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Roger Williams Wescott
ISCSC President

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LANGUAGE AND CIVILIZATION:
Contributions of Linguistics to the
Comparison of Cultures*

Roger Williams Wescott

Like the comparative study of civilizations, linguistics is a doubly anomalous discipline. It cannot neatly specify its subject matter; nor can it place itself unambiguously on a multidisciplinary spectrum of learning.

Students of civilization (whom I prefer to call historiologists1) cannot agree on precisely what civilization is. Linguists have the same difficulty with language. Is it an artifact—a tool for communication? Is it a sociofact—a unifying institution? Or is it a mentifact—a way of expressing one's thought?

What are the boundaries of language? Is it exclusively vocal, as Structuralists have maintained since the 1920's? In the view of such Structuralists as Edward Sapir and Leonard Bloomfield, speech is the essence of language; and visual expressions of language, whether gestured or written, are imperfect representations of speech, truncating it by transferring it to an alien sensory channel.2

Even among those linguists who concur in viewing language as a primarily or exclusively vocal-auditory phenomenon, there is uncertainty about marginal speech-forms like the negative expletive conventionally written "uh-uh" by English speakers. Unlike the word "no," which rhymes with many other English monosyllables and contains no deviant speech-sounds, "uh-uh" rhymes with nothing and exhibits such un-English speech-sounds as nasal vowels and glottal stops. It may be that deviant utterances of this kind are manifestations not of specifically human language but of more generally primate vocal communication.3

LINGUISTICS AS A SCIENCE

Linguistics, moreover, is susceptible to no clearer a disciplinary classification than is the comparative study of civilizations. In Europe, linguistics is usually placed, with literature, among the humanities or "spiritual" sciences. In America, on the other hand, linguistics is more often placed, with anthropology, among the social or behavioral sciences.

This placement, however, is complicated by the fact that one linguistic

subdiscipline, phonetics (the study of the production and perception of speech-sounds) seems rather to belong among the natural sciences than among the social sciences. More precisely, acoustic phonetics, involving sound spectrography and such mechanized procedures, is closer to physics than to any other discipline. And articulatory phonetics, requiring investigation of the anatomy and physiology of the speech organs, clearly belongs among the biological disciplines.

A question which remains controversial among linguists themselves is whether linguistics, when regarded as a unified discipline, should be considered a science. It is only when science is itself broadly defined as any organized and systematic body of knowledge that most linguists can concur in an affirmative answer. When science is more narrowly defined as a discipline that requires rigorous logic or precise quantification, agreement ceases.

Agreement reemerges only when linguistics, rather than being regarded as a disciplinary monolith, is regarded as a cluster of subdisciplines. Phonology, the study of pronunciation, is relatively precise and rigorous; few linguists would deny it scientific status. On the other hand, semantics, the study of word-meaning, is relatively subjective and impressionistic; equally few linguists would grant it scientific status. The irony of this contrast is that, for most people, it is the meaning of language that matters most and the mechanics that matter least. Yet it is precisely this most significant aspect of language about which we are least able to be scientific.

LINGUISTS AS CONCEPTUAL PIONEERS

When compared with departments of Biology or Physics, departments of Linguistics tend to be both few in number and small in personnel. Yet two of the most important principles of contemporary biology and physics were enunciated by linguists before they were incorporated in the theoretical foundations of the natural sciences. The first of these is the concept of phylogeny, better known as the "family tree" principle. In 1786, in an address to the Asiatic Society in Calcutta, India, Indologist Sir William Jones first expressed the view that Latin, Greek, and Sanskrit were daughter languages of the vanished tongue which we now call Proto-Indo-European. Before the 18th century ended, similar phylogenies for Semitic and Finno-Ugrian languages were proposed and generally accepted. But it was not till the early 19th century that the Marquis Jean-Baptiste de Lamarck proposed an analogous family tree that treated mammals, birds, and reptiles as branches from a common vertebrate trunk and proposed similar divergences among invertebrates.

The second concept pioneered by linguists is the quantal principle, in accordance with which some phenomena have to be regarded as irreducibly discrete rather than gradient in nature. Questions about the presence of such phenomena require a yes-or-no rather than a more-or-less answer. The first linguis-
tic unit to be quantalized was the phoneme, initially postulated in the mid-nineteenth century by a Russian philologist with the very French name Baudouin de Courtenay. Because most Victorian era linguists were preoccupied with comparative and historical questions, they paid little attention to any principle except that of phylogeny. By the 1920s, however, structural linguists had shifted scholarly attention from diachronic, or historical, topics to synchronic problems in the analysis of contemporary languages. At this point, the quantal, or phonemic, principle became central to the study of speech-sound systems. It was likewise in the early 20th century that the Medieval term quantum, meaning any quantity or amount, came to be more specifically used by physicists to mean a discrete packet of energy and formed the basis of quantum mechanics, quantum electrodynamics, and general quantum theory.5

A balanced appreciation of both the strengths and weaknesses of linguistics as an investigatory enterprise is surprisingly rare in academia. A few scholars, such as ethnologists, sometimes overestimate it. The procedure called glottochronology, which is a statistical technique for giving precise estimates of the time elapsed since two daughter languages diverged from their mother language, is given far more credence by anthropologists than by linguists. And the late Clyde Kluckhohn, Chairman of the Harvard Anthropology Department, held linguistics up as a model for cultural anthropologists, regarding it as the most rigorous not only of anthropological fields but of social sciences in general. More specifically, he urged his colleagues to search for a unit of culture analogous to the phoneme.6 Anticipatorily, I nicknamed this cultural quantum an "ethneme." But, so far as I know, none of us has yet succeeded in isolating it, either analytically or in practice.

Linguistics, predictably, is more often underestimated than overestimated. And those who underestimate it usually work in the natural sciences. For some years, I participated in annual meetings of the International Conference on the Unity of the Sciences. And I enjoyed their consistently cross-disciplinary emphasis, not only permitting but encouraging intellectual adventure outside the specialties of the participants. Yet I was repeatedly astonished to hear distinguished colleagues, on the basis of little more than partial bilingualism and great facility in their native vernaculars, make pontifical--and often erroneous--pronouncements about language in general. I recall thinking that, if a linguist had made comparable assertions about genetic recombinance or particle physics, he would have been severely dealt with by the specialists concerned.

LANGUAGE AND CULTURE

Most institutions of higher learning lack linguistics departments. And many offer few linguistics courses. In those colleges in which only one linguistics course is available, it is frequently offered by the Anthropology Department
and entitled "Language and Culture." Because some cultural anthropologists define culture as "language and its superstructure" (where superstructure means behavior requiring language), one would think that this course would be one that both anthropologists and linguists—but especially those interdisciplinary specialists known as ethnomelinguists—would find it easy and enjoyable to teach. In fact, however, there are few courses with which their instructors seem more dissatisfied than this one. Nearly every year I note the publication of a new text-book, the preface to which declares the author's dissatisfaction with all previous texts as instructional tools for courses in language and culture.

The reasons for this perennial dissatisfaction are not clear. All who offer the course agree that the relation between language and culture is a close one. Few, however, can agree on the precise nature of that relation. Because, in the second year of life, most children learn to speak with remarkable rapidity, transformational linguists tend to follow Noam Chomsky in postulating an innate, if not congenital, "language acquisition device" to explain this rapidity. But no social or cultural anthropologists have, to my knowledge, postulated any biologically parallel "culture acquisition device" to explain the roughly synchronous process of acculturation. Moreover, although language and culture are almost equally difficult to define to the satisfaction of a majority of specialists, there is little correspondence between the points of definition which, in the two cases, elicit most controversy.

**LANGUAGE PHYLOGENIES AND KINSHIP SYSTEMS**

Another disjunction between language and culture is the fact that, as far as we can tell, there is no predictable connection between the phylogenetic group to which a language belongs and the ethos, or cultural bent, of the people who speak the language. Among the imperial peoples of the ancient Near East, for example, there is no conspicuous trait that links the Indo-European Hittites and Persians in joint cultural opposition to the Hamito-Semitic Egyptians and Assyrians.

This disjunction is as disappointing to ethnomelinguists as is the similar disjunction between ethos and kinship structures to ethnologists. There is, for example, a distinctively patrilineal type of kinship system called the Omaha type by syngenicists, or kinship theorists. It is characterized by polygynous marriage, patrilocal residence, and cross-cousin marriage. And, despite its name, it is more wide-spread in Africa than in North America. Yet there is little in the way of economic, artistic, or religious behavior that can be deduced from a people's exhibiting an Omaha descent system.
LITERACY AND CIVILIZATION

The fact, however, that there are no "typically" Indo-European or Hamito-Semitic civilizations should not make us draw the disappointing conclusion that no meaningful correlations between language and civilization exist. There is, for example, a clear correspondence between civilization and literacy. Cultures that exhibit urbanism without literacy, such as that of ancient Peru, are as rare as cultures that exhibit literacy without urbanism, such as that of the Vai of Liberia. The only correlation which is hard to draw is that between types of writing and types of civilization. Ideographic writing systems, such as those of ancient Egypt or modern China, appear to have a predominantly esthetic appeal; whereas phonographic systems, such as those of early Crete or contemporary Islam, appear to have a predominantly utilitarian appeal. As regards ideography, it is hard to see what, if any, cultural trait predisposed the Egyptians and the Chinese to have the same graphonomic bent. And, as regards phonography, it seems clear, not only that ideographic writing is being replaced by phonographic writing in most parts of the world but, more specifically, that the (originally) Phoenician alphabet, in one or another of its contemporary adaptations—Latin or Cyrillic, Arabic or Indic—is the overwhelmingly preferred phonographic script.

NUMERICISM AND CIVILIZATION

Second only to writing as a linguistic marker of civilization is enumeration. There are apparently no pre-horticultural societies which count consecutively to five, much less any that employ systematic decimal and vigesimal vocabularies. Elaborate number lexicons, involving ordinal as well as cardinal terms, usually occur only in urbanized societies. An interesting exception to this rule is provided by Proto-Indo-European, the carefully reconstructed, though presumably prehistoric, language ancestral to Spanish, English, Russian, and Hindi, spoken in eastern Europe and western Asia. Its numeral series seems to have been as complete as those of the early historic Egyptians and Mesopotamians. Although no scholars that I know of have argued, on this basis, that the Proto-Indo-Europeans built cities which we have thus far failed to uncover, one scholar has suggested that the Proto-Indo-Europeans may have been literate. Classicist Louis Heller of the City University of New York notes that the runic alphabet, reliably known only from the last 1,800 years, looks structurally as though it had been created to fit the phonology of Proto-Indo-European rather than of Proto-Germanic. If runes are indeed of this antiquity, we must conclude that our remote linguistic forebears had an intellectual elite which was even smaller and more secretive than most ancient literate priesthoods.
ABSTRACTION AND CIVILIZATION

There is a linguistic trait which, while less clear-cut than literacy or numericism, nonetheless shows some promise of correlating positively with civilization. This trait is abstraction. Unfortunately, discussions of this correlation are not only rare but beset by ambiguities. The first of these ambiguities is confusion of the abstract/concrete polarity with the general/specific polarity. The confusion is unfortunate, because generalization is no less characteristic of the languages of preliterate peoples than of those of literate peoples, whereas abstraction does seem less characteristic of preliterate than of literate. The second ambiguity is failure to distinguish structural, or grammatical, criteria from notional, or semantic, criteria of abstraction. In English, for example, there is no question that the second syllable of the word *goodness* is a nominalizing suffix of a type that converts adjectives into abstract nouns. The abstraction here is patent. In the phrase *a beauty*, however, the noun is abstract when synonymous with 'type of pulchritude' but concrete when synonymous with 'lovely woman.' Yet, because synonymy is always to some degree subjective, the abstraction in the second case is less demonstrable than in the first. Moreover, few systematic searches have been made for either type of linguistic evidence of abstraction in the languages of hunting and gathering peoples. Lack of evidence for abstract language among preliterates may therefore reflect lack of effort more than lack of material.

SYNTAX AND CIVILIZATION

An even more questionable correlation between language and civilization depends on the equatability of syntactic subordination with social subordination. In contemporary English, there are alternative ways of expressing contingency. Compare, for example, the sentence "If you go, I'll go" with the sentence "You go and I'll go." In the first sentence, the initial clause is subordinate to the final clause, whereas, in the second sentence, the two clauses are coordinate. The first sentence, which seems closer to standard civil discourse, also seems more representative of a culture marked by social stratification, at least of an economic kind. The second sentence, though readily understood, seems less adult, less formal, or both. Educated intuition here suggests that the second type of sentence would be more characteristic of preliterate discourse than the first. But intuition, even that of ethnolinguists, is scarcely equivalent to demonstration. And I know of no linguist or anthropologist who has collected the kind of data that might confirm or counter the intuition.
"GOD'S TRUTH" AND "HOCUS-POCUS" ANALYSES

Since the 17th century, mathematicians and physicists have frequently wondered why numerical calculation and physical observation seem to fit one another so well. To explain this neat correlation, two opposing theories have developed, nicknamed the "God's Truth" hypothesis and the "Hocus-Pocus" hypothesis. Advocates of God's Truth maintain that the material universe is intrinsically mathematical, while advocates of Hocus-Pocus maintain that mathematics is an arbitrary structure that we deliberately created to help us quantify the conceptually refractory world in which we find ourselves.

Interestingly, a comparable polarity has developed among linguists. Most linguists accept phonemes and morphemes (distinctive speech-sounds and minimal grammatical forms) as basic units of language, equivalent in structural importance to atoms and molecules in the physical sciences. But, rather than interpreting these units as inherent in language itself, many linguists regard them only as convenient fictions, useful for linguistic analysis but devoid of ultimate reality. Here, too, as in the case of physical quantification, the same phenomena which some scholars view as God's Truth other scholars view as Hocus-Pocus. Yet, in each of the two cases, ontological interpretation seems to have little or no effect on scholarly procedure: God's Truth advocates and Hocus-Pocus advocates usually engage in mutually indistinguishable analytical operations.

ICONISTICS AND COSMOLOGY

A rather specialized linguistic field, which nonetheless has major relevance to the vexed question of the relation of language to external reality, is iconistics. Iconistics is the study of iconicity, or the tendency of speech, in some contexts, to imitate the non-linguistic environment. (When phonic only, this tendency has been traditionally referred to as onomatopoeia.) Iconicity is controversial in two respects: first, some linguists perceive it with great frequency, whereas others perceive it only rarely; and second, linguists disagree about its role in the evolution of language. One view is that language was initially wholly iconic but is in process of becoming wholly symbolic (that is, arbitrary rather than imitative). Another view is that, while some iconic elements become symbolic, other iconic elements are introduced at an equivalent rate, such that iconicity and symbolicity remain in balance. And a third view is that the relative proportions of iconicity and symbolicity fluctuate slowly but rhythmically, rather as do representational and non-representational art styles.

What is striking about these three views of the evolution of linguistic iconicity is how closely they parallel the three leading cosmological hypotheses: Georges-Henri Le Maître's Big Bang, in accordance with which the universe is expanding indefinitely, from singularity to virtual infinity; Fred Hoyle's
Continuous Creation, in accordance with which new matter appears to fill the vacancies created by cosmic expansion; and Robert Dicke's Oscillating Universe, in which cosmic expansions and contractions succeed one another endlessly. If these three theories of linguistic evolution and of cosmic evolution have as much in common as they appear to, it is hard to resist concluding that language mirrors the world which it describes in a manner that is fundamental rather than trivial.13

**GRAPHONOMY AND GENETICS**

Another area of correspondence between language and the non-linguistic world is in the terminology employed to describe genetic units and processes since the advent of molecular biology. Nitrogenous bases in a nucleotide are referred to as "letters"; codons, or nucleotide triplets, in a nucleic acid chain are referred to as "words"; and nucleic acid strands, containing eight or more codons, are referred to as "sentences." Similarly, forming nucleotide triplets is referred to as "spelling"; and ribosomal movement along messenger ribonucleic acid chains is referred to as "reading."

What is particularly striking about these linguistic metaphors, as used by biochemists, is that they refer not to the presumably primal expressions of language—gesture and speech—but rather to the most recent and presumably most advanced expression of language: writing. What this suggests is that even the subtlest and most highly evolved aspects of human behavior were already implicit in the simplest forms of microbial life and that they required only a higher turn of what we might call the evolutionary helix to make them reappear in a more sophisticated guise.

**GRAMMATICAL STRUCTURE AND ANATOMICAL STRUCTURE**

Yet another analogy between language and the larger world involves organic development, both ontogenetic and phylogenetic, and linguistic development. All animal groups typologically more advanced than coelenterates, or jelly-fish, exhibit a three-layered structure, consisting of ectoderm (skin and nerves), mesoderm (muscular and connective tissue), and endoderm (digestive and respiratory systems). Simpler groups, such as sponges, are only two-layered and lack a mesoderm. Embryology, in keeping with the disputed (but not rejected) "law of recapitulation," reveals the same succession: all three-layered adults develop from embryos that were initially two-layered.

As regards the evolution of communication systems, including the audio-visual signaling systems of great apes in the wild, it seems clear that pre-linguistic codes are all "two-layered": that is, they consist of content (meaning or message) and expression (sound, movement, or the like). In language, too, there exists a layer of meaning, known as semantics, and a layer of expression, mani-
fest as gesture, speech, or writing. In addition to these two, however, there also exists a layer of intermediate structure known as grammar. The function of this linguistic "mesoderm" is to act as a multiplier, enabling a small number of expressive units (typically phonemes) to generate a vast number of meaningful vocabulary items.\textsuperscript{14} Were it not for grammar, the number of meaningful messages human beings could send would not exceed the number of expressive units in language: usually fewer than a hundred.

**GRAMMATICAL CYCLES**

Although grammar itself almost certainly represents a communicative advance over pre-grammatical signaling systems, no clear progression can be postulated among the various types of grammars known from the world's spoken languages. Grammatical systems are of two types: lexemic (dealing with words and word-like forms) and affixative (dealing mainly with word endings). The three chief types of lexemic grammar are: isolative (represented by Chinese), incorporative (represented by Eskimo), and ortholexic (represented by English).

In an isolative grammar, there is no difference between a base, or word-core, and a free form, or word. One could say, therefore, that Chinese has no words—only bases strung together to form phrases or sentences. In an incorporative grammar, on the other hand, there is no difference between a word and a (short) sentence, since no sentence is comprehensible till it is completed. One could therefore say that Eskimo is as wordless as Chinese, though for a different reason: the "words" of Eskimo are bound, or incomplete, forms, like the bett- in English better. In an ortholexic grammar, like that of English and most other languages, there are real words—that is, forms that differ from bases in making sense by themselves but differ from sentences in being less than propositional.

Affixative grammars focus not on words but on attachments to words and to bases. The three chief types of affixative grammar are: analytic (represented, again, by Chinese), agglutinative (represented by Turkish), and inflecting (represented by Arabic). In an analytic grammar, there are no attachments to bases: "words" or their equivalents may not have prefixes or suffixes. In an agglutinative grammar, attachments to words are loosely linked and rather word-like themselves. In an inflecting grammar, attachments to words are tightly bound and relatively meaningless except in terms of their function, as in the case of the plural suffix in the English word books.

Although a communicative system needs a grammar in order to constitute a language, it seems to make no difference, in terms of efficiency, which type of grammar it has. Both lexemic and affixative grammars cycle over the centuries, with the result that languages can fall between types. In affixative terms, English, which was fully inflecting in King Alfred's day, is now half way to becoming analytic; and, if it is pidginized in the course of being internationalized,
it will probably become wholly analytic. Yet there is no reason to believe that its expressive powers are being either increased or diminished by this typological shift. In this respect, grammatical systems are like kinship systems, as noted earlier: they are neutral with regard to their effect on linguistic or cultural behavior.

**CHROMATONYMICS AND HISTORIOLOGY**

There is yet one more area of linguistic investigation which, though highly specialized, is—or at least may be—highly relevant to the study of civilizations. This is chromatonymics, the study of color terminologies. Chromatonymics, moreover, is relevant both in terms of the general study of cultures, of interest to ethnologists, and in terms of the specific study of urban cultures, of interest to historiologists. Recent comparative studies of color terms indicate strongly that color lexicons are evolutionary, in the sense that, on average, the more complex the material culture of a people is, the more distinct terms for color their language is likely to have. The simplest foraging peoples usually have only two to four color terms; pre-urban farming peoples usually have five to ten color terms; and literate, urban, metal-working peoples usually have eleven or more color terms.¹⁵

The aspect of chromatonymics which has the most specific relevance to civilization is focality. Although the boundaries between colors vary terminologically from language to language, "local" colors—such as typical red or typical green—are remarkably constant from language to language. This fact, it seems to me, may provide a clue to the solution of one of the most vexing of historiological questions: how and where to draw boundaries between civilizations, especially when they overlap in space, time, or both.

An example of double overlap is provided by European history, which, at the supranational level, exhibits a blurred boundary between Hellenic civilization and Western civilization. Spatially, the area of overlap is Italy; chronologically, it is the Byzantine/Carolingian period. The geographic focus of Hellenic civilization, however, lies nationally in Greece and locally in Athens; and the geographic focus of Western civilization lies nationally in France and locally in Paris. The historical focus of Hellenic civilization is pre-Byzantine; and the historical focus of Western civilization is post-Carolingian. In short, just as the centers of chromaticity are far clearer than their peripheries, so are the centers of civilization far clearer than their peripheries.

Clarity, to be sure, is in the eye of the beholder. And similarity is a matter of degree. But I trust that this exposition at least suggests a few of the ways in which linguistics anticipates, parallels, or reinforces concepts underlying the comparative study of civilizations.

ISCSC President
End Notes


