

THE USE OF ANALOGY FOR
INTERPRETATION OF MAYA PREHISTORY

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Abstract

Many reconstructions of the prehistoric culture of the southern Maya lowlands include extrapolations from ethnographic descriptions. Although we lack data at present for a proper application of the "direct historical approach" we need not resort to "general comparative" analogy, because there are ethnographic accounts from adjacent areas which could potentially elucidate the archaeological record from the southern lowlands. Either a diachronic or a synchronic approach to analogic interpretation utilizing these ethnographic descriptions is possible and both are used by Mayanists. However, most of these analogic interpretations suffer from a lack of rigor and thoroughness and also fail to include tests of the reconstructions against the relevant archaeological data. It is apparent that Mayanists need to improve their use of the analogic method. This article suggests an improvement in method leading to a more rigorous approach to analogic comparisons.

This method, called "archaeological translation" includes three steps, the first of which is to establish the archaeological information and secure inferences therefrom for each aspect of the ancient culture to be investigated. Next, the corresponding ethnographic data are translated into an archaeological context. That is, the prehistoric

culture is reconstructed as if the ethnographic descriptions were directly applicable to it. Finally, the likelihood of each "translation" is evaluated against the previously established archaeological record.

The past several decades have witnessed a number of changes in Maya archaeology.¹ Interests have expanded beyond the description of the prehistoric appearance of a site to include the political structure, communal organization and other features of the extinct society. Interpretations of the prehistoric sequence are no longer set within the framework of an "Old Empire" based in the southern Maya lowlands and a "New Empire" in Yucatan. Field investigations include much more than the excavation of monumental structures; studies of prehistoric land use and patterns of settlement are increasingly common. To answer questions raised by these wider interests of today, students of Maya prehistory make use of three sources of information: the archaeological context of prehistoric remains, experiments which attempt to reproduce ancient artifacts or structural features, and similarities between prehistoric remains and ethnographic data. Mayanists' use of the latter source is the subject of this article.

Although the primary source of archaeological inference and verification lies in the prehistoric data, archaeological remains are at best incomplete samples of the past. This is especially so in tropical areas, e.g., the southern Maya lowlands, where climatic factors are often detrimental to preservation. Beyond this, the association between artifacts has proved to be a problem in Maya archaeology because the prehistoric people themselves often destroyed the original association. The Maya regularly reused ancient refuse and otherwise mixed temporally and functionally different artifactual assemblages (Satterthwaite and Coe

1968: 3). A third reason for deficiencies in the indicative quality of the archaeological record is that some cultural traits are not represented by material objects. This is not to say that entire cultural subsystems are unrepresented; it sometimes occurs, however, that those traits which are undocumented in the prehistoric record are critical to the verification of a hypothesis.

In many instances, therefore, patterns of behavior cannot be inferred from the prehistoric remains alone (Clark 1953; Smith 1955). In these cases analogy may be used either to add the missing details or as an aid in the discovery of the information--as Clark says, to "prompt the right questions" of the prehistoric material (Clark 1953: 37). Analogy has been defined as "a form of inference in which it is reasoned that if two things agree with one another in one or more respects, they will probably agree in other respects as well" (Merriam-Webster 1956: 32). The type of reasoning involved in analogic comparison is extrapolation, i.e., projection by inference into an incompletely known situation from observations in an explored field, on the assumption of correspondence or continuity (ibid., 294). Although study can begin at either end of the time scale, i.e., the present or the past, archaeological analogy proceeds from the historically known to the prehistorically unknown (Ascher 1961: 319). If, for example, ethnographic and archaeological data can be demonstrated to be similar in particular attributes, it can be postulated at least tentatively that they are alike in other characteristics as well.

It has frequently been noted that two types of analogy, direct historical and general analogy, are commonly used in archaeological

interpretation (Ascher 1961; Binford 1967: 1-3; Clark 1953: 354-357; Willey 1953a: 372). In those areas of the world, e.g., the American Southwest, where historical continuity exists between contemporary and prehistoric people, similarities in the form of prehistoric and ethnographic items allows the proposition that the associated behavior was also similar. The first American archaeologists to use the "direct historical method" are Strong (1935) and Steward (1933, 1938); both have succinctly stated the approach as inference from the known to the unknown (Strong 1953: 393; Steward 1942: 337).

If the demonstration of prehistoric-historic cultural continuity is not possible, general analogy may, nevertheless, be used for archaeological inference. General analogy allows that a prehistoric culture may be compared with a contemporary one even though the two are not within the same cultural tradition. However, the two groups should be at the same level of subsistence and live in comparable, although not necessarily identical, environments (Childe 1956: 51; Willey 1953b: 299; Clark 1953: 354-357).

Neither of these categories of analogy is applicable in its usual form to the study of the Classic Period Maya of the southern Maya lowlands. Maya groups are known to have lived around Lake Peten Itza during the Postclassic (Cowgill 1964: 150; Roys 1957: 140-141) and into the historic period (Morley 1938: vol. 1: 26-27; Thompson 1951: 389-390), and the present-day village of San Jose is occupied by Maya-descendant peoples (Reina 1967). However, the relative lack of historic or archaeological information about these peoples precludes the rigorous analysis necessary to the proper application of direct historical analogy.

Moreover, several of the groups were Postclassic refugees from Yucatan (Cowgill 1964: 150, 156). On the other hand, we need not resort to the usual form of general analogy, since Maya peoples are known from lowland areas near the Peten, i.e., the northern Yucatan Peninsula and British Honduras, as well as from the Guatemala and Chiapa highlands.

There are, in brief, two approaches to analogic interpretation utilizing this ethnographic information. In a synchronic approach, the data on all relevant cultural categories are compiled from each ethnographically-known Maya people. These data from each group are then compared with the corresponding archaeological material to assess the degree of likeness. Finally, the investigator determines which ethnographic pattern best corresponds to the archaeological data. Or, alternatively, the investigator may compare the ethnographic data to see if a particular cultural pattern is common. If so, this feature can be assumed to have been present prehistorically.

In a diachronic approach, closeness of historical connection determines the selection of analogs. By this method, a cultural continuum, represented by an historic group, is selected and contemporary patterns are compared with successively earlier data within that continuum. Since precise information on the diachronic relationships between many historic and prehistoric Maya peoples is lacking at present, it is impossible to list all of the cultural continua in southern Mesamerica. An example, however, is the Putun, or Chontal Maya, of Southern Campeche and adjacent Tabasco (Thompson 1970: 3-47).

For several decades, Mayanists have employed ethnographic data to aid in the reconstruction of pre-Columbian societies. Many of these

efforts in recent years have been directed at interpreting the prehistory of the southern Maya lowlands. Several reconstructions of prehistoric Tikal include interpretations based on analogy (Coe 1963; Haviland and Coe 1965; Haviland 1963, 1965, 1966a, 1968a). Publications by Bullard (1960, 1962), Holland (1964), and Vogt (1961, 1964b, 1969) contain extrapolations from present to past time. Although two forms of analogic comparison have been used by these investigators, neither approach is a systematic application of either the diachronic or the synchronic method. One form, illustrated by the writings of Bullard and Vogt, is an incorrect application of the diachronic approach. These investigators extrapolate from one ethnographic people directly to a prehistoric culture, without taking account of possible cultural change within the intervening years, no less than a millenium, or even determining whether the prehistoric and contemporary peoples are part of the same cultural continuum. An obvious fault is that present-day patterns might be speciously imposed on the prehistoric culture. The important principle of testing is omitted (Thompson 1958).

Another approach which is used by Mayanists today (Coe 1963, Coe and Haviland 1965, Haviland 1963) is an imprecise synchronic comparison. Data from several contemporary and historic sources are simultaneously employed to elucidate ancient patterns. The advantage is that the ethnographic data are selectively applied as they seem to fit the prehistoric remains, but at fault is the seemingly random possibility of incorrect comparisons.

It is apparent that the current applications of analogy in Maya studies are not wholly satisfactory. We need, first, an improvement

in our use of the analogic method. Secondly, it is probable that there are yet undiscovered documents in Latin American and European archives which would shed light on Maya culture at the time of Contact. A thorough examination of these unpublished materials and an assessment of their usefulness for extrapolation to prehistoric times should be made. Hellmuth's (1969) recent search of Guatemalan and Mexican archives revealed a number of forgotten manuscripts which might help to reconstruct pre-Conquest cultures, but these are yet to be evaluated.

An aim of this article is to suggest an alteration in method leading to a more rigorous approach to analogic comparison than has been used in the past. This method was used by the author to help interpret archaeological remains from the Maya site of Navajuelal (within the Tikal National Park, Guatemala) and to reconstruct aspects of the prehistoric culture there (Green 1970). A major benefit of the approach is that it offers the investigator a thorough and rigorous method of checking potential analogs against the prehistoric remains, thus avoiding the major failure of many analogic reconstructions, the omission of tests of the inferred similarities.

The method, which might be called "archaeological translation," because ethnographic data are "translated" into prehistory, involves three steps. Since the ultimate recourse for the verification of any inference about prehistory is the archaeological data, the initial step is to describe the prehistoric remains and to point out the interpretations, both tentative and secure, which these data indicate. - It is worth emphasizing that no comparisons between the prehistoric remains and ethnographic materials is made at this stage. Rather, inferences about the ancient culture are made from the remains alone.

For ease of analysis, the data should be topically presented. If the study is directed toward the reconstruction of selected aspects of the prehistoric culture rather than the whole system, data are organized according to the categories of interest. In those cases where the investigator aims to reconstruct as complete a picture as possible of the ancient patterns, the topics of analysis should be chosen on the basis of archaeological relevance and applicability, and for their potential to elicit information about the role of the site in the regional community.

At the second step, the investigator chooses one or more ethnographies which he suspects might produce useful data for analogic interpretations. His prior knowledge of the area should suggest ethnographic descriptions which are likely to yield fruitful comparisons. For each topic, the cultural patterns from one ethnography are presented and these are "translated" into the archaeological context. That is, each topic of the ancient culture is reconstructed as if the ethnographic data were directly applicable. The reconstruction is based solely on information from one ethnography, without the inclusion of archaeological data. If more than one ethnography is used, as would be the case if one wished to assess the analogic value of different ethnographic descriptions, information from the separate descriptions must not be mixed or lumped into a single reconstruction.

Next, the likelihood of each "translation" or reconstruction is evaluated against the archaeological data which was previously presented. Provided that the archaeological and ethnographic facts are thoroughly and correctly established, the investigator can judge the degree of similarity between the translated reconstruction and the prehistoric picture as established by the archaeological remains. If the two appear to

coincide, then the ethnographic data may be validly used to "flesh-out" the archaeological skeleton. At times the archaeological data will conclusively support a "translated reconstruction." In other instances, however, the remains will be ambiguous, neither supporting or negating the reconstruction; or the remains will not be of sufficient quantity to check the reconstruction. In either case, the method exposes each comparison so that both the investigator and the readers can assess the likelihood of the potential analog. Moreover, the reasons for accepting or rejecting a reconstruction are explicitly stated, so the work can be reviewed if new data are uncovered.

In cases where the direct historical approach is precluded, it may still be possible to apply a modified diachronic approach, in which one or more sites which are temporally intermediate between the historic and prehistoric descriptions are included. The purpose of so doing is to check for modifications in the cultural continuum represented by the ethnographic patterns.

Example of the Method

The following example is a condensed version of a topic--settlement pattern--from the author's dissertation (Green 1970). Because of space limitations, the example includes steps two and three only. The descriptions of the archaeological data which bear on settlement at the site of Javajuelal (constructed and occupied during the Classic Period) and in the surrounding locality are too extensive to include here, but can be found in the publication cited above. Also, in the original publication two ethnographies were compared in order to assess their analogic value for interpretations of ancient lowland Maya cultural patterns. Since one

example is sufficient to illustrate the method, the data pertaining to the 16th century Yucatecan Maya is summarized here. Finally, our information about the Postclassic Period site of Mayapan (ca. A.D. 1250-1450) is sufficient to extend the known Contact Period patterns of settlement back a few hundred years.

Contact Period Yucatan

Regional settlement included both large and small nucleated clusters of residences, religious, and administrative structures, between which were farm lands, quarries, and forests. At least one reason for the clustered pattern was warfare and raiding, which were common at this time (Herrera Ch. III in Tozzer 1941: 217). Undoubtedly of equal importance was the fact that water was available over most of Yucatan during much of the year only at cenotes; thus, permanently occupied structures would necessarily have been constructed around waterholes. An effect of nucleation, although not specifically mentioned in 16th century sources as a reason for this settlement pattern, was to free rural land for cultivation. In some instances, the clustered nature of towns was further accentuated by a wall around the community, e.g., Mayapan, Tulum, Chacchob, Zelha (Pollock 1965: 395; Tozzer 1941: 25).

Settlements within the provinces ranged from small villages composed mainly of farmers to larger towns which were the centers of government, trade, and religious activities. The latter received the greatest flow of goods in the form of tribute from nearby locales and trade goods from as far away as Mexico and Nicaragua.

Community Settlement Pattern

The socio-economic stratification of Yucatecan Maya society was reflected in the physical composition of towns. The location of

structures can be seen (in the abstract) as a series of concentric circles with temples, other public structures, plazas, and markets in the center; residences of priests and nobles next, houses of other important people (wealthy commoners) around these; and finally, houses of commoners at the outskirts (ibid.: 62; Herrera in ibid.: 217; Relaciones de Yucatan in ibid.: 62). There is no mention of building alignment on any directional axis nor, apparently, according to any preconceived plan.

The number and kinds of public buildings in a town apparently varied with the size of the community. Five specific public buildings can be identified from the Contact sources: a municipal hall (popolna) where public affairs were discussed and ceremonial practice took place (Motul Dictionary, in Roys 1940: 40), a men's house, temples for public ceremonies (Tozzer 1941: 132), leader's private religious sanctuaries (ibid.: 109), and storage structures (suggested in Roys 1965: 670). In addition, markets were held on centrally located plazas (Tozzer 1941: 94). Thus, town centers were the location of a variety of both secular and religious activities and to some extent different kinds of events took place in differently constructed structures. Therefore, the complexity of activities in a town would tend to be mirrored by the variety of structure types.

Residences

The typical residence consisted of the house of the head of the family, smaller structures of married offspring, a family sanctuary, and apparently both above and below ground storage constructions (ibid.: 41; Lizana pt. 1: II in ibid.: 18). The houses were of two tandemly arranged rooms divided by a longitudinal interior wall (ibid.: 86). Often

the front room was not walled but was protected by a low, sloping roof. Walls and roof were commonly of perishable material, the front walls covered with stucco (ibid.: 51). Raised wooden beds formed a permanent furnishing in the rear room and at least in winter, fires were built in the houses (ibid.: 86). The rear room was used for sleeping and the front for entertaining gueses (ibid.: 86). In addition, the town batab's house sometimes served as the location for municipal administration. This description of house construction, although not necessarily house plan, is duplicated by several other Contact sources (Roys 1962: 181-184).

Social status was reflected in house construction. Houses of wealthy persons were of stone masonry or, if of perishable materials, were larger and more elaborately decorated (painting on stucco walls) than the usual (Tozzer 1941: 86, 171). In either instance, commoners built and maintained the houses of nobles.

Landa mentions burial of commoners at the rear of the deceased's house and cremation and burial of nobles within temples (ibid.: 130). Grave goods included food and other items necessary in "the other life" and items used by the deceased. Thus, status and economic differences during life were reflected in location of the grave, treatment of the body, and included grave goods.

Comparison with Mayapan

Nothing can be said from the Mayapan data about the total regional settlement pattern. However, excavations there support settlement in nucleated clusters composed of residential and non-residential structures arranged around several cenotes and, in this case, enclosed by a wall (Pollock 1962: 215, site map).

Furthermore, the site conforms to Landa's description of community layout at the Contact Period. The largest concentration of religious and civic structures was near the center of the walled city (ibid.: 89-126). These have been identified as temples, oratories, altars, shrines, monument platforms, possibly dance platforms, service buildings, housing for visitors, and colonnaded halls used both for men's houses and the residences of priests and novitiates. Although no structure was identified as a municipal hall, it is possible that some of the colonnaded halls, especially those adjacent to the largest temple and in the center of the non-residential area (ibid.: 117-118) were used for administrative purposes.

The few residences around the centrally-located civic-ceremonial buildings conform both in location, and size and elaborateness of construction to Landa's description of houses of nobles around the civic center. Most of the remainder of Mayapan was composed of smaller and less elaborate dwellings. Although not consistently, larger dwellings do tend to be nearer the center of the site and smaller ones at the outskirts (ibid.: site map); thus, if house construction reflects wealth distribution, the residences of wealthier individuals were near the center of the city.

Structures do not conform to any formal layout but tend to be located on slight elevations in terrain (ibid.: 244; site map).

Landa's description of residence groups is also duplicated at Mayapan, although some single dwellings also occur (ibid.: 296). In multiple-dwelling groups, one house tended to be larger than the others, suggesting that it was occupied by the head of the household. The smaller dwellings could have been occupied by married offspring. Other structures

in the group included storage rooms, oratories, altars, shrines and, unmentioned by Landa, kitchens. The latter occurred as separate platforms adjacent the end of houses or within dwellings (ibid.: 219-220). Also not specifically mentioned in the Contact sources, shrines were sometimes located within dwellings (ibid.: 219, 228).

Although not mentioned by Landa, dedicatory offerings were associated with dwellings as well as with oratories, shrines, and altars at residence groups. Structure caches tended to be along the central axis, sometimes in the platform fill in front of the structure (ibid.: 202).

Burials were not customarily located at the rear of the structures, although about half of those found at residence clusters were associated with dwellings (ibid.: 251). Most of the more elaborate graves were in the more imposing houses.

Application to Navajuelal (Archaeological Translation)

Reconstruction and Evaluation (For expediency and readability, the reconstruction and evaluation are combined in this section.)

Application of the regional and community patterns demands that both residence clusters and public structures be concentrated around one or more cenotes and surrounded at least by farmlands if not forests. Public buildings and residences of nobles and wealthy commoners would be in the center, surrounded by those of the remainder of the community. A glance at the map of Navajuelal (Green 1970: Fig. 3) shows that structure location in the locality does not fit the pattern of compact nucleated settlement. On the other hand, if the Yucatecan pattern were simply expanded spatially, certain resemblances become evident. The three Navajuelal groups which include a variety of public structures would be analogous to the town center, and the two excavated loci on

Group SE-2 and perhaps some masonry range-type structures such as Str. SE-423 would house government and religious officials or wealthy individuals. The small structures around the site appear analogous to residences of commoners at the outskirts of Yucatecan Maya towns. Finally, the comparatively unoccupied high land north of the site would have been planted in milpa.

Another point of comparison is the location of residence groups and "concentrations" around the site on high ground but apparently not according to any formal layout. Here, as at Mayapan, residence location seems to follow differences in terrain rather than a preconceived plan of directional layout. This comparison allows the possibility that the Navajuelal community settlement pattern is analogous to that of Mayapan and protohistoric sites. If the remainder of the ethnographic description of the Yucatecan Maya is applicable, the following reconstruction can be made.

Based on the hypothesis that heterogeneity in structure types reflects a variety of activities--a hypothesis supported by the composition of Yucatecan towns--Navajuelal was the location of both civic and religious activities. Interestingly, the north part of Group SE-1 included a cluster of masonry range-type buildings and low platforms which could be functionally identical to the Postclassic Yucatecan buildings mentioned previously.

Moving to residence complexes, the pattern of several structures clustered around a plaza is duplicated by surface evidence of small structures near the three Navajuelal groups. Moreover, the two structures excavated at Group SE-2, both of which were judged to be domestic buildings on the basis of archaeological evidence, can be

interpreted as forming a residence group with the nearby chultun as an associated storage unit. Although the known structures here are fewer than those mentioned by Landa, two structure groups are common at Mayapan. By analogy, Str. SE-410-2nd and -1st were the houses of the heads of the household and Str. SE-409 was either a kitchen or the smaller residence of a married offspring. Furthermore, the layout of structures on the northeast side of Group SE-1 resembles a residential group.

Sixteenth Century Yucatecan and Mayapan house construction was similar in many ways to that of Str. SE-410-2nd and -1st and Str. SE-409. Specific dissimilarities are the two-level construction of Str. SE-410-2nd and -409; walls around both rooms of Str. SE-410-2nd and -1st; absence of benches. Despite the few differences, the description of 16th century Maya houses supports the archaeological indications that these buildings were domestic in function. Furthermore, although caches are not known to be associated with residences elsewhere in the Tikal region or at the site of Tikal, the association of Problematical Deposit 219 (placed in a cache position; i.e., axially in front of the structure) with Str. SE-410-2nd does not preclude a residential function of the locus, since dedicatory caches were found with dwellings in Mayapan. If a residence, however, the presence of this problematical deposit suggests that the function of the structure was more than that of an ordinary dwelling.

No burial was found at either Str. SE-410 or -409, but if one or both were occupied by an important person, this individual might have been buried under a temple (cf. Coe 1963: 57, 59). Or, since the data from Mayapan indicate that burials could be located almost anywhere

around a residence, burials near these structures may not have been found since the entire loci were not excavated. A burial was associated with Str. SE-423, possibly a residence. Landa's statement concerning the burial of nobles adds support to the archaeological indications that the individual interred in Str. SE-430 was an important person.

Many of these similarities in burial customs and residential settlement apply to Tikal also (Haviland 1963, 1968: 97). Although different in some details, dwelling size, tandem room arrangement, specially built kitchens off the ends of houses, architectural variation from simple to elaborate dwellings, burial near or in houses, abandonment of dwellings after the death of a resident (seemingly of the head of the household), inclusions of grave goods seemingly used by the deceased and degree of variation in burial patterns are similarities between the Late Classic Tikal region and Protohistoric Yucatan.

Concluding Remarks

This approach has the advantages of being methodical, rigorous, and thorough. For each specific reconstruction, data are drawn from only one ethnography rather than from several sources simultaneously. Moreover, each reconstruction is carefully evaluated against the archaeological remains, thus fulfilling the caveat to test each postulate and also adhering to the dictum that the ultimate check of any reconstruction is the archaeological data.

On the other hand, the method does not escape the limitations of incomplete archaeological remains. Some specific problems in the southern Maya lowlands were mentioned previously, e.g., problems of preservation due to natural and cultural factors. Another drawback

is that the process is time consuming. However, the time spent is rewarded by the fact that incorrect analogs will not be speciously imposed on the archaeological data and by greater accuracy of the comparisons

NOTES

¹For a review of Maya archaeology in the past decade and a brief summary of investigations prior to 1968 see Adams 1969.

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