

## interview

**George Lakoff, University of California at Berkeley, interviewed by Philip Brey and Martin Haspelmath at the Symposium on Cognitive Linguistics, Duisburg, March 1989**

*B&H: Professor Lakoff, in the past few years there has been an explosion of books and articles in Cognitive Linguistics. At this conference we are witnessing the birth*

*of the International Cognitive Linguistics Association and of Cognitive Linguistics, a journal especially devoted to the cognitive perspective on language. Do you think that Cognitive Linguistics is a revolution similar in impact to the Chomskyan turn?*

Lakoff: I think that conceptually it is. I hope that it will be in terms of its impact on the academic world. The ideas that are coming into linguistics through Cognitive Linguistics are very different from what you have in generative linguistics. Let me try to characterize briefly what the difference is.

Generative linguistics assumes as its primary commitment a view that language is manipulation of arbitrary symbols. The mathematics for that is the mathematics of recursive function theory, sometimes called the mathematics of formal grammars. That mathematics requires that there will be no input to a formal grammar from, say, the rest of the mind, or from the meaning, or from anything else. The rules manipulating the symbols must be autonomous, independent of the meanings of the symbols or of any cognitive context in generative grammar. That commitment in generative grammar overrides all other commitments to the study of mind. It assumes that language is independent of everything about the mind. The notion of a generalization in generative grammar is only secondary to this primary commitment as to what language is.

Cognitive Linguistics does not at all have a commitment to language as autonomous symbol manipulation. It starts with a commitment to study linguistic phenomena in their full generality, to seek general principles, and also to take into serious consideration in the study of language all relevant results concerning the nature of the mind in general and the nature of the brain. Therefore, what we find is an entirely different perspective on what language is. Empirically, what this means is that we wind up studying a much wider range of phenomena than generative linguistics can. So, for example, it has been found in cognitive psychology, developmental psychology and anthropology that there are basic-level categories, that there are prototype phenomena of many sorts. We as cognitive linguists take those things seriously and apply them to the study of language. Generative linguistics could not do that. It must ignore any aspect of language or thought that is inconsistent with the manipulation of formal symbols. What this means is that we who work in Cognitive Linguistics are able to study many more phenomena and look for general principles about them than generative linguistics can do. That is for me a major difference. There are many other differences that arise. When one looks at generalizations over linguistic phenomena, many of those generalizations involve ways in which syntax depends upon cognition in all sorts of cases. It may depend upon metaphorical understanding, it may depend upon speech acts, it may depend upon all sorts of semantic and pragmatic phenomena. These are defined out of existence in generative linguistics because the mathematics of recursive function theory, that is the mathematics of symbol manipulation, does not allow one to look at the interpretation of the symbols or what their cognitive properties are.

B&H: *How do you see the role of Cognitive Linguistics in cognitive science at large? And with respect to this, how do you see the competition between Cognitive Linguistics and generative linguistics, which also claims cognitive value?*

Lakoff: Well, the second half of that I think I answered in the first question, that is, the cognitive value that generative linguistics claims is part of its assumption that language is autonomous and independent of everything else in the mind. Therefore it claims that cognition could only depend upon generative grammar, generative grammar can have no dependence upon the rest of the brain. This is ludicrous!

How do I see the role of Cognitive Linguistics in cognitive science? There is, I think, a very important one. This has become even more important with the development of the connectionist tradition in cognitive science. Cognitive Linguistics claims that semantics is not propositional, apparently; that it is rather image-based, that it has a cognitive topology. And that is consistent with connectionism, whereas symbol manipulation seems not to be consistent with connectionism. This is, I think, a very important contribution that Cognitive Linguistics makes to cognitive science. Cognitive Linguistics, I think, will eventually show how it is possible for the brain to be the mind, for the physical brain to actually think. One of the things I am working on now is **connectionist semantics**, that is a way of characterizing cognitive topology in terms of neural models that have no symbols whatever but compute the kinds of cognitive topological structures that we have found in studying language. These cognitive topological structures are used both in spatial recognition and in inferences. The basic mechanism for relating spatial recognition to abstract inferences is metaphorical mapping from one domain to another, preserving that cognitive topology.

So what I think we are able to contribute to connectionist cognitive science is a new theory of what it means to reason, and one that links reasoning up with perception and gives it a perceptual-motor grounding. Since contemporary cognitive science is interested in the question of whether the brain can be the mind and how it is possible for people given physical brains to think, this, I think, will be a major contribution of Cognitive Linguistics to cognitive science.

B&H: *Would you say that right now there is a unified model or framework that cognitive linguists are working in, and should there be one?*

Lakoff: There are many people who call themselves cognitive linguists who have different values and different commitments. As I said, my own primary commitments are to the study of generalizations of linguistic and cognitive phenomena, and also taking cognitive phenomena seriously in the study of language. Those are my primary commitments. I have no primary commitments to any particular form that this has to take. There are others who consider themselves cognitive linguists who have certain other commitments and therefore we're going to differ.

Now, with respect to colleagues of mine like Ron Langacker and Gilles Fauconnier who study somewhat different things than I do, I don't think there are any major disagreements or inconsistencies. I think we just study different aspects of the same overall problem, and we have not yet found a way to integrate all of the things that we do. It is possible that there might be some minor inconsistencies, but so far as I know we have no major disagreements or any disagreements that we can name. So I think that our work at least fits together very well.

There are other cognitive linguists who, for example, don't focus on metaphor, or who may not focus on mental space phenomena, or who may have views that are inconsistent with these. For example, Anna Wierzbicka has a Leibnizian program, and that Leibnizian program is inconsistent with virtually everything that Langacker and I and Fauconnier do. Well, that follows from her primary commitment to that program, and if she considers herself a cognitive linguist, who am I to say she is not? But with respect to our primary commitments, so far as I can see there is a consistent framework but it is not fully integrated yet.



B&H: *Could you tell us about the research that you are currently engaged in? We heard, for instance, that just today a new book got published you wrote together with Mark Turner.*

Lakoff: The book with Mark Turner is called *More Than Cool Reason: A Field Guide to Poetic Metaphor* (Chicago: University of Chicago Press). It's a book applying the theory of conceptual metaphor to poetry. It's written as a textbook to poetry classes, although it has a lot of new research in it on the nature of poetic metaphor. The book covers many things: It talks about a general theory of personification; it talks about how everyday metaphors are used by poets, extended to new cases, and combined to form complex metaphors; it talks about image metaphors, a kind of metaphor not previously discussed; and it also shows how a given poem can have two levels of metaphorical interpretation: one level where you take each of the linguistic expressions that is understood metaphorically to get a first-level reading, and another level where the first-level reading is itself metaphorically understood by a conceptual metaphor, even though there is no linguistic input. So that is one major part of the book, to show how two levels of metaphorical meanings are possible for poetry, and in fact not only possible, but normal. The last chapter of the book concerns proverbs, and what we do is: we take a great many Asian proverbs that are in the forms of short poems, and we show basically that they work by a single general metaphorical process, and in fact it's the same process that English proverbs work by and that other proverbs seem to work by. So that book is an attempt to simply apply metaphor research to the domain of literature.

Now, more recently I've been working in several other areas. One of them, as I mentioned, is connectionism. I'm working with a student at Berkeley named Terry Regier, who is in the computer science department, and we are trying to show how one can do precise computer models of the kinds of image-schematic structures, that is cognitive topological structures, that cognitive linguists have discovered to be the basis of reasoning, as well as spatial perception. That work is going along slowly but surely and will take a long time, but so far results are positive.

I'm also working in **cognitive phonology**.

I'm trying to show how one can do phonology without anything like rule orderings or the cycle. So far I've been able to show that all of the classic cases of rule ordering in the cycle disappear as soon as one takes a cognitive perspective, that the need for rule ordering in the cycle simply followed from the symbol manipulation paradigm. If you give up on that paradigm, phonology becomes much simpler. I'm also working on the use of metaphor in politics. In particular, a colleague of mine, Paul Chilton, who is at the Stanford Arms Control Center this year, and I have been studying nuclear policy. We want to see how much of American nuclear policy comes out of common metaphors for what countries are. So far, it looks like a great deal of it does. So, that is another area of research.

I've also been working on syntax a great deal. We have a group at Berkeley trying to integrate the results of cognitive linguistics, especially metaphor and other aspects of cognitive semantics into a theory of grammatical constructions. I've been working with a number of students on that project.

In addition, I am working with a group of students trying to put together all the metaphors that have been investigated in detail in English so far. What we're trying to do is get an overall sense of what the conceptual structure of English is like from a metaphorical point of view. So far we have collected two hundred generalized conceptual metaphors that people have studied, and now we're trying to normalize them, to redo the analyses so that they are consistent with one another, and to get an overall view of what the system looks like. One of the reasons we want to do this as soon as possible is that next year we want to start studying cross-cultural metaphor, to see which metaphors are universal and which metaphors are not.

B&H: *Thank you very much, Professor Lakoff, for this very stimulating conversation.*