

## ON ACHIEVING AGREEMENT IN LINGUISTICS

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There is in linguistics today a kind of generation gap. The younger generation is not content to accept the values of their parents and they are in some cases in open rebellion. They are not at all clear, however, as to what institutions they would want to erect in place of the existing ones.

The present tacitly accepted values were the hard won gains of a previous revolution fought over a previous generation gap. Mentalism, notionalism and psychologism had been thrown out. Linguistics had been freed from superstitions and set on the road toward becoming a science. Realistic and careful study and description of its data ensued. Linguistics became the study of language, and structure became its major focus.

A number of the most daring revolutionaries have abandoned the old upper middle class suburbs and have established experimental radical action communities. Each of these experimental radical action communities is characterized by much heated discussion, and the mimeograph machines are busy turning out position papers. One of the symptoms of the unrest has been the occasional appearance of graffiti in public places, complete with such four-letter words as taxonomy, performance and Markov.

There seems to be much confusion among the various groups of revolutionaries. They all agree that the older views lack relevance, but there is little agreement as to what really is wrong with the old morality and what kind of values should be afforded any kind of legitimacy in today's world. At this point, most of the disagreement is among the members of the younger generation. Their elders have long since given them up for lost.

In a true science, one does not expect to find the kind of disagreement that exists. One problem is that the study of the structure of language, grounded solidly on data, has turned out in practice to be less straightforward than our fathers appear to have assumed, for it seems to be far from clear just what it means to describe the structure of a language. There is a growing suspicion that the question may not even be properly formulated. What is structure? What are the goals of linguistics? What kinds of insights are we searching for? Linguistics, in practice, seems to be an ill-defined task.

Another problem, probably stemming from this, is that there seems to have grown up a reliance on arbitrary

pronouncements on what a grammar must be, or on what the goals of linguistics should be. A large role is often assigned to belief in linguistics and various beliefs or articles of faith are proclaimed by the various groups. Linguistics is often seen in terms of ideologies and isms, an orientation more suited to discussions of divergent religious doctrine or political ideologies and quite different from what one would expect in science. Some of the writings in linguistics have been murky polemics rather than searchlights shining on gleaming gems of truth.

Yet another problem is that the student activists belonging to one or another radical action community often affect the garb, complete with symbolism, of their leaders, who are sometimes too explicitly doctrinaire in their approach, and in their selection of notation and representation. This seems more analagous to the use of such political activities as flag waving, the wearing of uniforms or armbands or buttons. Technical terms in linguistics are sometimes more valued as symbols of allegiance than as concise labels for carefully defined and useful scientific concepts.

In an attempt to compare competing representations, a tendency to rely on simplicity and elegance has emerged. The tests of value in linguistics have tended to become aesthetic tests, on a par with the tests of literary or artistic merit. This is surprising for a discipline which aspires to the state of a science. Not that science is unaesthetic. It exhibits a full measure of simplicity and elegance. But the tests for truth in science are quite different.

A number of these new experimental communities would appear to be transitional in nature. In seeing these communities as transitional there is the implication that one can get some conception of a future order. This is correct. The experimentation that is being carried out is helping us, through the revolutionary writings, to get a glimpse of this future order.

For example, what I select from the writings of Chomsky as providing an early hint of the future order is his concept that the rules of a grammar represent something internalized in the mind of the language user. Yet Chomsky was loath to state explicitly how the grammar was internalized. There is often found instead an antiseptic attitude that one should stay away from such questions and focus on language material. This attitude represents a tacit acceptance of received doctrine.

My own work on depth, which appeared to be too radical for Chomsky, did succeed in relating a large number of previously unrelated phenomena of language. Its success in providing insights is, in retrospect, due

almost entirely to its aspirations as a partial model for what people do when they speak. Its limitations can be related directly to its admitted primitiveness as such a psychological model, and in large measure this is due to its acceptance of received doctrine to be concerned primarily with language structure, with the forms of syntax as something separate from semantics.

From the point of view of glimpsing what lies ahead, the significant thing about the work done at Yale by Lamb and his students is again the algorithmic or computational nature of the theories and the explicitly expressed interest in what is in the head of the speaker. But here again the work is tied to the tradition of structural descriptivism in accordance with received doctrine.

And here at Chicago, one can see in the writings of McCawley a number of significant points that help to show us a glimpse of things to come. Of great importance is his proposal to abolish the distinction between syntax and semantics. Another example is his use of indices which he explicitly states are in the head of the language user. Another is his emphasis on performatives.

In the writings of nearly every modern linguist one can detect these stirrings. There is increasing uneasiness with the most fundamental doctrines of structuralism and descriptivism. There appears to be an increasing necessity to take the language user explicitly into account. Linguists are becoming increasingly interested in certain carefully worked out position papers from linguistic philosophy and from psychology.

It is not difficult to isolate those technical problems and irritations that have caused much of the unrest.

First of all, there have been problems of reference. Not only has pronominalization caused great problems when approached from the point of view of syntax, but also other types of reference have caused problems. Among these are such topics as the distinction between the definite and the indefinite article in English, and the distinction between the restrictive and the non-restrictive relative clause. Another area of concern deals with what has sometimes been called selectional restrictions, the fact that particular types of objects seem to occur with particular verbs, for example. An attempt to employ syntactic tools to distinctions that seem to be inherently semantic has caused problems. Then there have been a number of problems related to the lexicon, and a whole other set of problems related to the concept of predication.

A number of the radical innovations that have appeared have been designed to cope with some of these problems. It has become more and more clear that linguists must take into account the instrumental use of language. There is a continuing search for relevance. The forms that are used bear some relation to the speaker, and to the purpose that he is trying to serve by using the forms. I see here the seeds of a great and powerful basic agreement among the different camps of dissidents and perhaps here one can discern the shape of things to come. There is a new sense of excitement: one feels it in the air. There must soon be a resolution of the various factional disputes and a new crystal clear set of values and insights will emerge.

I think I see clearly the outlines of this new order. It will be based on a broadened view of our most basic goals in linguistics. We will no longer be satisfied with received doctrine. That is, we will no longer be satisfied merely with trying to describe the structure of language. What we want to know is how people use language to communicate.

As a matter of fact, this has probably actually always been the real goal of linguistics, anyway, that is, how people use language to communicate. But the inhibitions of the older generation have caused them to neglect the study of people as language users. They have tended in public to avert their gaze as if ashamed. But the younger generation has begun to realize that people are beautiful and that there is really nothing wrong in looking at them. They have the suspicion that their elders have always had a secret fascination for the whole subject. But we have somehow got hung up on this language structure business. We have somehow been led to accept a more limited goal, that linguistics is merely the study of the structure of language. This has come to us as received doctrine. Our elders probably set a more limited goal because they couldn't see their way into the broader one, but a more limited goal would seem to be a true hang up. The common thread that lies through all the revolutionary writings is the effort to escape from this hang up. I see that we will escape from it and that a new science will emerge. I have been trying to sketch the outlines of this newly emerging science as best I can in my lectures and in my forthcoming book.

The way to approach how people use language to communicate is, I think, through the concept of mental state or state of mind. One might suspect, in accordance with received taboos, that this is mentalistic, psychologicistic

and notional, but I would maintain that the state of mind of a language user is based on an ultimate reality on which a genuine science can be based. That ultimate reality is biological, physical and chemical. One can approach the study of mental state through scientific observation and experiment. A rich source of data is available by observation of what the organism, that is, the language user, does. In other words, linguistic behavior is data to be used in deducing what the organism is doing. The linguists are the ones who have developed the techniques for handling this data. Ultimately, we may obtain chemical or neurological data that will bear on our problem. In the meantime, we will have to be content with less direct linguistic evidence. There may remain a certain indeterminacy in our results, which can be handled by notational means that are specific enough to express what we know without committing us on what we don't know. The fact is, that the concept of mental state can be related to a reality, whereas the concept of the structure of a language cannot. For structure, like beauty, is in the eye of the beholder and this is what much of the arguing has been about.

We're not building castles in the air in any sense of the word. We're trying to find out what really goes on. Some of the problems of linguistics have been related to the playing of games, and some of the problems of psychology as well are also related to the concept of playing games. Given certain rules, what can you do or what can you say? Given a method of analysis and a limited amount of data, or a particular way of obtaining data, what can you say about it? You see, if you're studying behavior — whether it be linguistic behavior or other behavior — and if you try to talk about the structure of the behavior or the structure of the language, you're talking about something that really doesn't exist. Language exists in a sense: people speak it. But that's a different sense from the sense that brains exist and people exist. If you're asking to describe structure, you're really asking to invent a structure and describe it. And there is a certain air of unreality about this. It's true that one can make observations about language phenomena or language behavior. It's true that one can put likes together and keep unlikes separate. It's also true that you can build all this up into very nice structures. But this structure is in some sense imposed on the data by the person who is describing it, as long as he doesn't also insist that there be some reality behind the structure such as a biological reality or how some brain mechanism

works. But the minute you turn your view rather to how actual living organisms work, then you do have a reality, and you can study the reality and describe it and have some awareness of how much you know about it, how much you don't know about it, how closely your description corresponds to this reality as shown from observations, and so on. And by postulating the concept of the state of the organism we're able to start asking the kind of questions that do have some reality behind them. Behavior isn't a something in the same sense that a brain is a something. Behavior is rather a manifestation of the operation of something. And language behavior can be studied from the point of view that it gives insight into the something that is behind it, that is, the brain. So we're not playing games.

Very much can be done with the concept of mental state, much more than I have time to tell you about, even if I had all day. But permit me to give you one example. Consider the following. Suppose I have a friend in the next room and I want to speak to him for some reason, so I call "Bill". Let us examine this utterance from the point of view of mental state. I have already told you that I wanted to speak to my friend for some reason. The utterance "Bill" was conditioned in part by my wanting to speak to him, but this is part of my state of mind at the moment. We call it a goal.

Goals are part of state of mind. They can be investigated by observation of goal-directed behavior such as the uttering of "Bill" and by a number of other techniques resembling some of the standard informant techniques in linguistics. It turns out that goals are structured in a hierarchical fashion in a way very reminiscent of phrase-structure, and linguists have sharp tools for dealing with such things. I may have a goal to find out what time the concert is, so I choose the subgoal of asking Bill. In order to ask Bill, I must first engage him in conversation so I set of a subgoal to do that. Of the various means at my disposal, I choose to call his name.

One might also think that my choice of this utterance depends on the real life situation of my friend's being in the next room and having the name of Bill. But this is not exactly correct. No. I could be mistaken about his being in the next room. He could have slipped out, unbeknownst to me, to buy a paper, or perhaps it's really someone else and I just think that it is Bill. In such circumstances I would still utter

"Bill" even if he were not there. What really is important for my choice of the utterance "Bill" is that I think he is there. We have here experimental evidence for this particular aspect of my state of mind. We do not have to be concerned with the real world and its infinite variety. It suffices to be concerned with that aspect of the state of mind of the language user which can be called his current awareness of the real world. And here we need only be concerned with this to the extent that it is relevant to the conditioning of utterances or the conditioning of the understanding of utterances.

The younger generation of linguists has already developed some of the apparatus needed for such a study of the conceptual organization of the human mind. We should recognize it for what it is. It is not heresy, nor is it pornography. It is the striving for an understanding of the beauty of the human mind, and it is the raw material from which we can build a science.

The flavor of the research will be very similar to the flavor that linguistic research already has. But the focus will be different. The focus will be more on the things that condition utterances than on the utterances themselves, and utterances will be viewed more from the point of view of their function in the larger process of communication, which usually has as its object the selective altering or changing of the mental state of the hearer.

The phenomena of ambiguity will be more easily studied. Answers are immediately available as to why it is that when an ambiguous example sentence is read to a class, half the class may take it one way and half may take it the other way, and then it is psychologically difficult for each half to see the other meaning. We may have a reasonable way of handling presuppositions and metaphor.

If we can actually get at the state of mind of the language user in a scientific way, based on solid evidence and experiment, the way is open for the solution of many of the gravest difficulties confronting linguistics at the moment. The task will be a large one, but let me emphasize that it will in no way be an infinite or impossible one. The best-equipped people to undertake this task are those who have had linguistic training.

Thus it seems to me that the shape of the future is that linguists will come to agree on a new goal. They will accept the broad goal that what we want to do is to understand how people use language to communicate. This will lead them into the study of something really in the mind of the language user and from this a new and

fruitful science will emerge.

Our new science will be populated initially by brilliant refugees from the older established communities. The theoretical apparatus for handling the concept of state will come to us from information science. And from information science also we will receive the possibility of computer modeling, the possibility of making a working model, and understanding it, of the language user. From psychology, we will receive additional techniques for probing the mind of the informant, who may well become a subject. Other tools will be brought to us from cybernetics, from physiology, and from philosophy. The unification will be achieved through the unification of the goal.

The initial population of immigrants from the older regions will soon fade into the background. The science will be taken over by the new offspring of the mixed parentage. They will be well-educated in the new science and will soon surpass their parents in fluency and in the all-embracing cogency of the insights they will achieve.

The last comfortable suburban value to which we have all tenaciously clung is the very definition as received from our elders of what the goals of our society are. We see crumbling before us the unquestioned position that linguistics is the study of language and that the building of structural descriptions is the proper goal to which we should dedicate our intellectual lives. The search for relevance seeks to relate language to people. The new morality is that what we want to know is how people use language to communicate, and the bringing of people and communication back into our focus will at once humanize and socialize our science and save it from those who would keep it a cold Victorian study of the forms and structure of language.

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