REAL FORESTS IN OUR MINDS

METAPHORS AND PROTOTYPES IN DISCOURSE

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Acknowledgement:The present article is based on qualitative research on metaphors in Swedish and Canadian discourse on nature and forest. I am deeply grateful for the moral and financial support of this work from the Swedish Council for Coordination of Research.

Key words: metaphor, prototype, category, categorisation, discourse, reasoning, and cognition

Abstract: There are contradictory ideas concerning the function of metaphors in discourse. Cognitive linguists claim that metaphors are constitutive of reasoning, e.g. Lakoff (1986; 1987). In contrast, anthropologists claim that metaphors are not especially prominent in everyday discourse, e.g. Quinn (1991). This article is an attempt to reconcile the conflicting positions. Instead of the contemporary stress on analogies and similes, metaphors are defined as constructions of new prototypes and categories in discourse. This definition enables us to explain their implicit manifestations in discourse. Prototypes are usually old and conventional and consequently metaphors do not take an explicit form. The theoretical arguments are supported by examples of metaphors from modern Western discourse on nature and forest.

INTRODUCTION.

Quinn (1991) and Lakoff (1986) have argued about the validity of relying on everyday discourse when explaining metaphors. Quinn (ibid.) claims that American discourse on mariage contradicts the claims of cognitive linguists that metaphors are constitutive elements of reasoning. Metaphors do not guide reasoning in a prospective way but function more like conclusions or summaries. Lakoff (ibid.) defends a formal approach to metaphors by evoking the distinction between ideal speakers and actual performance. A formal analysis of metaphor deals with “idealized cognitive models (ICMs),” cf. Lakoff (1987), cognitive competence, not with actual discourse.

Lakoff’s (1986) and Quinn’s (ibid.) argument shows that we do not yet understand how metaphors really function in discourse. If one cannot use natural discourse to induce “cognitive competence,” one would not be able to percieve any reasoning in discursive form. If metaphors are important to cognition and reasoning, they should also be relevant to natural discourse.

When dealing with reasoning and cognition in its context, there is no room for a radical distinction between competence and performance.[1] Humans interact with their environments, and their competence and actions must mutually inform each other in adapting to varying and different environments. However, cognitive scientists who

[1]In taking context into account, we study how the environments of cognition, e.g. physical, social, and discursive environments, inform reasoning. Ecological, action oriented, and cultural cognition are other ways of naming this perspective, cf. Neisser (1987), Wertch (1985), Lave (1988). In contrast, a formal analysis of reasoning results in finite and closed systems of categories and information, e.g. deductive logic. Even if there are more flexible ways to formalize reasoning, cf. Johnson-Laird (1986) and Moore (1986), the stress on contexts of cognition implies a focus on the constructive aspects of reasoning in various environmens, cf. pp. 3–4

stress formal or logical analysis seldom acknowledge any constructive quality of reasoning; reasoning equals abstract manipulations of categories or symbols without any reference to actions in real environments. To come closer to a contextual view on metaphor, we need to re-define metaphor in terms of a theory that acknowledges the constructive aspects of cognition.

In contrast to many scholars, Paul Ricœur (1977) does not explain metaphor in terms of analogy or similarity, but as categorisation concerned with reality. In doing that, he enables us to discuss metaphor from a contextual view rather than from a strictly formal one. In this article, a further step is taken in that direction by re-defining metaphor in terms of prototype theory. As proposed by Rosch (1978), the theory is partly a reaction against purely logical treatments of categories. The bounderies of categories are not defined by logical properties because things included in a category vary in relevance and importance depending on prototypes, good examples derived from experience.

Despite the popularity of prototype theory, it has not been mingled in a direct way with theorizing on metaphor, which is remarkable considering the contemporary stress on the cognitive qualities of metaphor. Metaphors are still analyzed in terms of logical categories; prototypes play no part in explaining how metaphors work in reasoning. In this article, metaphors are defined as new prototype constructions in discourse, and thereby discourse analysis of metaphor shows itself to be a good method for dealing with reasoning in everyday life. The arguments will be supported by examples from discourse on nature and forest in the modern Western society.[2]

THE SAME THING IN DIFFERENCES.

Even if Paul Ricœurs's (1977) work is situated in literary and philosophical traditions, I find it to be of utmost importance to cognitive research on metaphor. Not only does he present various arguments in a detailed, analytic, and systematic manner, but his own view on metaphor that emerges out of his blend of logical and poetic considerations is compatible with prototype theory. I will present his view in a very summarized and selective form to discuss some of the properties of metaphor.[3] However, I will mix his theoretical arguments with examples of metaphor from contemporary discourse on nature and forest. The reason is to give some coherence to my own arguments later in this paper.

According to Ricœur (ibid., pp. 125–33), there are two analytic levels of metaphor. On the one hand, we deal with displaced words. For example, in saying that *the forest is a living community*, we situate the words "forest" and "community" in a new context. On the other hand, there is the discursive level in that we make an active attribution, a statement, which is not solely a lexical matter. If words are the means by which we construct a statement, without an actual attribution, we would not consider a metaphor to say something new.

The metaphorical aspect of a statement is the tensions and conflicts involved in saying that different things are the same, Ricœur (ibid., pp. 247–8). For example, forests and communities are different things, but in certain ways they are the same; forests and communities consist of ordered life, ecosystems. It is not solely a matter of comparisons or similarities because a metaphor is a stronger statement than a simile. We loose something in re-phrasing metaphors into similes. For example, by stating that the forest is "like" a living community, we maintain the differences to a larger extent than when making the metaphorical statement that creates a unity. A proper metaphor plays upon differences and similarities in its context of use to create a new single meaning.

Metaphors transcend lexical and logical restrictions on discourse but are still relevant to truth and reality in that they constitute new categories of thought in discursive form. In logic, propositions are true or false depending on "correct" attributions of properties to things. Attributes and things are presupposed in the use of categories, i.e. statements do not, must not, change or transform categories. The law of the excluded middle states that things are either in certain ways, or they are not. To a certain extent, presupposed categories make good sense, random ones would create total confusion, but it is an idealization of natural discourse. We do change categories and attributions over time and experience. Different things may become the same and fuse into a single category, and v.v. For example, forests and communities are to many biologists real ecosystems. *Species live together in mutual relationships and life is ordered according to functions of productions and re-production*. However, when stating that the forest

[2]The metaphors have been drawn from journals, text books, and interviews. They are presented out of their discursive contexts, but it should not effect the theoretical arguments in this paper. To a certain extent, contrasting metaphors jointly form their own context. They inform each other, cf. p. 5. Furthermore, our main concern is to explain metaphor in discourse, not to dwell upon specific metaphors and their corresponding prototypes.

[3]Instead of referring to a single source, one could go through the many theories that exist and argue for one of them. I do not think that such a strategy would change the basic arguments in the present article. Furthermore, it would demand a paper or a whole book by itself.

is a community, there is a tension. Lexically, there are two older categories, forests and communities, but the metaphor in its propositional form concerns a new single category, even if it is partly informed by the older categories.

Discovering similarities in different things and differences in similar things are basic forces in creating and transforming categories. However, the discursive representations of these changes involve tensions between old lexical codes and new attributions. The strongest tension arises when different things become the same, when we construct new categories through metaphor. For example, nature and trees versus social life give basic meanings to forests and communities respectively. The ordered life in the forest creates the new category "forest community." Because two lexical items are used to codify a single category, we get a metaphorical tension between old and new attributes, e.g. between wilderness and order, between social and natural orders.

Paul Ricœur's (1977) treatment of metaphor is mainly literary and philosophical in orientation. He sees poetic discourse as the proper domain of metaphor, which is a rather conventional point of view. However, disregarding arguments about "the real habitat of metaphor," his analysis is important to contemporary theorizing on metaphor in cognitive science. His more dynamic treatment of metaphor, his emphasis on tensions between old and new attributions and the active construction of categories, goes beyond formal rules and static categories.

INTACT OR DYNAMIC CATEGORIES.

In various environments and contexts, people construct categories that fit the present purposes, but this more dynamic view on cognition is not possible if categories are treated in terms of a finite number of units in a closed system, e.g. when dealing with pure logical or formal analysis, cf. Billig (1987, pp. 95–100). For example, many forests are tree farms or gardens in a very real and metaphorical sense today, but the idea of *farming forest* is strange before people really begin to feel the consequences of deforesting their lands. In ignoring the construction of new categories in discourse, one leaves out the main function of metaphor.

The main trend in cognitive linguistics and anthropology is to treat metaphors as means of transforming categories by way of analogy and/or similarity, cf. Fernandez (1991), Sweetser (1990), Givón (1989), Lakoff (1987). The problem with this view is that analogies and similarities keep a system of categories basically intact, i.e. there are no new categories. Consequently, there is a reduction of the cognitive force of metaphors. For example, the metaphor *the forest is a machine that uses solar energy to produce biomass* would be treated as involving an attribution that changes the mental or subjective meaning of forests, but one assumes that the category of forest is continuous from context to context. If one considers that modern forestry attempts to *repair and restore forests by designing them according to how ecosystems work*, one realizes that this is not the case.

Categories and attributes both structure and adapt to contexts. For example, if one states that the forest is green, one does not mean that trunks are green, but certain parts of the forest. Attributes are not only abstract and general properties, but also given more concrete form when applied in a context, cf. Billig (1987, pp. 130–4). There are continuous interactions between categories, attribution and context in our reasoning about things, which is often pointed out in discourse analysis, e.g. Parker (1992), rhetorics, e.g. Billig (1987), and ecologically oriented research on cognition, e.g. Neisser (1987). Because prototype theory deals with both the constructive quality of categories and their generality, I will use it to re-define metaphor in more contextual terms.

METAPHORS AND PROTOTYPES.

Prototype theory, cf. Rosch (1978), is in certain respects opposed to logical analysis of categories. In logic, categories are defined by necessary and sufficient properties, but prototype theory acknowledges more dynamic qualities of categories and attribution. A category is understood in terms of a prototype, a good example derived from experience around which many of the category's attributes cluster. For example, in contrast to younger plantations, the prototypical forest is composed of high and mature trees that enclose things inside the forest.

According to prototype theory, categorisation relies on evaluations of similarities and differences; if something has many attributes in common with the prototype and is distinct from prototypes of other categories, the category applies. The prototype is a standard against which things are judged. For example, tree plantations are not real forests as long as the trees do not enclose things. However, there is no absolute distinction. Enclosure is a matter of degree and depends on the tree species.

Even if Rosch (1978) herself has treated prototypes in a rather rigid fashion, i.e. they form parts of a closed system of categories and each category is defined by a single prototype, it is not necessary to endorse a

finite system, cf. Barsalou (1987) and Billig (1987, pp. 146–7). Instead we could interpret prototypes as good examples of categories that are open and sensitive to contexts of use. Categories are defined by their prototypes, but because prototypes are learned through experience, categories may change and new ones may arise.

A lexical item may cover several and conflicting prototypes, a state resembling polysemy. In that case, a single word covers several categories. For example, “forest” covers both “natural” and “artificial” forests, and these two instances of forest form two opposing prototypes in discourse on forest and nature. The distinction is very prominent when foresters and environmentalists address each other in discussions about good forest management. Environmentalists may claim that *artificial forests are not real forests*, and foresters may think that *primeval forests are fictions*.

In defining metaphors, in accordance with Ricœur (1977), as constructions of new categories in discourse, it follows from prototype theory that metaphors are new prototype constructions in discourse. Older categories are fused to create new prototypes through mutual and new attributions. For example, when stating that *the forest is a sanctuary*, not only do we construct a new prototype of forest, but we do also have a new example of sanctuaries. To many urban people, the forest is really a sanctuary; *mature and high pine trees form the pillars of a sacred temple. The forest is a higher form of being because trees are the biggest, tallest, and oldest form of life and life is a sacred thing. It is wrong to destroy such places because their restful silence gives peace to the soul.* The new prototype is coded by a proposition, not by a single lexical item, and consequently we get the metaphorical tension between older categories and a new prototype that transcends them. Learning and experience force us to create new prototypes but we must rely on older lexical items to codify them.

Because metaphors transcend older analytic orders, the attributes that correspond to the new prototype become dependent on the context of construction, i.e. a new prototype is not just a combination of old ones. For example, when *the forest is a community*, it is a natural space, but it is not wilderness in the sense of uncontrolled land and/or growth. At the same time, the order of life in the forest community is not based on a legal system. Biologists focus rather on ecosystems or natural selection. The relevant order can neither be induced nor deduced from the categories of forest and community. The prototype of forest communities is distinct from both prototypical forests and communities.

When defining metaphors in terms of prototype theory, it is important not to loose contact with their discursive contexts. Givón (1989, pp. 54–7) relates metaphors and prototypes but does not discuss their function in discourse. He places analogies and metaphors side by side and argues that prototypes change according to a “metaphorical process” that organizes and re-organizes attributes and features. However, Givón (ibid.) focuses on conventional categories and single lexical items and thereby fails to take new discursive constructions of categories and prototypes into account.

In cognitive linguistics and semantics, the same reduction occurs when metaphors are defined in terms of semantic domains or frames; metaphors are selections and mixtures of attributes and properties from different semantic domains. For example, forests and sanctuaries would probably be assumed to belong to a natural and a cultural domain respectively. A metaphor would be an analogy crossing over these domains. Metaphors become means to structure categories but lack the capacity to create new ones.

In parallell with the idea of analogies crossing semantic domains, a prototype theory of metaphor implies that metaphors include but “transgress” older prototypes and definitions. The difference between the two theories is the emphasis on either conventions or learning. Whereas semantic domains and analogies involve essentially unshakeable and conventional definitions of categories, prototype theory acknowledges new categories and prototypes as well as old ones. Prototypes, and consequently metaphors, are subject to construction and revision in real contexts and are therefore empirical questions as much as analytic ones.

Prototypes and metaphors must be derived from the contexts in which we construct categories because they emerge from activities in real environments, not solely from conventional and abstract definitions. Conflicting prototypes result in competing lexical conventions and only the contexts of construction resolve the ambiguities without eliminating the controversies. For example, the prototype in forestry, a productive stand of trees, is not the same as the prototype in ecology, a productive nature, but they both govern lexical meanings of “forest;” “a healthy forest” may mean a great amount of lumber or biomass. They may even form competing management strategies in the same forest. Conventional definitions of categories, e.g. semantic domains, miss this essential constructive quality of reasoning, categories, and metaphors.

METAPHORS IN EVERYDAY DISCOURSE.

In contemporary discourse on nature and forest, we do find metaphors, but they are rather infrequent. They do not seem “to guide” reasoning in any clear sense of the word. The following examples occur in various contexts:

The forest is a sanctuary, it gives peace to the soul.

The forest is a community, species live together.

The forest is a home, species belong to it.

The forest is a room, there is a forest floor and a ceiling.

The forest is a factory, it produces things.

The forest is a machine, it functions and works in certain ways.

The forest is a mine, we take out and mine the resources.

The forest is a living thing, it is healthy or sick.

The metaphors correspond to prototypes that diverge from another more conventional one, i.e. *the forest is a natural place where trees grow*. The more conventional prototype seperates humans and forest, i.e. the urban view implies a forest that is beyond culture in being part of nature. In contrast, the metaphors above stress in various ways human relations to forests. With different cultural relationships with the forest, we construct different and constrasting prototypes.

Prototype constructions in discourse are seldom new or foreign, but we take old ones for granted. If there is no conflict with other prototypes, we simply presuppose older prototypes. No one even thinks of them as constructions, but simply as conventional ways of viewing things. They work automatically as perspectives. Statements of older prototypes form definitions rather than metaphors, e.g. *forest as nature and trees*. The need to establish common ground in everyday discourse makes conventional prototypes the general case. However, there is a sense in which definitions are metaphors; they are based on earlier prototype constructions that with time have become conventional and accepted categories, e.g. nature and consequently forests are resources because of their non-human, lower, and inferior position. We process them according to our goals without listening to any voice of theirs to the contrary.

Despite the shortage of proper metaphors, there are traces of prototype constructions, implicit metaphors. The constructive and metaphorical quality of categories and prototypes becomes clearer if we put implicit metaphors together. For example, when foresters state that *the forest is a resource*, the prototype is conventional and we do not sense a metaphor. However, when considering the way in which the forest is measured and treated, e.g. *there are volumes of lumber to be managed*, we are better equiped to sense that a prototype construction has really taken place. The whole forest is understood in terms of lumber subject to economic planning and control, not as an area of natural growth. In contrast to this implicit metaphor, when foresters state that *the forest is a lumber factory*, people outside the forestry sector surely sense a metaphor, a new prototype construction, but for the forester him-/herself, it may simply be an analogy, i.e. the prototype is not really new in discourse.

In everyday discourse, we cannot expect proper metaphors to be prominent; we do not create new prototypes and categories constantly. In poetry, the construction of new categories has been made into a form of art. However, our much more general inclinations towards prosaic and ritual discourse force us to use our categories in a more conventional manner. This does not mean that metaphors are unimportant to reasoning. Petrified prototype constructions are implicit metaphors because they were once new categories in discourse and there are traces to be systematized and analyzed.

A good strategy in discourse analysis of metaphor is to focus on conflicting definitions of something. Because conflicting prototypes support them, definitions form old and conventional metaphors in discourse. For example, forest resources and ecosystems are supported by conflicting prototypes, i.e. a free market versus the law. We want to process our resources in accordance with our goals, but ecosystems follow natural laws and restrain our actions. In relating definitions to prototypes, we turn necessary or conventional categories into dynamic constructions of prototypes in discourse.

CONCLUSIONS.

When Lakoff (1986) argues that everyday discourse is of no use in dealing with “competent” reasoning through metaphor, he assumes that metaphors work implicitly in our minds rather than providing explicit guidance, which is much in line with the arguments in this paper. In contrast, Quinn (1991) does not see any important function of metaphor at all; people use metaphors in an ad hoc fashion rather than in a prospective way. However, both views are wrong in

analyzing metaphors solely in terms of analogies between conventional categories and not as new prototypes in themselves.

Metaphors are discursive constructions of prototypes, they change our system of categories that we use in reasoning. This definition relieves us from the contradictory argument that metaphors constitute reasoning but are not important to everyday discourse. They are important in constructing prototypes and prototypes do guide our reasoning. Explicit metaphors are not prominent in everyday discourse because people cannot, for obvious reasons, construct new categories constantly.

Despite the lack of proper metaphors, discourse analysis is a good method for dealing with prototype constructions in general. We should make implicit prototypes explicit. Perhaps then it seems more reasonable to ignore the concept of metaphor in favour of the more general concept of prototype, i.e. discourse analysis should be concerned with prototype constructions. However, in stressing the constructive character of prototypes in discourse, we must rely on the concept of metaphor. In contrast to definitions, metaphors give voice to the constructive quality of reasoning, categories, and prototypes. Discourse analysis of metaphor transforms definitions back into their metaphorical childhood. It makes us conscious of categories that we take for granted.

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