Toward "Linguistic Archaeology"

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The study of lexicons for cultural content has a long history in linguistics, of course. The primary aims of such study have been either the description of a particular cultural scene, such as the Indo-European homeland, or else the reconstruction of language relationships within a family of languages. Nearly all of these considerations have been central or incidental to the historical concerns of linguists. The archaeologists and historians have been, for the most part, bystanders in the process.

This paper maintains that a wide range of problems still remains to be attacked by linguistic means, problems of great concern to archaeologists. I propose increased cooperation between linguists and archaeologists which will redound mainly, but not exclusively, to the benefit of the latter. Some thirty years ago a similar linkage of interests took place in which physical scientists came to the aid of the archaeologists (especially with the advent of radiocarbon dating) only to find that a challenging new subfield of research was opened up to the former in the process. Benefits on an equal scale could accrue to historical linguists by the alliance I envision.

My concern with this possibility arose out of several lines of archaeological and anthropological investigation. Recounting those concerns will serve to introduce the topic. For thirty years as a Mesoamericanist, I have been dissatisfied with the prevailing views about the history of metallurgy in my area. In particular it seemed unbelievable that Peru and Ecuador could have had metalcraft vastly longer than Mesoamerica—and this has been the accepted view—in the face of substantial evidence that those two culture areas were linked by fairly regular contacts. In fact, metallurgy is now dated in the Andean area as early as 1900 B.C. But that is some 2800 years before the archaeologists think those same craft skills were introduced in Guatemala and Mexico. Poking around in neglected archaeological literature I turned up a dozen examples of metal finds extending back perhaps as far as the time of Christ. It is evident that the exigencies of preservation and the vagaries of sampling by excavators have left us with only a fragmentary record of metallurgy as a cultural activity in the material remains from Mesoamerica.

Historical linguistics had, of course, already addressed the issue in part. Millon and Longacre's presentation of the cultural content of Proto-Mixtecan noted that a term for "metal" (or at least for "bell," which was the prime product of the metallurgist in the area) was reconstructable at the level of 1000 B.C. or earlier. Subsequently, Kaufmann's work on Proto-Tzeltal-Tzotzil provided a Mayan term for metal by A.D. 500. It took but little additional effort to locate a
cognate in Huastecan, and then in other Mayan languages, carrying the metal concept back to 1500 B.C. or before. Campbell and Kaufmann's article relating Proto-Mixe-Zoquean to the Olmec civilization of the Isthmus of Tehuantepec provided another datum, with another term for metal going back to the 1500 B.C. era. Thus we now have linguistic evidence for metal use, and presumably metal-working knowledge, in three of the major language groupings in early Mesoamerica. And that evidence provides a dimension of knowledge which archaeology is not likely to come up with for many years.

Other research concerns of mine have been elucidating ancient Mesoamerican social structure and the culture historical sequence of institutional development in that area. A great deal of ink has been spilled in recent years trying to interpret settlement forms, regional site hierarchies, and population size inferred from data such as the number of house foundations. In terms of "chiefdoms" and the development of "social classes." The issues are of real moment in the study of social evolution. Surprisingly, however, little attention has been paid to the resources of linguistics in dealing with the problem. I have supposed that an "ethno-sociology" as well as an "ethno-ethnology" ought to be detectible in the reconstructed lexicons which would provide direct evidence about social developments where much of the current argument turns on inferences based on a fragmentary sample of the material remains.

Two years ago I began a project to systematize the cultural vocabulary derivable from the Mesoamerican languages. I began with a list of some 150 words which seemed important to know about as a direct supplement to what we already know from archaeology. For example, all vessel shapes were listed (bottle, bowl, comal, cup). Other categories included cultivated plants (e.g. achiote, agave, annona, avocado), fauna (cayman, dog, eagle, fox, goat), ritual architecture and equipment (censer, codex, copal, idol, temple), and implements and arms (armor, arrow, bow, knife, obsidian), metals and minerals, and so on. A similar number of more abstract concepts and social role labels were added—items like the directions, colors, names of heavenly bodies, social class and ethnic indicators, and mythic terminology. Synonyms encountered in the lexicons examined have since expanded the list still more.

The logic in selecting these terms was exactly opposite to Swadesh's in identifying the "basic vocabulary" which became the basis for lexicostatistics. My purpose is to establish links between peoples and cultures, not to work with the most conservative elements in the lexicon—the terms least likely to respond to intercultural influences. Very specific cultural labels have thus been chosen in constructing my list. With Campbell and Kaufmann, I want to know who passed which features to whom. They detected, for example, that many names of cultigens and such key civilizational concepts as to sell something, to pay for, to write, rubber, sandals, twenty, and year appear to have originated in Mixe-Zoquean, which they identify with the Olmec. At least those expressions reached the Mayan languages via Mixe-Zoquean. Unfortunately their work touched only tangentially on the cultural issues and involved only a limited portion of the Mesoamerican languages.
What needed doing next, it seemed to me in launching my activity, was a comprehensive investigation of the cultural relations hinted at by previous linguistic work. Thus I began systematically to accumulate materials relating to my list of terms for all Mesoamerican languages. Thus far, without funding beyond a little support from my department in providing a student assistant, the effort has yielded partial lists for around 50 languages, utilizing published sources available in the Brigham Young University library. At least as much more needs to be done before exhausting what is easily accessible locally. In the long run much further effort must go to working through more recondite sources.

Several problems arise, naturally. Terms in such very specific domains as are relevant to my purpose are often missing from even the major lexicons. Whereas Swadesh and his cohorts had real hope of completing a 100- or 200-word list for many languages, my problem turns out to be tougher. The way most lexical eliciting is done, even today let alone by early Spanish friars, it is inherently unlikely that published materials on Chol or Mangue or Totonac will contain equivalents for "dysentery," "divination," "demon," or "dish." Complete lists of nearly 400 hoped-for items I aim for will never be forthcoming, in all probability. But the instant task is simply to see what can be found. Beneficial results will come even short of the exhaustiveness desired. For example, words for "cotton" are available, so far, for about fifty languages. Further searching not only in general lexicons but in the specialized literature of ethnobotany could raise that by thirty more or so. Simple inspection of this list raises intriguing questions about the history of cotton(s), but most of the answers will have to wait on systematic work by linguists, of course. For the planet "Venus" or "omen," on the contrary, the pickings are slim—only half a dozen terms in all. Thus at this stage of the work, costly reconnaissance in the sources is required even to learn the possibilities.

The effort involved here may seem excessive for the benefit. The importance of the work to culture historians will be clearer if I mention a few of their problems which seem as if they might yield to this approach.

The classic material with which archaeologists work is ceramics. Much more than half the total work in archaeology, at least in Mesoamerica, involves excavation of broken pots and analysis and description of the fragments. Inferences are made, sometimes tenuously, about "trade" links between regions, and "influences," or even "cults," are supposed to have been felt in distant spots. The basis for such reconstructions is often certain highly specific technological characteristics exhibited in the sherds. The reason for the emphasis on ceramics is their ubiquity and abundance. Yet language is equally ubiquitous, and for the student of culture language has a substantial advantage over examining utilitarian objects—when a word is used, a concept is surely involved. The chain of inference is usually much shorter than when doing sheer archaeology. When only a ceramicist's technique or a stylistic feature can be seen, we remain uncertain of the concepts behind it. Study of that point in historical settings has demonstrated repeatedly that sharing of similar artifacts by two groups need not reflect congruence...
in their social structures, world views, or any other sociocultural characteristics of consequence. So discovering what cultural concepts were present in an area anciently by means of historical linguistics has real advantage over archaeological reconstruction of the past using ambiguous potsherds.

Another substance dear to the archaeologist these days is obsidian. That substance was a prime material from which tools were made. It occurred in nature at only a limited number of volcanic outcrops. Each flow has its own characteristic chemical composition. Ninety percent of the sources in Mesoamerica have now been identified and their chemical compositions are known. Consequently, when we locate obsidian points or chips in a site, we can know from which spot it was imported. For thousands of years certain obsidians were transported or exchanged for hundreds, and even thousands, of miles for either routine or ritual use. A large literature has appeared sketching "trade" relationships whose marker substance, obsidian, we can know specifically as to provenance. At certain historical periods sources of supply changed markedly, which must be related to political and economic relationships. But so far, nobody has studied the related linguistic materials to supplement the results from hard science. When a new obsidian chipping technique or a new point type appeared, would ideas not have accompanied the innovations? And might not linguistic reconstructions offer a chance to shed light on those?

Yet it is in the less well-preserved domains of culture where language comparison is most promising. Terence Grieder and Alberto Bueno Mendoza reported last year from a site in Peru that remains of mangos and bananas had been discovered by them. An archaeologist promptly wrote to say that they were surely mistaken, for those two fruits "were introduced to tropical America by the Spanish and Portuguese following their conquest of the New World." The excavators promptly assured their colleague that indeed they had found what they said, regardless of the supposed historical "fact." The likelihood of establishing the presence of other plants by excavation alone is slim, given the problems of preservation and sampling. Language could tell us more. In Mesoamerica, interestingly, the Atlantic side seems to lack a term for "banana," agreeing with reports by the Spaniards that they introduced the fruit there; however, on the Pacific side of the area a number of languages have names for this fruit. On the face of it one might be able to reconstruct one or more early words unconnected with Spanish influence. The archaeologists and botanists would be benefited by knowing more from those sources.

Gareth Lowe hypothesized some years ago that small obsidian chips discovered in certain places in southern Mesoamerica had been glued to boards in the manner of grinding implements used in lowland South America to prepare manioc for food use. He proposed that manioc had been an important crop in early times in southern Mexico, something unattested in the historical documents. For a fraction of the time, energy, and paper consumed thus far discussing and experimenting with this interesting idea, the total repertoire of names for manioc in Middle America probably could have been developed and interpreted.
Similar questions could be asked about the distribution and time depth of such features as moat-and-wall fortifications, the trophy-skull rack called by the Aztecs tzompantli (which may have been found recently in an excavation dating to B.C. times), the forms of the calendar, occurrence of several forms of intoxicants and hallucinatory drugs, and so on.

Vincent Malmström, an expert on the Mesoamerican calendar, has hypothesized that the complex features in the calendar system originated in a particular sequence, based upon internal calculations and logic. If one wishes to test his view, there are two possibilities, if only archaeological evidence is considered. On the one hand, we can hope for discovery of a sufficient number of monuments which happen to include epigraphic data or some other representation of calendrical information as such, or, on the other hand, do the costly type of investigation known as archaeoastronomy, in which the orientation of sightlines in relation to solar, lunar, and astronomical events are related in historical patterns. By either route, over many years of expensive effort, it might be possible to substantiate, by inference, Malmström's ingenious proposal. Far more effective, and infinitely more economical, would be a thoroughgoing investigation of the complete set of relevant "linguistic artifacts." Inasmuch as the terminology of astronomy, calendar and ritual gives us fairly direct access to the conceptual domain of the ancient peoples themselves in their chronological and regional variations, good sense and economy suggest this approach.

A major thrust in archaeological theory and method in recent years has been to develop research designs based on testable hypotheses or even theories. The assumption is made by the archaeologists that only the most ingenious and comprehensive investigation of the material remains can adequately address these theoretical formulations. Yet it is surprising that virtually nobody among these scholars has considered seriously the systematic use of the data from historical linguistics, which promise results using far simpler designs.

I suggest that failure to utilize historical linguistics fully in dealing with such issues results from two facts: (1) the linguists have thought only of doing reconstructions for their particular concerns, while (2) the archaeologists have not possessed the skills necessary to perform the required labors. Only collaboration between the two fields will solve the situation.

I now wish to spell out the steps necessary to produce reliable results from my present project and then suggest further possibilities.

Step 1. Continue examining published sources in Mesoamerican linguistics until the reasonably accessible ones have been processed. (These data are being recorded on standard forms cross-listed in English and Spanish.)

Step 2. Discover and examine additional sources in the specialized literatures (e.g., ethnobotany, history of Mesoamerican medicine) in order to supplement name sets in domains where conventional lexicons have left serious gaps.
Step 3. Standardize the orthography. (Thus far the original orthography has been retained, but the author's description of his orthographic system has been appended to the notes.)

Step 4. On another form place similarly-glossed terms from all languages grouped by stocks, families, and subfamilies. Arrange those forms into sets by domains.

Step 5. Reconstruct proto-forms, term by term, utilizing standard works in historical linguistics of Mesoamerica as far as they are useful.

Step 6. Reconstruct directions of borrowing and actual loans in the fullest terms possible, using mapping techniques where helpful.

The whole process might be abbreviated upon attempting Step 5 by lack of appropriate material. A plausible way to proceed then might be to engage in fieldwork where informants in as many relevant languages as possible are sought out whose specific cultural knowledge would be sufficient to permit eliciting the terms desired, though obscure.

The historical linguist may wonder at the apparent naivety of some of the steps outlined. Obviously they differ greatly in complexity, and if the end could be seen from this near the beginning, those most complicated would be subdivided. Moreover, the plan reflects my aims in relation to culture history rather than reflecting methods required. Such shortcomings show all the more why the collaboration of linguists in the project is crucial.

The results clearly would not yield standard linguistic products—the description of a single language system or the reconstruction of some "genetic" relationship. But I believe that novel benefits would result. It seems to me that in their urge to follow out the implications of the genetic model, historical linguists have given short shrift to the phenomenon of borrowing, treating it as a necessary evil. Yet for linguistics to understand the phenomenon of language in the fullest sense, far more needs to be learned about the cultural processes accompanying borrowing between languages. Just as the study of pidgens and creoles had to come out from under a shadow of quasi-illegitimacy, perhaps the systematic study of how language expressions enter one language from another may gain its day in the sun. Certainly the rate of borrowing has never been so high as in the 20th century, and the importance and inexorability of the process worldwide seems matched only by our ignorance of the parameters within which it goes on.

Finally, I invite collaboration by those who can help make my project linguistically respectable. If the task seems odd or even unmanageable, at least the aim is noble.
References


