vehicle of a metaphoric statement are relevant to the metaphor ground; it is therefore necessary to limit the number of shared features to those which play a part in the interpretation of the metaphor:

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> The first problem is that common category membership often provides too little basis even for a non-literal comparison. Any two things are in some common category. Most of us could perhaps come up with *some* interpretation, often a farfetched one, of any metaphor, no matter how arbitrary the metaphor. In *the senator was a fox who could outwit the reporters every time*, surely it does not matter that both senators and foxes are animals. Yet this is a highly salient category or feature of foxes, although it is less salient for senators (Tourangeau and Sternberg 1982: 208).

### 3.3 Feature introduction

A further problem facing matching models resides in the impossibility of exhaustive vehicle-topic comparison in cases in which not enough information is available about the topic. Glucksberg (2001) remarks that in a sentence such as *Roger is like a pit bull in faculty meetings,* mere comparison will not provide sufficient insight into the interpretation of the metaphor if we know nothing about Roger. Yet the sentence is clearly interpretable (Glucksberg 2001: 35-36).

The matter seems to be more complex than Glucksberg's criticism suggests, given that we do know (or can infer with great likelihood) that Roger is a man. Knowledge about category membership enables us to establish some (though not the whole range of) common features between topic and vehicle. Nevertheless, it is true that simple feature matching cannot offer a satisfactory explanation for the interpretation of this metaphor, for reasons that will be discussed in the next section.

### 3.4 Metaphorical parallels between features

A fourth criticism which can be directed against unsophisticated versions of matching models is concerned with the fact that certain features are only shared metaphorically. Foxes and senators can both be described as cunning, yet this seemingly common property is understood differently depending on the conceptual domain in which it is applied (cf. Ortony 1979: 167; Tourangeau and Sternberg 1982: 214-215). Conceptual domains can be defined as structured blocks of encyclopaedic knowledge about certain aspects of experience (Barcelona 2002: 232-233), with respect to which lexical units are characterized. In the example mentioned above, the attribute of being cunning is altered depending on whether it refers to the domain of foxes (animals) or senators (people): a senator is cunning in a different way to a fox.

Consequently, "because features are often specific to a domain, they must be transformed, i.e. seen in a new way, if we are to find correspondences across domains" (Tourangeau and Sternberg 1982: 217). This idea is consistent with Kittay's more radical view that non-literal comparison *always* occurs "across distinct or incongruous domains or semantic fields" (Kittay 1991: 191).

It is an aspect which poses serious problems for matching theories, even if we assume that metaphor interpretation relies on similarity rather than identity of features. How is metaphorical similarity of features – a prerequisite for establishing the similarity relation between topic and vehicle – to be determined? The recourse to metaphorical

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parallels for interpreting metaphor seems to lead to "an infinite regress" (Glucksberg 2001: 36).

### 3.5 Asymmetry

A further shortcoming of simple matching models consists in their inability to provide an adequate explanation for the asymmetry of metaphorical comparisons:

> Similarity is a symmetrical relation, A is similar to B entails that B is also similar to A; and, if metaphor is really finding a non-empty intersection of properties between two terms, then the metaphor should show the same symmetry as a similarity statement (Way 1991: 36).

Yet this is clearly not the case: *The senator was a fox* does not entail, and is certainly not equivalent to the reversed statement, *The fox was a senator*.

In conclusion, simple matching models fail to capture the intricacies of metaphor-specific interpretation. Glucksberg (2001) also considers two matching models with a higher level of complexity: Ortony's (1979) salience imbalance hypothesis and the structural alignment model developed by Gentner and Wolff (1997), and Bowdle and Gentner (1997) respectively. Both theories provide satisfactory answers to many of the objections raised against simple matching algorithms. Nonetheless, Glucksberg criticizes their inability to distinguish between literal and metaphorical comparisons (Glucksberg 2001: 35, 37).

As an alternative, Glucksberg and Keysar put forward an interpretation model based on property attribution: the class-inclusion theory of metaphor.

## 4. The class-inclusion theory

Unlike matching models, the class-inclusion theory treats metaphorical statements not as implicit comparisons, but as explicit class-inclusion assertions. In *My job is a jail*, for example, the topic is assigned to a category which does not coincide with the one defined by the vehicle concept 'jail' in the literal sense. Instead, it is a superordinate category typified by the literal vehicle, and built in such a way as to include the topic: the category of involuntary, unpleasant, confining, punishing, unrewarding situations. Since this newly created category does not have a conventional name of its own, it borrows the name of the vehicle (Glucksberg and Keysar 1993: 414). Hence, the metaphor vehicle is characterized by dual reference: it stands for its literal referent (jail), and simultaneously for the category of involuntary, unpleasant, etc. situations (Glucksberg and Keysar 1993: 410).

Depending on the context, the vehicle can be construed as a member of various ad hoc categories[3]. Thus, a jail can exemplify the class of gloomy buildings with difficult

[3] The notion of ad hoc category was introduced by Barsalou (1983), and refers to a category constructed spontaneously to pursue a goal in a specific situation, e.g. 'things to take on a camping trip' or 'possible

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access, or the more general category of confining spaces, but also that of justice institutions, or restrictive contexts, etc. Of all the possible categories the vehicle can belong to, in interpreting a metaphorical statement we select the one which it typifies, and which also incorporates the topic. Since this newly created category is used to attribute certain properties to the topic, it is called *attributive category* (ibid. 409).

The class-inclusion theory was originally restricted to the interpretation of nominal metaphors occurring in statements of the form *X is Y*, and subsequently extended to predicative metaphors:

> Just as nominal metaphors use vehicles that epitomize certain categories of objects, situations, or events, predicative metaphors use verbs that epitomize certain categories of actions. For example, the verb *to fly* literally entails movement in the air. Flying through the air epitomizes speed, and so expressions such as *he hopped on his bike and flew home* are readily understood via the same strategies by which nominal metaphors, such as *his bike was an arrow*, are understood. Arrows are prototypical members of the category of speeding things; flying is a prototypical member of the category of fast travel (Glucksberg 2001: 49).

What Glucksberg omits to address here is the identity of the topic. Is there an explicit topic in the sentence *He hopped on his bike and flew home*? In what sense does this statement qualify as a class-inclusion assertion? Or, in other words, what exactly is placed in the category of fast travel? The class-inclusion theory remains vague on this point. My analysis will therefore be confined to metaphorical sentences of the type *X is Y,* which receive a more comprehensive and unambiguous treatment within the theory itself.

On Glucksberg's and Keysar's account, the vehicle and topic of a metaphorical statement interact to yield the meaning of the metaphor. The influence of Black's (1981 [1954]) interaction theory is evident. According to Black, the vehicle (or subsidiary subject) acts as a filter through which the topic (or principal subject) is viewed. Understanding the statement *Man is a wolf* thus involves the following interpretive mechanism:

> The effect [...] of (metaphorically) calling a man a *wolf* is to evoke the wolf-system of related commonplaces. If the man is a wolf, he preys upon other animals, is fierce, hungry, engaged in constant struggle, a scavenger, and so on. Each of these implied assertions has now to be made to fit the principal subject (the man) either in normal or in abnormal senses. [...] A suitable hearer will be led by the wolf-system of implications to construct a corresponding system of implications about the principal subject. But these implications will not be those comprised in the commonplaces normally implied by literal uses of *man*. The new implications must

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costumes to wear to a Halloween party' (Barsalou 1983: 211). Ad hoc categories are typically novel, and do not have well-established representations in memory, but can acquire them if used repeatedly (Barsalou 1983: 213, 225). Like common taxonomic categories, they have gradient structure (Barsalou 1983: 224). According to Barsalou, an entity can be cross-classified in a number of ways. A chair, for instance, may be regarded as a member of the following categories, depending on the context of its classification: 'things that can be used for emergency firewood,' 'things that can be stood on,' 'gifts', etc. (Barsalou 1983: 226).

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> be determined by the pattern of implications associated with literal uses of the word *wolf*. Any human traits that can without undue strain be talked about in 'wolf-language' will be rendered prominent, and any that cannot will be pushed into the background. The wolf-metaphor suppresses some details, emphasises others - in short, organizes our view of man (Black 1981 [1954]: 74-75).

The class-inclusion theory attempts to remedy a significant shortcoming of the interaction view, namely its vagueness. Black does not specify any rules for the selection of relevant implications or for the way in which these implications are made to "fit" the principal subject. In a later version of the class-inclusion model, Glucksberg (2001) expands on the mechanism that organizes the interaction between topic and vehicle. The topic introduces a local context for the interpretation of the vehicle by providing a number of dimensions for property attribution, whereas the vehicle is the source of the properties that are transferred onto the topic along these dimensions.

The interaction process is illustrated by contrasting two metaphorical sentences: *The road was a snake* vs. *My lawyer was a snake*. The first topic (*road*) is typically characterized in a meaningful way with regard to dimensions such as shape, surface, width, safety or speed. Other dimensions are relevant for the description of the second topic (*lawyer*): skill, experience, temperament, ambition, reputation, cost, character (Glucksberg 2001: 53-54). Due to the difference in available topic dimensions, the subset of properties attributed via the vehicle (*snake*) in the two cases also differs:

> The attribution of properties in these metaphors is a joint function of the categories that the vehicle can exemplify (e.g. 'things with twisting shape' and/or 'things that are devious and malevolent') and the relevance constraints imposed by the respective topics (e.g. shape for roads, character for lawyers) (Glucksberg 2001: 55).

## 5. The class-inclusion theory vs. matching models

The class-inclusion theory was elaborated with the aim of providing an alternative to matching models. Hence the question which builds the focus of this section: how does the class-inclusion theory fare by comparison with the matching models it is meant to replace?

### 5.1 Metaphor vs. simile

We have seen that simple matching models fail to capture the differences between metaphor and simile. In both cases, the interpretation process consists in deriving the ground of the underlying comparison via a matching mechanism.

At first glimpse, the class-inclusion theory does justice to the metaphor-simile distinction by attributing the property of dual reference to the metaphor vehicle. Whereas the vehicle of a metaphor designates both its own literal referent and the superordinate category exemplified by the latter, the equivalent simile term only points to its literal referent (Glucksberg and Keysar 1993: 413). Nevertheless, this difference is cancelled by

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Glucksberg's and Keysar's (1993: 412) description of the interpretation procedure, which is identical for metaphor and the corresponding simile:

> Even though the simile *cigarettes are like time bombs* has the surface form of a comparison, it is understood as an implicit categorization. In addition to referring to the basic level category 'time bomb,' the second term of the comparison also names the superordinate category it typifies. Because of this dual function, the comparison can be expressed as a class-inclusion statement, *cigarettes are time bombs*.

In their attempt to differentiate between literal and metaphoric comparison, Glucksberg and Keysar blur the distinction between metaphor and the simile used to paraphrase it (both are based on "metaphoric comparison"). Therefore, instead of viewing metaphor – as comparison theorists do – as an implicit comparison and simile as an explicit one, they define simile as implicit and metaphor as explicit categorization. However, their description of metaphor/simile interpretation does nothing to capture the implicit-explicit distinction.

### 5.2 Feature selection

Unlike simple matching models, the class-inclusion theory provides criteria for feature selection, and, in so doing, accounts for the fact that not all commonalities between topic and vehicle become a part of the metaphor ground. It achieves this by positing two levels of abstraction in the vehicle:

> These findings are consistent with the notion that metaphor vehicle terms [...] can refer at two different levels of abstraction, with the more general abstract level being the appropriate level for metaphor interpretation. One implication of this idea is that when one understands a metaphor, one does not consider the literal referent of the metaphor vehicle at all. That is, when one interprets an expression such as *my lawyer was a shark*, one does not include the concept of the literal marine creature, along with its literal properties such as 'can swim,' in the final interpretation of the metaphor. If it were, then one would be misled to believe that my lawyer can swim, but such irrelevant and inappropriate information should not be part of one's understanding of the original metaphoric expression (Glucksberg 2001: 66).

These remarks invite, nevertheless, a further question: why is it that properties like 'can swim' are not included in the definition of the attributive category 'shark' in the first place, even though they may be shared by lawyers and sharks? A plausible answer in keeping with the class-inclusion theory would be that sharks are not prototypical members of the category of creatures that can swim (the basic-level fish would be a more likely candidate). This represents a progress over Ortony's (1979) proposal that the properties which compose the ground of a metaphor are salient for the vehicle, but not for

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the topic: the ability to swim is quite salient to sharks, yet sharks are not prototypical of the category of creatures that can swim.

The explanation provided by the class-inclusion theory is indeed satisfactory for a large number of metaphorical expressions, but becomes insufficient in the case of relatively arbitrary metaphors. One example is the famous *Forrest Gump* statement *Life is a box of chocolates* (as used in the film), which is also accompanied by a specification of the metaphor ground: "You never know what you're gonna get" (http://www.imdb.com/title/tt0109830/quotes). The superordinate ad hoc category we would have to construct in this case (that of surprising, unexpected things) is not typified by the vehicle: given ordinary default assumptions, boxes of chocolates are not prototypical of things that may contain surprises. Rather, that particular association is explicitly introduced by the author of the metaphor in order to clarify his intentions. A more natural interpretation would have been to assume that life was being described as pleasant, easy, or rewarding. This is indeed the sense in which the metaphor *box of chocolates* is employed at the beginning of the novel *Forrest Gump*: *Let me say this: being a idiot is no box of chocolates. People laugh, lose patience, treat you shabby* (Winston Groom, *Forrest Gump*, p. 3).

### 5.3 Feature introduction

It appears that the class-inclusion model manages to circumvent the problem of feature introduction by speaking of property attribution instead of feature matching. However, let us return to the example mentioned earlier, *Roger is a pit bull in faculty meetings*.

According to matching models, a requirement for metaphor interpretation is the alignment of topic and vehicle representations, and the identification of shared features. All we know about Roger is that he is (very likely) a man, and that he behaves in pit-bull fashion during faculty meetings. From this we can derive a set of properties which may be shared by humans (men) and pit bulls, and applied to the specific context of a faculty meeting. For instance we may conclude that Roger is aggressive, brutal, uncompromising, etc. The problem we are facing here is not so much the lack of information about Roger as the question to what extent such features can be described as "shared" (see 3.4.).

The class-inclusion theory encounters similar problems with respect to feature introduction. In creating the relevant superordinate category, we select the sets of properties which define categories typified by the vehicle, and impose on them the restrictions provided by topic dimensions. How do we select the topic dimensions, though? The category of human beings (or that of men), to which Roger probably belongs, offers a range of possible dimensions for attribution (temperament, physical strength, behaviour, etc.). However, without the contribution of further contextual elements (*in faculty meetings*) it is not clear that the metaphor describes the attitude manifested by Roger in his speeches or during discussions, debates, etc. The attributive category epitomized by the vehicle and including the topic is that of aggressive, brutal, uncompromising, etc. beings. Both Roger and pit bulls can be said to belong to this category, yet the categorization occurs at a relatively high level of abstraction. It is

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essentially the same issue matching theories are confronted with. In their case, the so-called common features of the topic and vehicle are shared in a highly abstract sense.

### 5.4 Metaphorical parallels between features

Roger is not aggressive, brutal and uncompromising in the same way as a pit bull, even if in both situations we use identical words to designate these properties; rather, we are dealing with metaphorical parallels between features applied in different domains. At some abstract level, we can indeed speak of shared features (matching models), or membership in the same category (class-inclusion theory). However, both approaches lead to a disparity between the high degree of abstraction of such apparent commonalities, and the very specific attributes predicated about the topic via the metaphor vehicle.

For example, how is it possible to attribute the feature of aggressiveness – specifically applied to the domain of verbal confrontation – to a human being by means of a vague, abstract category which also covers the physical aggression of pit bulls? The vehicle itself only provides the feature of aggression in this latter sense. By creating a superordinate category in such a way that it includes the topic, we increase the level of abstraction of the category-defining feature. The meaning conveyed by the metaphor, however, is much more specific than the concept which defines the attributive category (which has already been restricted as to be applicable to the topic). This is not much different from the problem facing matching models, which fall short of providing a satisfactory account of metaphor interpretation because certain features are only shared in an abstract, metaphorical sense, whereas the meaning communicated by the metaphor is quite specific.

The discrepancy between the generality of the attributive category and the specificity of the attributed features also surfaces in examples such as *That surgeon is a butcher* and *That pianist is a butcher/butchered the sonatas,* where identical vehicles (*butcher)* and topic dimensions (skill) yield the same superordinate category, but different interpretations, i.e. the two sentences can hardly be regarded as synonymous (Vega Moreno 2007: 72).

A variant of this difficulty, which poses an even more serious challenge for the class-inclusion theory as well as for matching models, resides in the fact that in some cases the properties attributed to the topic are not features of the vehicle at all, not even in a metaphorical sense. One example (*My surgeon is a butcher*) is discussed by Vega Moreno (2007: 78):

> how can people construct the ad hoc attributive category 'people who are incompetent and who grossly botch their jobs' by selecting a subset of properties from the metaphor vehicle, if the property of 'botching their jobs' is not part of our representation of butchers?

In such cases, it is not even possible to create a superordinate category typified by the vehicle and comprising the topic, since the attribute of botching one's job does not characterize butchers as such, but only emerges as a result of juxtaposing butchers and

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surgeons (probably from the contrast between the way in which butchers cut meat and the expectations of extreme precision associated with surgeons). Clearly, matching models have similar difficulties in accommodating examples of this type, as the topic receives attributes that it does not share with the vehicle.

### 5.5 Asymmetry

Simple matching models do not account for metaphor asymmetry. In contrast, the class-inclusion theory offers an explanation for the non-reversibility of metaphorical statements. The latter are said to be asymmetrical due to their similarity to literal class-inclusion assertions. Neither can be reversed. Just as the literal categorization statement *A tree is a plant* cannot be changed to *A plant is a tree*, so metaphorical sentences become uninterpretable or change their meaning when topic and vehicle are reversed, e.g. *Sermons are sleeping pills* vs. *Sleeping pills are sermons* (Glucksberg 2001: 44-45). What should be noted, however, is that whereas reversed literal class-inclusion assertions simply become false, reversed metaphorical statements may still be interpretable, albeit with significant changes in meaning, e.g. *Billboards are warts* vs. *Warts are billboards* (after Ortony 1993: 351).

## 6. The class-inclusion theory and prototypicality

Vehicle prototypicality is often a relevant phenomenon in the context of metaphor interpretation, even if not all metaphoric statements employ prototypical vehicles (cf. 5.2.). That notwithstanding, I will argue that Glucksberg's and Keysar's description of the vehicle as a prototype of the attributive category created ad hoc during metaphor processing generates a number of problems.

### 6.1 Sources of prototypicality

According to the class-inclusion theory, metaphor vehicles are prototypical members of the attributive category created during interpretation and including the topic. Hence, the higher the degree of prototypicality of the vehicle, the apter the metaphor. For instance, the category of rare and valuable things includes elements such as gold, platinum, sapphires and silver. Of these, gold seems to be the most prototypical and hence the most appropriate as a metaphor vehicle. *Not even Einstein's ideas were all gold* is therefore more apt than *Not even Einstein's ideas were all platinum/sapphires/silver* (Glucksberg and Keysar 1993: 419).

Glucksberg (2001: 48) notes that the aptness of *gold* as a metaphor vehicle might be partly due to the high degree of conventionalization of its figurative meaning 'a thing that is precious, beautiful and brilliant' (*OED* 2003). This would explain why it appears to be more prototypical than platinum, which is rarer and more costly, and so strictly speaking should be a better representative of the category. He does not expand on the issue, however, but merely concludes that the same principle (high vehicle prototypicality

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leading to increased metaphor aptness) also appears to be at work in the case of novel metaphors.

As it transpires from this discussion, a certain amount of ambiguity is inherent in the notion of prototype as employed by Glucksberg and Keysar (1993) and later by Glucksberg (2001). For example, does the fact that gold is more prototypical than platinum, even if platinum offers a better exemplification of category properties, hint at the existence of more than one source of prototypicality? If this is the case, can we posit the same prototypicality sources for conventional and novel metaphors? These questions are not addressed by the class-inclusion theory.

To clarify them, we can resort to the distinction between folk and expert categories, as introduced by Putnam (1975):

> Putnam [...] is proposing that at least some words in our vocabulary are subject to both expert and folk definitions, the former having to do with necessary and sufficient conditions for category membership, the latter relying on our knowledge of perceptual and interactional attributes of prototypical instances. Generally, there is a 'structured co-operation' between expert and non-expert usage, in that the experts' definitions provide a kind of guarantee for appropriate linguistic usage in the speech community as a whole. This co-operation does not preclude the possibility of conflict (Taylor 1990: 73).

Based on the difference between folk and expert categories, we can judge the degree of representativeness of a certain category member in two ways. Firstly, we may take as a starting point the expert definition of the relevant category and of the member in question, and determine to what extent the latter meets the necessary conditions for inclusion in the former. From this point of view, both gold and platinum are highly representative members of the class of rare, valuable things, yet platinum is the better exemplar, as it is both rarer and more valuable.

Secondly, it is possible to evaluate prototypicality by using the folk characterization of a category, which is founded on more intuitive, experience-based criteria, and materializes in linguistic-cultural systems of frequent beliefs and associations. Such systems, termed *folk concepts* (Wierzbicka 1985: 195), *associated commonplaces* (Black 1981 [1954]: 73), or *social stereotypes* (Lakoff 1987: 85), may coincide with expert knowledge, as Taylor (1990) points out, but may also be scientifically inaccurate. Linguistic-cultural stereotypes present gold as the precious asset par excellence. This status is very likely due to the solidity, beauty and rarity of the metal, but also to its century-long history as a means of commercial exchange, as a symbol of wealth and power, and as a guarantee against the instability of paper money. Therefore, in a more intuitive sense based on culturally determined commonplaces, gold is a more prototypical member of the category of rare and valuable things than platinum.

In keeping with the distinction outlined above, I suggest that, insofar as the vehicle of a metaphor can be said to be prototypical of a superordinate category, its prototypicality may occur in at least two ways: in accordance with the expert and/or with the folk definition of the category in question. As has already been noted, there may be

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overlaps, but also clashes between prototypicality effects resulting from the application of the two criteria.

Conventional metaphors rely upon stock vehicles, and are hence closely connected with folk models, or clusters of associated commonplaces. The interpretation of novel metaphors is also often based on folk knowledge. Nevertheless, it is not inconceivable that the interpretation of some metaphorical statements and the prototypicality of their vehicles may rely entirely on specific expert knowledge, or on ad hoc constructed systems of properties:

> Reference to "associated commonplaces" will fit the commonest cases where the author simply plays upon the stock of common knowledge (and common misinformation) presumably shared by the reader and himself. But in a poem, or a piece of sustained prose, the writer can establish a novel pattern of implications for the literal uses of the key expressions, prior to using them as vehicles for his metaphors. (An author can do much to suppress unwanted implications of the word 'contract,' by explicit discussion of its intended meaning, before he proceeds to develop a contract theory of sovereignty. Or a naturalist who really knows wolves may tell us so much about them that his description of man as a wolf diverges quite markedly from the stock uses of that figure.) Metaphors can be supported by specially constructed systems of implications, as well as by accepted commonplaces; they can be made to measure and need not be reach-me-downs (Black 1981 [1954]: 77).

### 6.2 Metaphorical vs. metonymical patterns

Traditionally, expressions like *bread* in *Give us this day our daily bread* are regarded as metonymical (Faulseit and Kühn 1963: 280). Here, a prototypical category member (bread) lends its name to the category as a whole (food necessary for sustenance). Following Haser (2005: 13-14), I will use the term *source concept* to refer to the literal meaning of the figuratively used expression ('bread'), and *target concept* for the conveyed meaning ('food'). Within a given cultural-religious context, bread counts as a prototype for food, at least for the kind of food that is essential for survival.

A similar pattern is active in *Scotties are Kleenex* (Glucksberg 2001: 40), where the source concept '*Kleenex* (one type of paper tissues)' is used as a basis for the target concept 'paper tissues in general.' This is possible because within a certain culturally determined framework, Kleenex are seen as prototypical of the wider category 'paper tissues.'

Finally, instances of autonomasia, e.g. *Judas* (Haser 2005: 42) (*That man is a Judas*), follow the same pattern. The source concept ('Judas')[4] yields the target concept

[4] It is generally considered that proper nouns are not endowed with meaning, although they do exhibit a capacity for reference. However, in the case of historically, culturally, politically, etc. renowned people or places, the name will be associated with certain identifying attributes of the referent, which remain relatively constant among the members of a given cultural/linguistic community. In this sense, proper names can be said to possess a descriptive background (Lyons 1980 [1977]: 231-232).

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('traitor'). Once again, the two concepts point to a prototype-category relation, since Judas is regarded as a prototypical traitor within Christian cultures. On Glucksberg's and Keysar's account, this prototype-category relation is the hallmark of metaphor. I will argue, however, that there is a significant difference between examples like the three mentioned above, and statements such as *My lawyer is a shark*, *My surgeon is a butcher* and *My job is a jail*.

In *My lawyer is a shark*, the source concept 'shark' serves as a basis for the target concept 'incisive, strong, aggressive, reckless, etc. lawyer.' The figurative expression *shark* helps us attribute the properties of incisiveness, strength, aggressiveness, recklessness, etc. to the topic; the properties are thus applied to the domain of lawyers. Therefore, the target concept needs to include a reference to that domain, otherwise it fails to capture the conveyed meaning in its entirety. Note that this specific target concept ('incisive, strong, aggressive, reckless, etc. *lawyer*') does not coincide with the much more general one which defines the superordinate category postulated by Glucksberg ('incisive, strong, aggressive, etc. *things*'). Note also that, although the literal vehicle may act as a prototype with respect to this superordinate category, the source concept exhibits a *similarity* relation to the target concept.

By the same token, *My surgeon is a butcher* is characterized by a relation of similarity between source and target concept ('butcher' and 'imprecise, negligent, etc. surgeon' respectively). The same is true of *My job is a jail*; here, the source concept 'jail' is similar to the target concept 'confining, unpleasant, involuntary, etc. job.'

It should now be clear that the last three examples differ from the first three in one crucial respect: the relation between their source and target concept is one of similarity, as opposed to the prototype-category relation that can be identified in the first three cases. In my view, this warrants a distinction between metaphor (based on similarity) and a type of metonymical pattern (in which a prototypical member lends its name to the category as a whole). The concept defining the superordinate category posited by Glucksberg and Keysar only coincides with the target concept in certain metonyms. In the case of metaphor, the category can often be constructed, yet it is not (directly) relevant for metaphor interpretation.

It is far more likely that such a category, as well as vehicle prototypicality play a role in determining metaphor aptness rather than in explaining metaphor comprehension. Vehicles are particularly appropriate as transporters of metaphoric meaning if they offer a powerful, suggestive instantiation of certain features. Jails are prototypical of unpleasant, confining contexts; although this fact alone does not give us sufficient leverage on the interpretation of a metaphorical statement like *My job is a jail*, it does mean that the vehicle *jail* is capable of conveying the target concept 'unpleasant, confining job' in an emphatic, convincing manner.

## 7. Conclusions

The class-inclusion theory of metaphor fails to achieve the goal it sets for itself: that of remedying the flaws inherent in matching models of metaphor interpretation. This failure stems from the fact that the superordinate ad hoc category which on Glucksberg's

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and Keysar's view attributes properties to the topic *is not* the category corresponding to the target concept of the metaphor. Therefore, it is also not the category relevant for metaphor interpretation.

This explains the differences which often arise between the concept determining the very general superordinate category and the specific metaphor meaning (cf. 5.4.). At the same time, it leads to confusion between metaphor and certain metonyms (cf. 6.2.).

In their effort to correct the deficiencies of matching models and of the comparison theory, Glucksberg and Keysar appear to lose sight of the close connection between metaphor and similarity. Thus, they overlook the similarity existing between the source and target concept of metaphor, and focus instead on a class-inclusion relation and a superordinate category which fall short of accounting for the subtleties of metaphor interpretation. Due to the emphasis it places on prototypicality effects, the class-inclusion theory seems to be a more appropriate tool for describing metaphor aptness than metaphor comprehension.

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