

Review

Women, Fire, and Dangerous Things

By GEORGE LAKOFF. Chicago: Chicago University Press. 1987. Pp.xvii + 614.

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'You have certain qualities . . . Courage is one of them. Loyalty is another.'

'Those are just abstract words. They don't mean anything. I've studied semantics.'

'They do, though. I learned that studying life. It's a course that goes on and on . . .'

(Ross Macdonald, 1961, p217)

During the course of this lengthy book, a general view of semantics emerges with which Lew Archer would be in close agreement. Meaning is based on experience—particularly bodily experience. Abstract words derive meaning through metaphorical mapping into concrete domains, which themselves derive meaning from everyday situated experience. The themes of the book are fashionable—cognition must be treated as a relation between the cognizer and its environment, concepts have gestalt qualities and depend on schematic mental models. However being fashionable is not necessarily a bad thing, and Lakoff has succeeded in picking up a large number of diverse threads in current philosophy, linguistics and psychology, and weaving them into a common pattern.

The book is divided into three major parts, starting with an enthusiastic review of the family-resemblance/prototype approach to human concepts from cognitive psychology, and ending with a very detailed (more than 100 pages) linguistic analysis of the word THERE. Along the way we are treated to detailed expositions of anthropological and ethnolinguistic data, a shorter lesson in biological taxonomy, critiques of linguistic relativity, artificial intelligence and the foundations of mathematics, and two other

detailed 'case studies'. One is a treatment of the metaphors used in English to speak of ANGER, which is a straight continuation of the work presented in an earlier book—*Metaphors We Live By* by Lakoff and Johnson 1980. The other is a report and extension of work by Claudia Brugman on the English word OVER (Brugman 1981).

Given such a long and diverse book, there are two particular problems that arise. One is the need to sustain the central argument of the book through all the diverse topic areas. In this respect Lakoff manages fairly well, providing clear summaries at regular points in the book, and trying to pull together his evidence in support of a single major thesis. The other problem is the problem of balance. Trying to fit in so much to a single book gives a patchwork feel to the book. The message would have been stronger if the book had been edited more rigorously—particularly the rather repetitious first section. There is also little to be gained by including such a detailed linguistic analysis in the final case study. (In fact there is generally too much detail throughout.) Surely a journal is the place for this kind of detailed work. A much briefer summary would have sufficed to make the general point.

So what is the major thesis of the book? The book's main purpose is to launch an attack on what Lakoff calls Objectivism. This is the doctrine that the world can be described objectively, independent of any particular culture or observer's viewpoint; that our understanding proceeds by building an internal representation that correctly (or incorrectly) mirrors external reality; that linguistic meaning is defined as the relation between words and those things in the world to which they refer. In addition he includes in this doctrine the idea that the world is composed of sets of entities that share properties, so that semantics can be treated as a relation between the constructions of strings of symbols in a language and the truth of propositions defined in set-theoretical models of the actual world. The task for semantics, according to Objectivism, is to describe the way in which words and utterances correspond to the real world. This can be done by providing truth conditions—a list of the conditions in the world (or a set-theoretical description of the world) which would render a particular utterance true or false. Lakoff describes this doctrine in detail, as being the major background for most work in Western philosophy and science. It is this doctrine that he wishes to discredit in his book.

The starting point that he takes is the demonstration of prototype effects in language. If objectivism is correct, he argues, then the categories that exist in the world should be defined in regular set-theoretic fashion—by use of conjunctions of shared common features. As is now well-known in the psychological literature, most of the concepts associated with common nouns such as CHAIR, or VEGETABLE or SPORT, are not amenable to an analysis in such terms. It instead appears that most (if not all) of our concepts are built around 'prototypes'—clusters of features that define what an ideally typical member of the class should be like. Our categories are then defined by grouping items together on the basis of an overall

similarity to the central case.

Lakoff argues that if there are no 'real' categories in the world, then there can be no truth condition semantics, and the whole edifice of objectivism falls. The issue is not one of realism. He believes that there is an external reality. However there is no 'God's view' way of classifying it—no correct and unique system of categories into which things just naturally fall. Instead, he argues that our words derive meaning from our understanding of the world. We first understand things, and then learn (or choose) names to refer to them. Thus the way the world is divided up is not independent of the observer.

There is a simple argument which emerges at one point in the book which seems to make the position Lakoff is attacking somewhat trivial. If Objectivism insists that the true categories of the world exist independently of human observers or human intelligence, then what are we to make of all the expressions in our language that refer to institutional and human concepts, like senators or emotional terms—or indeed courage and loyalty? It appears that even most of the object classes around us—tables and chairs, houses and cars—cannot be defined in the proper objectivist fashion, since they are defined in terms of their intended purpose. One could not have a concept of chair if there were no concept of sitting. If this argument is correct then it would seem to relegate the doctrine of Objectivism to those semantic domains where people have least involvement—tigers, lemons and natural numbers.

There have indeed been writers such as Putnam 1975 and Schwartz 1980 who have argued that there is a class of concepts—natural kinds—which are of a fundamentally different kind from artefact concepts and nominal kinds. Schwartz 1980 in particular argued that natural kinds are indeed definable in terms of a 'God's eye view'. Water is necessarily H₂O in all possible worlds—unless of course we have been mistaken about it all along. Obviously natural kinds are the most clear candidates for ontologically objective categories, if any such things exist. Lakoff makes some arguments against this position. For example the concept of species is by no means unproblematic—there are a number of criteria that can be used to define a species, and they do not always converge on the same definition. Putnam's LEMON and TIGER examples could therefore probably be attacked on the grounds that the correct science of biology (to which all scientific progress is directed) will have no place for such terms. There are just individuals of different genetic makeup. A species is a pool of genes of different kinds and frequencies in a diverse population that is approximately interbreeding, and shares family resemblance similarity. These arguments do not all together remove the possibility of objectively existing categories however. An objectivist could still argue that while LEMON is not an objective category (on a recent visit to Mexico I learned that limes there are yellow and lemons are green) yet at a molecular level the world is divided into just so many elements that combine and react in just certain ways. It is much harder to extend Lakoff's analysis to the realm of atoms.

GOLD (as an element) just is gold—regardless of any human intelligence or observer. The point of course is that calling it 'gold' is *not* objectively independent. Gold has many other very important social defining qualities—its value, its durability, its malleability and its scarcity. Determining what the word 'gold' means is *independent* of determining whether there is an element GOLD of a particular atomic number which is found in most objects that we choose to call 'gold'.

While many of Lakoff's arguments concerning the problems of objectivism are persuasive, it is hard to follow the connection he draws between the evidence of prototype effects and the failure of objectivism. After all, prototype definitions *can* be used to give clearly defined classes. I can define a species as all creatures with any subset of 12 features taken from a list of 15, and the world is thereby divided up into exact sets (although not as neatly as might otherwise be the case—there is no guarantee that classes defined thus will be mutually exclusive or jointly exhaustive). Lakoff is very keen to include a lot of linguistic evidence in support of his contentions, and this seems to be the weakest part of the book. The category of 'women, fire and dangerous things' from which the book's title is derived comes from a study by Dixon 1968 of an Australian aboriginal language—Dyirbal. In this language there are noun 'classifiers'—syntactic markers rather like the gender system of many European languages. Women, fire and dangerous things all appear in the same category. It turns out that by looking very hard, some kind of pattern can be seen in the categorising of noun classes into the four basic categories. However, the credulity of the reader is considerably strained. To claim that because their language uses the classification, it therefore represents the way the mind categorises reality (which seems to be Lakoff's argument) is simply not true. There is a basic distinction between a system using a rule (or structure), and a system's behavior being describable by a rule (or structure). At one point Lakoff asks:

Couldn't this just be some arbitrary analysis imposed by an outside analyst? Couldn't it simply be akin to an analysis of a literary work imposed by a critic? How do we know that there is anything psychologically real about Dixon's analysis?

His reply shows a considerable naivete about the criteria for psychological reality:

In the first place Dixon's analysis was not his own. The explanations he gives are just those that native speakers told him about. They are the accounts given by the Dyirbal themselves to explain those parts of their classification system for which they had a conscious explanation.

As a psychologist I am afraid I was left wondering what relevance

much of the linguistic evidence—on phonology, syntactic classes, classifier systems, and so forth—had to the question of the nature of cognition. Prototype effects are liable to be seen wherever there is a system that has any complexity (or vagueness) to it at all. Many of them could arise by a process of historical evolution—as language use changes to allow new things to be said, so word meanings also change. Others could reflect an attempt to fit an old rule to a novel case for which it was not designed. The argument critically depends on assuming that language is not a modular, isolated system, but that it is constructed out of the same conceptualising system with which we understand the world. Thus if phonemes turn out to be prototype-based categories in phonology, should we really take this as evidence about human conceptualisation? Surely not. Broadening the range of evidence of ‘prototype’ effects to this extreme only serves to undermine the main argument. Speaking of prototype effects in language, Lakoff writes:

I take the existence of such effects as *prima facie* evidence that linguistic categories have the same character as other conceptual categories. At this point I will adopt it as a working hypothesis that language does make use of general cognitive mechanisms—at least categorization mechanisms. Under this working hypothesis, we will use linguistic evidence to study the cognitive apparatus used in categorization. On the basis of all of the available evidence, I will argue . . . that our working hypothesis is indeed correct and that as a result our understanding of both language and cognition in general must be changed considerably.

The argument is inductive (A and B show similar effects, and therefore they are the same kind of thing), question-begging (describing linguistic categories as one kind among other conceptual categories), and circular. The working hypothesis cannot be tested or proved. If it should turn out that syntax cannot be adequately captured by the kinds of formalism adopted by Chomsky and his followers since the late 1950s, then that is an interesting fact about language. It need say nothing about general conceptual mechanisms, or indeed about objectivism versus experientialism. Lakoff is guilty of what he himself calls the EFFECTS = STRUCTURE interpretation of prototype effects, which he accuses psychologists such as Osherson and Smith 1981 of making. He only acknowledges the fundamental difference between the way we categorise the world, and the categories implicit in models of linguistic functioning, in his later chapter on Whorf. There he draws some useful distinctions between concepts that we consciously consider, and those that we use automatically. I would still baulk however at calling some of the linguistic categories (such as phonemes or nouns) ‘concepts’ in the normal sense. They are concepts in the mind of the linguist framing his theory—not concepts in the mind of the language user.

The central concept of the book is what Lakoff calls his theory of Idealised Cognitive Models or ICMs. Similar to other notions of schemas, and ‘theory-based concepts’, the ICM is a rather slippery notion. It is apparently made more stringent by use of Fauconnier’s theory of mental spaces, but although there are nine separate references to Fauconnier, the notion of mental space was never really explained.

The second and middle section of the book is really a series of essays of a more philosophical nature—including a description of Putnam’s theorem of indeterminacy of reference, and a very interesting chapter on the work of the relativist Whorf that goes considerably beyond the rather simplistic treatment of linguistic relativity found in most texts, and presents a very sympathetic picture of Whorf as an original and radical thinker. The section ends with a chapter purportedly showing that even mathematical concepts are not objective. The argument seemed to rest on the demonstration that mathematics as we know it is not unique, and cannot therefore be a transcendent truth. As a mere amateur, I could not follow why the different versions of mathematics could not form parts of a greater whole, which would then be unique (although perhaps infinite).

Lakoff is at his best in the first part of the final section when showing the ‘embodied’ nature of semantics in an analysis of the concept of ANGER. He carefully collects together and then analyzes all the metaphorical uses of body images to describe anger, the central basis of which is ANGER IS PRESSURE IN A CONTAINER CAUSED BY HEAT. Once again, though, the relation between linguistic usage or convention and cognition is uncertain. We clearly have a very elaborated metaphor, capable of generating new expressions, and ‘motivating’ our existing conventional figurative speech about anger—but we don’t really believe anger is this. Presumably we must also have other ICMs which are not based on bodily experience—ANGER IS A STATE OF THE MIND CAUSED BY A SET OF PHYSICAL, MENTAL OR SOCIAL CIRCUMSTANCES. One could then explain expressions such as:

- He made me angry
- My anger prevented me from thinking straight
- Thinking about that makes me angry

Other expressions suggest yet other metaphors:

- Anger made me blind to what was happening
- Anger made me deaf to his pleas
- His hackles rose
- He got his knickers in a twist

Lakoff’s game is easy to play, and hard to test. For instance in some cases it is unclear which is the metaphor for which. Do we understand WAR through the metaphor WAR IS A GAME, or do we understand GAMES

through the metaphor GAMES ARE WAR? Since a major part of Lakoff's aim is to provide a solution to the problem of semantic primitives (that is, to be able to explain how word meanings are derived originally from direct experience), it would seem problematic to depend too heavily on metaphorical understanding. Abstract concepts are more than the sum total of their bodily metaphors: Indeed we often use abstract concepts to provide an understanding of the behaviour of concrete objects (for instance, why does a gyroscope not fall over?)

In the final section, there is a very extended study of THERE constructions in English. The argument is long and very detailed, but emerges with a very interesting case study of the importance of semantic content in determining syntactic acceptability. This is the Lakoff of old—generative semantics is still alive and well, although the transformational baggage has been left well behind. The complexity of expressions uncovered is extraordinary, and the analysis convincing.

This book makes many good points along the way, and is always interesting to read. It is written in a clear way, though sometimes with a rather overblown style, talking of the 'genius' of X, of Y's Principle of A, and of the P-Q Experiment, as though the players on the scene were Einstein, Newton and the Michelson-Morley experiment. The issues may be just as important to our intellectual culture as those of physics, but our understanding of them lags far behind. While not wishing to underestimate their work, it is certainly premature to create a hagiography of workers in this field.

The book provides a sensible account of concepts—for instance how it is possible to hold inconsistent conceptions of a domain, and it emphasizes the richness of conceptual structure, and stresses the importance of the ecological environment of behavior for understanding why we have the concepts we do. Lakoff's book is a major contribution, and should have a wide impact. It is definitely a book of its time.

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