

# Research News

## American Indian Language Dispute

*Using a methodology not generally favored among linguists, a Stanford researcher has provoked outrage by proposing a revolutionary classification of American Indian languages*

"GREENBERG'S *Language in the Americas* has a detrimental impact on the field; its classification should not be accepted; the record should be set straight." With this bold assertion Lyle Campbell began a recent review of Joseph Greenberg's new book on American language classification. He ended the review by calling the book "unfortunate." Linguists reading the review were not particularly surprised by its tone because even before Greenberg's book was published Campbell declared in print that its thesis "should be shouted down."

These are strong words from Campbell, a linguist at the State University of New York at Albany, but they are not atypical of the response Greenberg's book has provoked among the majority of American linguists. "Yes, I'd say 80 to 90% of linguists would probably agree with Campbell," says Greenberg, a Stanford scholar, "but they aren't all quite as vocal."

The thesis of Greenberg's book is that "all the indigenous languages of the Americas fall into three genetic groups," he explained recently. "By far the largest is . . . Amerind and comprehends all of the languages except

Na-Dene and Eskimo-Aleut." It is the identification of the Amerind group, or language family, that causes most anguish among American Indianists, because it encompasses all languages of South America and most of North America. "The major alternative [classification] and one that has become increasingly influential in the recent period would involve the acceptance of something like 200 independent linguistic stocks."

The classification of modern American Indian languages can, of course, be viewed in the context of the original settlement of the Americas, which occurred somewhat earlier than 11,500 years ago. Greenberg believes that his identification of three major language groups is consistent with recent genetic and dental evidence, which can also be interpreted as indicating three genetic groups resulting from three separate migrations. Referring to the alternative notion of some 200 independent languages stocks, Greenberg quipped that if each of these represented a separate migration it would have required "a traffic controller at the Bering Strait."

Campbell and like-minded linguists de-

flect this shaft of sarcasm, arguing that evidence concerning the settlement of the Americas is "irrelevant to an understanding of relationships among modern American languages." These words—of Yves Goddard of the Smithsonian Institution, Washington D.C.—touch on a key philosophical difference that separates Greenberg from other American linguists.

Greenberg approaches classification with a broad brush, encompassing in his studies all languages for which there are recorded data, and sorting them into major groups. It is essentially a top down approach. By contrast, Campbell, Goddard, and others study in detail just a handful of languages at a time, carefully building up historical relationships among them, from which the big picture may eventually emerge. It is a bottom up approach.

By declaring now that the great majority of languages belong to one family, and therefore have a common origin some 12,000 or so years ago, Greenberg has essentially scooped the bottom uppers. And Greenberg and his followers frequently imply that their opponents believe in multiple origins, not a single common origin, for most American languages. Not so, comes the retort. "Many proponents of the 'major alternative' may be sympathetic to the belief that (many) American Indian languages may have a common origin," says Campbell. "However . . . currently accepted methods and evidence cannot demonstrate it."

So, the real disagreement comes down to what you can and cannot demonstrate in terms of historical relationships, given the evidence of modern languages. The differences rest on methodology, and what constitutes proof of language relationships.

Fundamental to the belief that historical linguistics can tell you anything at all about relationships among modern languages is that, different though they may be, they carry clues to their recent and not so recent past. These clues reside in sounds and meanings of words, and in grammatical structure. Historical linguistics was essentially born in the late 18th century, with the discovery by a British judge in India that many languages of Europe and the East were united as a family, which came to be known as Indo-

### Joseph Greenberg:

*Noting that his work on American Indian languages must stand on its own merits and not lean for support on his previous success with African languages, Greenberg nonetheless says: "There should be some presumption that methods successful in one area will also be successful when applied elsewhere."*



European.

Work on Indo-European languages has continued ever since, with research techniques becoming ever more scientific, and mathematically based. By now half a dozen major language families have been identified of equal status to Indo-European in terms of language genealogy, that is, going back some 7000 years. Some researchers believe that some of these language families, including Indo-European, can further be identified as the products of a still earlier family, Nostratic, with roots going back some 15,000 years. (See *Science*, 25 November, page 1128.) Greenberg's proposed Amerind family is of equal status to Nostratic in the overall language genealogy.

Languages, like species, diverge from each other through time, with the accumulation of various kinds of changes. Seeking historical relationships among modern languages is therefore similar in many ways to seeking evolutionary relationships among modern species. But the analogy cannot be pushed too far, and snares await those who make comparisons among languages. Not the least of these snares is that words are often borrowed between languages, giving a false impression of historical proximity. Similarities through pure chance can trap the unwary too, as can onomatopoeic words,

which by their very nature may sound very similar among very different languages.

Many linguists therefore choose to look, not for similarities among languages, but for what are called sound correspondences. Sound correspondences are when, say, a "p" in one language is always represented by a "d" in another, the result of a specific "mutation." "Sound correspondences have come to epitomize what is good about contemporary historical linguistics," says Merritt Ruhlen, an independent scholar in Palo Alto. "They have great regularity and everything can be explained mathematically." It is the use of sound correspondences, among other things, that gives Campbell, Goddard and their allies the security that they are identifying historical traces in the languages they study.

Greenberg, by contrast, works with similarities among languages, and is therefore often labeled "unscientific." His technique is known as mass comparison, "a common sense approach," he calls it. Using a limited list of words for parts of the body, pronouns, and so on—words that change slowly and are borrowed rarely—Greenberg compares hundreds of languages at a time, believing that he can identify patterns of relationship among the languages. The uniformity of "n-" and "m-" in the first and

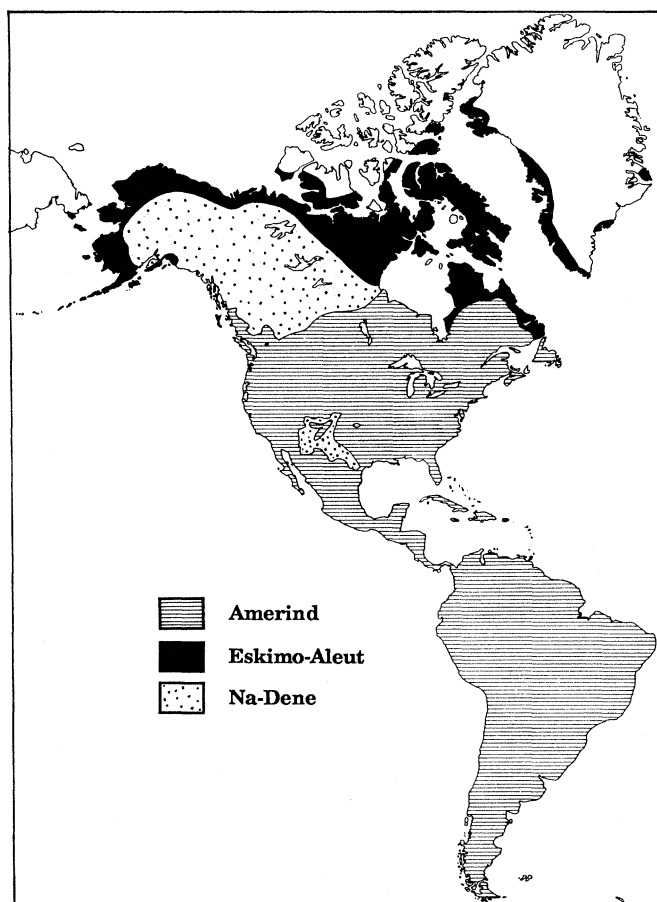
second person pronouns (singular) were among the first clues to the unity of the Amerind group, says Greenberg.

Greenberg began his comparisons of American Indian languages 30 years ago, and has accumulated an enormous body of data. "An estimated quarter-million entries have been collected in 20-odd notebooks, drawing together information on New World languages from roughly 3000 different sources," notes Ruhlen. "This is the largest and most detailed compilation of New World vocabularies ever assembled." It is upon these data that Greenberg has constructed his provocative hypothesis, and for which, he says, sound correspondences are useful only for testing.

These numbers may sound impressive, but, says Campbell, "Nearly every Americanist who has examined Greenberg's book finds shocking distortions in the . . . data from languages he or she knows well." Goddard told *Science* that "I have shown that Greenberg has produced some incorrect equations in his book, and that's all I need to prove to demonstrate that his method is inadequate." Greenberg admits there are mistakes in detail. "When you are working on this scale and with data that are often of very poor quality, there are bound to be errors," he says. "But this does not detract from the overall pattern."

This negative reception of his ideas is not novel to Greenberg, although the degree of vituperation is. Before he embarked on the study of American Indian languages Greenberg had applied his technique to African languages, producing a classification that, unpopular to begin with, eventually became largely accepted. According to his opponents, Greenberg should have stayed on his own side of the street. "Greenberg is an Africanist, not an Americanist," challenges Goddard. "Portions of Greenberg's African classification have not been demonstrated and are still in dispute," says Campbell, and adds: "Success elsewhere does not guarantee success in a new area."

Greenberg responds to this, saying that the American Indian work must, of course, stand on its own and not adduce the African success in its support. "Still there should be some presumption that methods successful in one area will also be successful when applied elsewhere." ■ ROGER LEWIN



#### Language families:

According to Greenberg's analysis, the 1000 or so languages of the Americas can be sorted into three major groups, two relatively recent and one, Amerind, long established.

#### ADDITIONAL READING

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