Why Linguistics Needs the Cognitive Scientist

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In his classic article in the first number of this journal (Sapir 1938) and in many other writings, Edward Sapir urged that a true social science, including an understanding of the nature and working of culture, must necessarily be founded on an understanding of the individuals who participate in culture and society: "In the psychological sense, culture is not the thing that is given us. The culture of a group as a whole is not a true reality. What is given — what we do start with — is the individual and his behavior." (Sapir 1994, p. 139). And the central term in this understanding is the nature of the mind and personality of the individual, not an external characterization of his actions and responses or some system that somehow exists outside of any particular person.

Trained by Franz Boas as a cultural anthropologist, Sapir devoted most of his professional life to the study of language and the development of the nascent discipline of linguistics (see Anderson 1985, chap. 9 and Darnell 1990 for sketches of his personal and professional life). For Boas, as for Sapir, language was a key to all other understanding of cultural realities, since it is only through an appreciation of the particularities of an individual's language that we can hope to gain access to his thoughts and conception of the world, both natural and social. Sapir, indeed, is widely associated with the notion of 'Linguistic Relativity,' according to which the structure of an individual's language not only reflects but even contributes to determining the ways in which he construes his world. Language thus occupies a central place among the phenomena that can lead us to an understanding of culture; and it must follow that the way to study language is in terms of the knowledge developed in individual speakers, not in terms of such externalities as collections of recorded linguistic acts. In the history of linguistics, Sapir is remembered especially as one who emphasized the need to study what speakers know and believe (perhaps unconsciously) about their language, not simply what they do when they speak.

In addition to his primary focus on linguistics, Sapir also wrote widely of more general issues in the nature of society, culture, and personality. His contribution to this journal was far from isolated in the sympathy it showed with the project of psychiatry and psychoanalysis. This interest in psychiatric issues and approaches was certainly not isolated from his work as a linguist and anthropologist, however. On the contrary, as reflected in the title of his

Psychiatry piece, he felt that the mode of understanding essayed by the psychiatrist was really the only path to a true appreciation of cultural phenomena, by virtue of the claim above that the individual is the basic reality in this study.

Why the psychiatrist, in particular? One must remember that the 1930's, when Sapir was most active in general studies of personality and culture, was the time when ideas from the positivist and behaviorist traditions predominated in 'scientific' investigations of psychological questions, and of course these were precisely antagonistic to a sympathetic investigation of the nature and contents of the mind and personality. Psychiatry, in contrast, was centrally occupied with exactly this, and so the fundamental place of the individual in language and culture entailed a need for the kind of light that could only be shed on core issues by psychiatric investigation and understanding.

While no one denied Sapir's stunning brilliance as a linguist, both in theory and in practice, many of colleagues at the time considered this 'mentalist' aspect of his thought to be an eccentricity — even an aberration — on his part, something to be excused rather than imitated. After all, linguistics was on its way to attaining genuine status as a science precisely through adopting the behaviorism of the day, focusing on purely mechanical methods for collecting and arranging linguistic data so as to arrive at a purely external analysis of linguistic behavior, eschewing all metaphysical talk about 'minds' and such-like unobservables.

Over the course of more than a century, however, the field of linguistics has arrived at essentially the same conclusion Sapir did, by its own path and making only a little use of the insight he had to offer. While the study of language up through about the 1870's was as much a branch of philosophy as anything, scholars began to adopt genuinely scientific methods around that time. Linguistics grew, in part, out of the study of philology: how do we establish the correct form of an ancient text, given that we have perhaps only several corrupted manuscripts to go on? A method developed for comparing manuscripts to establish the most likely ancestral form from which they all derived.

When 19th century scholars came to the conclusion that whole languages, not just individual texts, could be regarded as related in this way, the *comparative method* came to be applied to the problem of how to reconstruct an ancestral language (e.g., proto-Indo-European) from which a number of attested modern languages could be derived. In the case of texts, it is clear how an original form comes to be corrupted: scribes make mistakes. But what is the analog in the case of whole languages? Nineteenth century linguists came up with the conception of *sound change*: systematically over time within part of a speech community, certain sounds change into others. When we reconstruct an earlier form of language, what we are trying to do is to undo the sequence of sound changes by which the modern language came about.

Where this became scientific was when people suggested that there was a general lawfullness to these changes, and proposed the principle of *regularity of sound change*. That is, unlike the random pattern of scribal errors, sound changes operate in a uniform way, and do not affect individual words idiosyncratically. Furthermore, scholars hoped that it would be possible to derive the range of possible sound changes from a study of the physics and physiology of speech, assuming that sound changes reflected regularities that could ultimately

be deduced from natural laws of these domains, rather than arbitrary, random events. It is worth noting that Sapir was a significant contributor to this work. In several studies, he helped to substantiate the idea that uniform historical change characterizes unwritten languages such as those of native America as well as languages of the Classical tradition (those of the Indo-European family).

The point of these observations is that at this stage, the object of scientific inquiry about language was pretty much defined by the scope of the available genuinely explanatory principles, and this meant that linguistics was 'about' the histories of languages (and of individual words within those languages). The basic question of the field could be put as: How do languages come to be as they are through (*diachronic*) change over time? This understanding of what linguistics is about still characterizes some parts of the field, though classical historical linguistics is a relatively small sub-discipline today.

In the early years of the twentieth century, Ferdinand de Saussure (1974) argued that these historical issues were only a very small part of the story, and that the science of language needed to provide an account of the nature of the linguistic systems we find today. This gave rise to structural linguistics, or the study of linguistic systems: the sounds and grammar of, e.g., French, as opposed to the history of how Latin originals became the individual words of Modern French. Saussure himself argued that the right basis for such an understanding was to construe the linguistic system as something with a reality that was primarily social: a set of conventions among speakers of a given language to do things in a certain way, though this conception was not widely adopted.

Structural Linguistics developed in various ways through the first half of the century, eventually getting mired down in the assumptions of behaviorist psychology. What was consistently true through this period was that the primary object of inquiry in the field was not something historical, but something present to contemporary speakers of a given language. This something, though, was always something external, and the basic question of the field had become: What are the properties of the sets of sounds, words, sentences, etc. recorded in attested acts of speaking? Whether thought of as social conventions or as the external responses corresponding to particular stimuli, linguistic objects were consistently seen in this external mode.

Perhaps the central insight of the 'generative revolution' which Noam Chomsky initiated in the late 1950's, especially through his critique of Skinnerian behaviorism, (Chomsky 1959), was a shift in our conception of the object of study in linguistics. Chomsky stressed that the basic problem is not one of characterizing what people **do**: it is rather one of characterizing what they **know**. The central reality of language is the fact that we call someone a speaker of, say, Chinese, because of a certain kind of knowledge that he or she has. If that is the case, linguists need to find a way to study the structure of this knowledge, and while the things people say and do can constitute important evidence, that is not all there is.

In this focus on the nature of language as a form of knowledge, an aspect of the structure of the mind, linguists have thus returned to a conception much like Sapir's of the centrality of the individual in an understanding of linguistic and cultural phenomena. The decline of behaviorist assumptions in the last 40 years or so, however, has led to a much broader

consensus about the need to understand the mind in its own terms. Much of academic psychology still finds itself pre-occupied with externalist issues, and for one reason or another rejects the validity or utility of conceiving its object in terms of the minds of individuals.

As a result, we have seen the rise of Cognitive Science as a discipline whose goal is a science of the mind. Combining ideas from linguistics, computer science, philosophy, anthropology and cognitive psychology, this emerging field focuses squarely on the nature of mental and cognitive life. Linguists and linguistics have been important in these developments, in view of the fact that it is in this sphere that the central role of the individual can be studied particularly concretely and productively. Cognitive Science thus plays for the contemporary linguist the kind of role Sapir foresaw for psychiatry: one that makes it possible to study phenomena that emerge from the individual by providing methods for investigating the content of the individual's mind and mental life. If the insight of Sapir's 1938 paper now appears in somewhat different form, its validity has only been reinforced by subsequent developments in the study of language.

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