Indications of Social Class Differences based on the Archaeological Evidence for Occupational Specialization among the Classic Maya at Tikal, Guatemala *

Marshall Joseph BECKER
(West Chester State College)

Two distinct models regarding the structure of the Classic period Maya social class system developed during the history of archaeological research in Central America (Becker 1979a, 1979b). The more simple model postulates the existence of only two social classes (priests and peasants) widely differing in power and wealth. This interpretation had been developed by J. E. S. Thompson (1954, 1970) as a simplistic explanation of Maya society and was propounded only in the author's popular works. However, that idea came to be used by many scholars (e.g. Bullard 1960). Within the last score of years other investigations have proposed models of Classic Maya society suggesting that numerous social classes existed, thereby inferring greater cultural diversity. These contrasting theories are of considerable importance in Maya studies as they influence our interpretations of data which have been produced to date and also direct the course of future archaeological investigations. Furthermore, the means by which such data are interpreted is of general importance to archaeology in general. Therefore, strict attention should be given to the theoretical considerations used in the reconstructing ancient society on the basis of available evidence. Likewise,

* *Acknowledgements:* The basic data for this paper were collected while the author was a member of the Tikal Project of the University Museum, University of Pennsylvania. The sponsorship and support of the Tikal Project is greatly appreciated. My sincere thanks are due both R. E. W. Adams and N. B. Schwartz for their kind suggestions regarding earlier drafts of this paper, and to D. Bryce for her aid in the preparation of this manuscript. The last stages of research for this project were assisted in part by a grant from West Chester State College. The basic ideas contained in this paper as well as any errors of fact or interpretation are entirely the responsibility of the author.

tests of such theories should also be devised to insure the validity of basic assumptions and the probable accuracy of models being used.

Thompson's observations of Maya architecture and artifacts led hom to conclude that the Classic period Maya were not living in an egalitarian society, such as proposed by Vogt (1956). However, Thompson's popular publications (e.g. 1970) continued to state that the Maya had a dichotomized social class system of «priests» and «peasants.» Although this idea was unsupported by evidence from sites such as Tikal, Altar de Sacrificios, and Yaxhá, several Mayanists accepted this popular «model» as a valid interpretation of ancient Maya social class structure (see Becker 1979a).

Numerous contemporary scholars are in agreement with some observations made by A. V. Kidder (1947, 1950) over thirty years ago. Kidder stated his belief that the lowland Maya generally lived in large and well-populated cities. Most certainly these urban centers were not *densely* populated by contemporary standards, but they appear to have maintained fairly large populations throughout the Classic period. Haviland (1970), for example, seeks direct archaeological evidence for «urbanism» at Tikal, Guatemala. Haviland proposed three criteria for demonstrating the existence of «urbanism» at an archaeological site: nucleation, large population, and socio-economic diversity. Haviland, (1970) presented direct evidence for the first two at Tikal, but archaeological indicators of socio-economic diversity were lacking. A similar problem confronted Willey and Shimkin (1971:6) in their consideration of the information regarding Maya socio-political structure. Although they use several lines of reasoning to infer that Maya society was ranked from as early as the Preclassic period, these authors find that the evidence for «the development of a class society, is not yet clear from the archaeological record-or from the way different authorities interpret it.» (Willey and Shimkin 1971:6).

A brief mention of recent observations regarding the possiblity of Maya society consisting of diverse and possibly ranked social classes reflects a growing concern with this theoretical point of view. One of the first statements regarding the possible existence of a complex social class system among the ancient Maya was made by Kidder (in Smith 1950:4-8), who correlated the development of Classicism with .the advent of a large population and of occupational specialization. When Kidder wrote this the prevailing model used to interpret Classic Maya culture assumed the existence of a polarized pair of social classes (priests and peasants). Kidder inferred a much more complex structure despite his lack of direct artifactual evidence. Examining the available data in order to understand the Preclassic and its relationship to subsequent cultural behavior, he characterized «Mamom» times as a period when simple farmers were living in small communities through-

out Peten (Kidder, in Smith 1950:8). According to Kidder, the development of the Classic period is marked by considerable population increase requiring a highly efficient economic and social system to organize the people. He specifically stated that there were included in this system «...the ruling class, the priesthoods, their servitors, [and] all sorts of specialized artisans and craftsmen» (Kidder, in Smith 1950:8).

Kidder's views on the existence of specialists in various crafts gradually gained support from the archaeological evidence. Brainerd (1954: 73), for example, examined the Bonampak murals and concluded that these depictive sources offer indirect evidence of a complex social situation. Other indirect indications of the existence of occupational specialists among the Classic period Maya have been noted (Adams 1970). Adams' review, which is based largely on depictive sources and primarily intended as theoretical statement, opened the way for research into this aspect of Classic Maya culture.

In proposing a model of Maya social classes Adams (1970), following Brainerd (1954), deals primarily with an analysis of art work and the artifacts which could be identified as the goods or products of specialists. Adams' reconstruction postulates a model of Maya society incorporating a four level class system. At the lower end of this system are unskilled laborers. The second level includes semi-skilled workmen and part-time tradesmen. The third level is populated by skilled crafts specialists, who provide the technological abilities to support the fourth level or upper class population. Adams characterized this fourth group as the religious-political military elite.

Haviland's evidence from Tikal attempts to utilize direct archaeological information in his model of Maya society. However, until recently *direct* evidence for occupational specialization and correlated class distinctions has been relatively sparse. Such evidence may be sought through indications of differential access to goods and services (burial goods, structure size) and for large population size (number and size of structures in a group), which may be combined with linguistic reconstruction and suggestions of occupational specialization (see Becker 1971:101-108). These data would provide tangible indicators for a complex social class system such as postulated by Adams. The direct evidence for full-time occupational specialists at the site of Tikal now has been presented (Becker 1973). These data on occupational specialization help to deal with the larger problem of developing a model for Classic Maya (A.D. 300-900) social structure. The information on the development of a class society sought by Willey and Shimkin (1971:6), may in part be provided by information from Tikal. Therefore, the question at hand is whether these data provide added dimensions to basic ideas concerning Maya class differences.

Hypothesis

The basis for this paper is the following hypothesis: an analysis of the evidence for occupational specialization which existed among the Classic Maya at Tikal, Guatemala, provides a basis for the identification of distinct social classes. These classes can be recognized through an analysis of the archaeological data provided from the structures and burials found associated with residential groups identified as being inhabited by persons engaged in specific occupations. Although the mechanisms for demonstrating that certain occupational specialities co-vary with specific social classes is not yet available, a review of the evidence provides an indication that certain residential groups may be ranked according to size (number and arrangements of structures) as well as the wealth of associated burials. If Adams' suppositions regarding the status or class position of various occupations are correct, then correlated differences in social behavior which have archaeological reality should exist and the occupations of residents of architectural groups may be graded on a status related basis. The intent of this paper is to demonstrate that occupations associated with similar social classes tend likewise to be formed in residential groups which conform to a single «pattern» or Plaza Plan (see Becker 1971).

Many of these qualitative differences among residential groups were not perceived by earlier scholars because of limitations in the extent of their excavations. Lacking such extensive excavations as those conducted by the Tikal project many scholars simply associated all «valuables» with a priest class and assumed that the peasants lacked noteworthy goods (Thompson 1954:89). Similarly, masonry buildings of almost every configuration had been considered as being ceremonial in function («priestly») or as belonging to the ruling class (Thompson 1931). The «peasants» were believed to live in only the most rude dwellings. Thompson's popular statements regarding the use of Maya vaulted constructions were based primarily on limited excavations in relatively small sites in British Honduras (Thompson 1939).

With new and extensive evidence at hand attention may be focused on the recognition of differences within categories of construction. Precisely these differences, when considered together with absolute size and number of structures in each residential group, should provide evidence of the social system which has been inferred for the Classic period Maya.

In order to develop proper focus for these problems attention must be given to defining the significance of various architectural features in the Maya area. Chowning and Haviland (1961) argue that the sheer volume of small structures at Tikal indicates that many, if not most, of the more than 2000 had residential functions (see Carr and Hazard

1961). These structures, however, do not stand alone but rather appear to be grouped into small clusters. At Tikal each such cluster of buildings oriented toward a single plaza and its adjoining courts has been termed a «group.» Assuming that Chowning and Haviland are correct then most of the 690 architectural groups which have been identified at Tikal (Becker 1970) were residential in function. Becker (1973) believed that each group served as the «dwelling» of a single household or extended family in the same way that modern Maya house compounds enclose an extended family. Most of these residential groups at Tikal consist of several buildings, each serving one of a variety of uses (kitchen, sleeping quarters, «sala,» etc.) for an extended family If each residential group, or *sitio* (cf. Vogt 1965:344), at Tikal housed one extended family, then differences in the size, number and quality of buildings in each group may reflect the wealth or social position of the occupants. Such assumptions might be tested independently by evaluating the quantity and quality of burial goods associated with interments in these residentials groups, or by evaluating other variables which might be indicative of social class.

Quite probably some of the larger architectural groups at Tikal served as administrative and ceremonial units. The suggestion has been made that the functions of certain groups can be identified by various criteria, among which is the arrangement of the component structures (see Jones 1969; Becker 1971). Certain arrangements of the structures in various groups consistently occur at Tikal, enabling the identification of distinct and predictable plaza plans. Certain of these recognizable plaza plans appear to be associated with larger structures, wealthier burials and other prestigious artifacts. If these various traits may be considered as valid criteria for indicating «wealth,» and they are highly correlated with a specific arrangement of structures, then the social position of the group's inhabitants might be inferred from the plaza plan alone (see Becker 1979c).

At Tikal the evidence for certain occupational specializations was recovered primarily from several groups which were excavated in a research program testing for plaza plan arrangements. The evidence produced and the tentative conclusions regarding occupational categories (see Becker 1973) are summarized below. One should bear in mind that of the 690 separate architectural groups in the mapped area of Tikal (Becker 1970) only 39 groups had been extensively excavated. One-third of those groups excavated prior to 1970, groups which were the largest in size, are now believed to have been primarily ceremonial in function (see Coe 1965; Jones 1969). Thus the information with regard to direct evidence for occupational specialization is drawn from detailed excavations in approximately 25 residential groups together with more limited excavations (usually of only one building) in another

24 groups. Generalizing the entire site of Tikal appears warranted on the basis of the sampling procedure. One may assume that further investigations will substantiate these conclusions and also provide evidence for the recognition of additional occupations. One of the secondary goals of the original research program was to provide additional verification of the accuracy of the Carr and Hazard (1961) map of Tikal as a predictor of subsurface features. The demonstration of the precision with which this map reflects the ancient architecture confirms our belief in the ability of a researcher to use such fine maps in making predictions about unexcavated sites. This has been demonstrated at Quiriguá through predictions about Str. 1B-1 made prior to excavation (Becker 1972) being demonstrated through testing to be correct (Quiriguá Project Interim Reports).

Occupational Specialities: The Evidence from Tikal

At least seven possible occupational specializations at Tikal during the Classic period are believed to be archaeological identifiable (Becker 1973). Of importance to us now is that these specializations are in some cases correlated with apparent economic differences, as indicated by architectural and artifactual associations which suggest the existence of differentials of wealth. Unequal access to goods and/or services appear to be reflected by these differences, offering the possibility that one may be able to correlate a given occupation with a relative position on the Tikal social scale, such as suggested by Adams (1970), but through direct archaeological evidence (see Table 1).

Plaza Plan 2 is defined by the presence of an *oratorio* or ritual structure on the eastern margin of a relatively large and «orderly» residential group. These groups generally included vaulted structures during the late Classic period. An elaborate burial assemblage is associated with these *oratorios* from as early as 450 A.D. (Early Classic).

Plaza Plan 3, perhaps the most common group arrangement in the Maya lowlands, consists of two or more average size rectangular structures regularly arranged around a large court. The structure on the eastern margins of such groups, if present, is not a ritual building. Vaulted buildings are seldom present in such groups.

Plaza Plan 5 is defined by the presence of small structures represented only by platforms irregularly placed around a plaza in series of conjoined plazas. The structures involved are usually smaller than those associated with Plaza Plan 3. Associated artifacts and burial goods are invariably few in number and poor in quality.

While these gross categories may serve to identify distinct patterns within residential groups, and inferentially the social classes of the

occupants, one should note that considerable differences appear within each category. For example, the author believes that the *sitio* of the «dentists» is a much larger and more «elevated» example of Plaza Plan 2 than those owned by the other three occupational categories residing in groups of the same plan (Becker 1971:171-196). The enormous clustering of structures in southwestern Tikal called the Barringer Group also conforms to Plaza Plan 2, but the size of that group is simply beyond the scale of *any* simple residence.

Bandelier (1884:123) pointed out that «Even in the pueblos there is a difference in construction between the houses of the wealthy and those of the poor; ...» when he referred to the architecture he saw during his tour of Mexico in 1881. Variations in house form discovered through archaeological research appears to reflect similar differences. Therefore, specific architectural categories should correlate with class differences (see Harrison 1968). Present evidence suggests that the correlation between the arrangements of structures in a residential group may reflect social class of the occupants.

Becker (1971:171-196) suggests that at least three of the recognizable specialities (potters, masons, dentists) are found in Tikal residential groups conforming to the pattern defined as Plaza Plan 2. A fourth occupation, that of woodworking is defined from evidence recovered from Structures NE(N)-65 and 67 on the North Brecha Survey Strip of Tikal, Block 65 (D. Puleston: personal communication). These structures are in a group which also appears to conform to Plaza Plan 2. Still a fifth occupation (stoneworkers or monument carvers) is found in association with a group conforming to Tikal Plaza Plan 3 (Becker 1971:200-201), while still another group (Gr. 4F-2) conforming to Plaza Plan 5, is believed to have housed a family of flint knappers, (Becker 1971:200-201), Str. SE(S)-454 in Block 85 of the Tikal South Brecha Survey Strip (D. Puleston: personal communication) housed a family believed to have been obsidian workers. This structure also appears to belong to a Plaza Plan 5 group. Earlier observation suggested that these differences in building arrangement within residential groups, or *sitios,* were indicative of differences in cultural traditions. Such differences among the people in the same village have been inferred by Gann and Thompson (1931) in their suggestion that practitioners of every craft and trade had their own gods.

Occupations and Social Class

Becker (1973) presents evidence for occupational specialization based on statistical considerations of artifacts found associated with residential groups at Tikal (see Table 1). Various means have been sug-

TABLE 1

PLAZA PLANS OF CERTAIN RESIDENTIAL GROUPS AT TIKAL FOR WHICH OCCUPATIONS HAVE BEEN INFERRED

Plaza Plan	*Occupations*	*Residental Group (or test pit)*	*Tikal Op. Number*
2:	Stucco Workers Masons	Gr. 4G-1	30A-C
»	Woodworkers	2 North Brecha Test pits in Strs. NE(N)-65,67 (Fry 1967:11)	136U 136V
»	Dentists (?)	Gr. 6B-1	70F
»	Potters	Gr. 4H-1	33A-D
3:	Stoneworkers or Monument Carvers	Gr. 4F-1	20B-E
5:	Flint Knappers (also obsidian)	Gr. 4F-2	20A
»	Obsidian Knappers	Str. SE(S)-454	132F

gested ford demonstrating the existence of social class differences among the ancient Maya, some of which may be correlated with the occupational specializations demonstrated as well as those inferred (see Table 2). Using evidence from architectural features (size, location, elevation), associated burials and artifacts, and biological data reflecting nutrition (cf. Haviland 1967), one may infer that several distinct social classes existed among the Classic period Maya. Haviland (1963: 509) summarizes differences in architectural variations as they might reflect social differences at Tikal. Becker (1971:192-207) provides additional evidence to suggest that the members of different social classes at Tikal built residential groups proportional in size, and possibly elevation, to their social position. The Maya preference for building houses on building platforms is recorded from the Conquest period (Pollack 1962:205). One may assume that a differential ability to afford such luxuries existed during the Classic period and that these were a good reflection of status.

Harrison (1968) suggests that high social status at Tikal's reflected in specific architectural contexts. Other evidence to support his assumption that the structures on the «Central Acropolis» at Tikal were residences of the elite may be found in the artifacts excavated in that area. Large ceramic masks which are believed to have served as building

decorations are relatively rare at Tikal. Fragments of only 13 examples are known. Of these, 10 were discovered on the «Central Acropolis.» Of the three other examples one, a nearly complete piece, was found in Gr. 4H-1 (see Table 1), the residential group which Becker (1973) believes to have been inhabited by the potters who made such masks. These data suggest that such objects were luxury goods produced by «middle class» artisans, but generally purchased for use by the elite of Tikal. If the residential groups of persons of different classes can be recognized through consideration of various kinds of evidence including the configurations of the plaza plan then the occupations or specialities found in association with these residences might also be ranked.

Although the present sample of groups excavated at Tikal may be too diverse in form and origin to have statistical significance, those groups conforming to Plaza Plan 2 appear to be correlated with occupations of a «professional» nature, rather than with trades such as farming, flint knapping, or woodworking. However, any speculation as to the correlation between residence size and the trade of the residents must be tenuous inasmuch as any craft category (potters, masons, dentists, etc., see Table 2) may have had internal differentiation.

Adams (1970:495-6) has suggested that within each occupational category there may have been several distinct levels, with the various practitioners holding differing positions in the social hierarchy. For example, the practice of dentistry may have been viewed from three different aspects by the Maya, each corresponding to a distinct social level. Most prestigious of the three may have been the practitioners specializing in preparing and implanting dental inlays of jade, pyrite, etc. A possible second social level of dental practitioners, of a status equivalent to that of tradesmen, might include the practitioners of cosmetic dentistry who only filed teeth. These two aspects of dentistry appear to be distinct at Tikal based on the evidence from the 3 individuals interred in Structure 6B-9 of Gr. 6B-1. Although all 3 have dental inlays, none has any evidence of tooth filing. Differences between individuals with dental inlays and tooth filing may reflect social class distinctions. The class distinctions between these groups also may correlate with the size of residence or building beneath which the toothed (inlaid or filed) individual is interred. Inlays occur among socially more elite individuals while tooth filing is more commonly found among people who were buried, and we presume had lived, in smaller residential contexts.

Individuals with inlaid teeth are relatively uncommon at Tikal, and in every case their graves are found in large residential groups conforming to Plaza Plan 2 (e.g. Bu. 193 in Str. 7F-31) or in burials within temples, such as on the North Acropolis. No mutilation would be expected in the residential groups conforming to Tikal Plaza Plan 5, which

TABLE 2

OCCUPATIONAL CATEGORIES SUGGESTED OR IMPLED IN THE MAYA AREA. MOST OF THESE HAVE YET TO BE DEMONSTRATED THROUGH ARCHAEOLOGICAL EVIDENCE. WHETHER FULLTIME OR PART-TIME IS ALSO NOT YET DETERMINED

Apiarists	Gann and Thompson 1931:148
Architects	Kubler 1962:123, Harrison 1970:215
Bark Cloth Makers	——
Boneworkers	——
Brewers	Haviland 1970:194
Butchers	Haviland 1970:194
Cocoa Plantation Owners	Gann and Thompson 1931:152
Costumers	Adams 1970:494
Dental Workers (Cosmetic: inlays and filing; Medical; extractions)	Adams 1970:494; Becker 1971
Entertainers	Adams 1970:495
Feather-workers	——
Figurine-makers	Adams: personal communication
Fishermen, Hunters	Gann Thompson 1931:148
Lapidaries	Adams 1970:494
Masons	Adams 1970:495
Musicians	Marti 1968; Hammond 1972; Adams 1970:495
Rope and Basket-makers	——
Scribes, Accountants	Adams 1970:493
Sculptors	Adams 1970:494
Servants	Adams 1970:494-495
Tanners, Leatherworkers	——
Textile Weavers	Kidder (in Smith 1950:12)
Tradedrs in: Slaves, Food imports, skins, fibers, sweets, lumber, salt, human dung, feathers, cocao, jade, etc.	Adams 1970:492; Thompson 1964:22-23
Woodworkers (idol makers, carpenters, coopers)	Saville 1925:18-33; Ekholm 1964; Nowotny 1949; Kidder (in Smith 1950:12)

this author associates with low status occupations. The occurrence in a «sub-elite» residential group (Gr. 6B-1) of 3 individuals with inlays suggests that they are in some way distinct from the remainder of the population occupying residences of similar size. I believe that the inlays in the teeth of people from Gr. 6B-1 indicates a difference in occupation as well as social class; these people may have been the very *dentists* performing this cosmetic activity. Willey (Willey, *et al.* 1965: 539-544) finds no strong correlation between dental «mutilations» and social class at Barton Ramie, and also provides a useful review of comparative data. However, the site of Barton Ramie may not have been sufficiently wealthy to provide the basis for significant social class differentiation as one might expect at a large site such as Tikal. Tooth filing is rare among children under age 10 at Tikal, and does not appear often in adults as compared with the incidence at Copan (see also Romero: 1958, 1960). However, these statistics may be significantly influenced by the differences in excavations at the two sites. At Tikal a greater percent of the skeletons were recovered from extensive excavations in relatively simple residential contexts as distinct from the concentration of excavations which were in «elite» residential or ritual situations at Copan prior to 1978. The vast amount of data from the Projecto Arqueológico Copán, now under the direction of Prof. W. Sanders, promises to alter our present limited understanding of that site.

Medical dentistry involving extractions or oral surgery might be a third occupational category situated at a still lower social position at Tikal. The association of medical dentistry with some other healing profession among the Classic Maya also is possible. Antemortem tooth loss at Tikal was extensive and specialists performing extractions or offering pain reducing potions were in demand. In any case, one should bear in mind the possibility that each occupational category as would be defined in any contemporary society may have been viewed differently by the Classic Maya, with multiple facets and differing prestige associated with each general area. For example, the inlays of jade, amazonite and pyrites, as well as cements used to hold them in place and narcotics for dentistry or general medicine, all may have been supplied by tradesmen specializing in still other occupations. Indeed, not only is it possible that a lapidary may have made the actual inlay, but the entire process may have been only one aspect of a lapidary's work and not at all connected with «dentistry» as that concept may have existed within the cognitive structure of the ancient Maya.

Various craftsmen producing ceramic wares also may have differed in social class, probably as a function of the products they sold (see Adams 1970:496). The quality of work, artistry, or type of goods produced may have determined the social status of the manufacturers. Evidence indicates that even pottery of good quality was available to

people of meager means, as indicated by size of residence and general burial furniture (Willey *et al.* 1966:570, 350-1; Becker field notes). This suggests a free trade market with individuals buying what they could afford, or wished to purchase, rather than being totally limited by social rules or sumptuary laws. Thus the tentative identification of a market area at Tikal (Haviland 1970:190) is an important archaeological consideration which may reflect the distributive aspects of this complex economy.

Potters at Tikal may be placed roughly in three social categories reflecting differing qualities of manufactured wares now known from the site. Socially least prominent would be producers of unpainted utilitarian wares, including *ollas*. No evidence of such production has as yet been detected at the site. Intermediate on the social scale would be potters such as those living in Gr. 4H-1, producing censers, simple polychrome vessels whistles and figurines, and probably the ceramic architectural masks noted above. R. E. W. Adams (personal communication) believes that a specialist in the manufacture of figurines alone may have been resident in one of the groups at Altar de Sacrificios. The Tikal potter family noted here, however, appears to have produced a wide range of products. At Tikal, as elsewhere, only the best potters may have produced the figured polychrome vessels of large size that are known best from such elaborate burials as Tikal Bu. 116 (Tikal Project Files). Such fine vessels also may occur in much more simple contexts (e.g. Tikal Bu. 72), but only rarely, and generally as single examples.

These «high status» potters may have joined with jade workers to produce the jade mosaic vessels that are so well known at Tikal, or joined with other craftsmen to produce other rare and specialized ceramic products. In any case, the inventory of fine ceramics from Tikal provides many elaborate vessel types many of which are not represented in the midden associated with Gr. 4H-1. This would suggest that the finest wares at Tikal were produced by a different group of potters who may have enjoyed distinctly higher status and resided in locations as yet untested at Tikal.

Such class differences in the manufacture of ceramics have been noted earlier as a possibly recognizable difference in archaeological contexts. Willey, Culbert and Adams (1967:304) use the term «ceramic subcomplex» to indicate distinctions between «upper class or lower class» ceramics within a single geographical and temporal location. The entire ceramic inventory including all products of all classes, would then constitute a ceramic «complex.»

In the continuation of this line of research, field workers must be concerned not only with locating workshops or residence workshops which produce certain types of goods, but also should consider seeking

other workshops which produced similar goods but of different quality or types. There is no reason to believe that a single producer at any large site furnished all of the products associated with a single technology. Neither utilitarian pots nor finequality ceramics appear to be represented in the Gr. 4H-1 deposits at Tikal and presumably were not produced by the craftsmen resident there.

Considerations of these problems should also include investigation of available ethnographic data. Reina (1963:1967; also Reina and Hill 1978), provides some interesting information on contemporary ceramic manufacture in the Guatemalan highlands, but from a situation which appears to have completely different social patterning. An example of craft specialization which may better reflect the Classic period Maya model is provided by Hamp and Winter (1962:20), who also provide information on training of personnel and the kinship patterns which are maintained in the manufacturing processes on Crete. Their observations appear to be of a situation much like that which could be applicable to Tikal and the surrounding villages and towns.

Traders of imported goods may also have differed in status in much the same way as suggested for potters. Members of the higher social classes may have traded for higher quality products or more prestigeous goods. Considerable quantities of trade goods (shell, stone, pottery) are known from Classic period sites, and traders may have been relatively specialized in the type and quality of merchandise marketed. Thus one family (see Monzón 1949:45) may have imported stone products while another traded in foodstuffs and yet another dealt in marine materials. Importers may have been further specialized, with the importers of obsidian being a different family than those dealing in raw jade. Perhaps the importers in finished jade represented still another specialized activity.

Coe (1967:62) suggest that the large structures at Tikal called «palaces» may have had numerous different specific functions. Harrison (1968) makes a good case for the existence of such variations among structures in central Tikal. Harrison, using specific criteria, concludes that many such buildings had residential uses. Adams (1970) also correlates large rangetype structures («palaces») with residences of the elite. The differences in size and quality of construction as well as location between these impressive constructions and the numerous lesser *sitios* which housed the remainder of the population suggest not only great social class differences, but also a correlated economic system within which the wealthy could afford to have larger residences built to order. This indicates that the people living in them had vastly different access to goods and services than those people living in ordinary residential groups conforming to Plaza Plan 2. As noted earlier, the inhabitants of Plaza Plan 5 groups appear to be even less affluent, having few if

any vaulted structures, poorer burials and generally less of the Maya equivalent of the good life. All of these bits of evidence suggest the existence of a money economy at Tikal, but this problem might best be tested elsewhere.

Some note has been given to variations which occur in the plaza plans at Tikal which occur in association with these various specialities. If one assumes the existence of several social classes in Classic period Tikal, one may also assume that these classes relate in some way to occupational specialities as well as to other diagnostic factors such as house (*sitio*) size and arrangement. Thus the relationship between these hypothetical specialities and plaza plans may provide not only additional confirmation of theories concerning Maya social classes, but also suggest techniques by which further information may be sought. One should note that no correlation is even remotely suggested between location of the residential group within Tikal and social class. Residence of various sizes appear to be scattered throughout Tikal and the various group plans likewise appear to have a random distribution (see Arnold and Ford 1980). Some comparisons may be made between the *sitio* as a residential unit in a dispersed settlement pattern and the *calpulli* in urban settings (Monzón 1949).

Continuity of social class position through time is suggested by Proskouriakoff's conclusion (1963, 1964, 1969) that the Maya upper class was exclusive and dynastically organized. Relatively closed social classes would be expected at all levels. The available evidence for continuity of occupations over long periods of time at specific residential locations implies considerable professional stability. Evidence for long traditions in craft specialization at Tikal is found at Gr. 6B-1 (dentists) and also from the North Brecha tests which located tools believed to have come from Woodworkers' shops. In both these examples, and in others, the stratigraphic record indicates multi-generational continuity.

All of these evidences suggest that Maya society during the Classic period was characterized by an extremely complex social class system. Disruptions in this system, through disturbances in the trade system or failures in the economic base, may have been the basis for the profound changes in the course of Maya history in the forested lowlands of Belize, Guatemala, Honduras and Mexico.

BIBLIOGRAFIA

ARNOLD, Jeanne E. and Anabel FORD:
1980 A Statistical Examination of Settlement Patterns at Tikal, Guatemala. *American Antiquity* 45: 713-726.

ADAMS, R. E. W.:

1970 Suggested Classic period occupational specialization in the southern Maya lowlands. In *Monographs and papers in Maya archaeology*, edited by W. R. Bullard Jr. Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University, Vol. 61: 487-502.

1971 *The collapse of Maya civilization: background paper for a conference.* Part I: Introduction and review of previous theories. Manuscript.

BANDELIER, A. F.:

1884 Report of an archaeological tour in Mexico, in 1881. Papers of the Archaeological Institute of America Series II. Cupples, Upham, and Company, Boston.

BEARDSLEY, R. K. *et al.:*

1956 Functional and evolutionary implications of community patterning. In *Seminars in archaeology* (1955), edited by R. Wauchope. Memoir No. 11, Society for American Archaeology.

BECKER, M. J.:

1962 Small structure excavations at Tikal, Guatemala: a fourth season. Paper presented at the 1962 Meeting of the American Anthropological Association, Chicago.

1970 A summary of architectural groups at Tikal, Guatemala. Manuscript on file, Tikal Project. The University Museum, Philadelphia. Xeroxed.

1971 The identification of a second plaza plan at Tikal, Guatemala, and its implications for ancient Maya social complexity. Ph. D. Dissertation, University of Pennsylvania. University Microfilm, Ann Arbor.

1972 Plaza Plans at Quiriguá, Guatemala: The use of a specific theory regarding cultural behavior in predicting the configuration of group arrangements and burial patterns in a yet untested community settlement pattern. *Katunob* VIII (2): 47-62.

1973 Archaeological evidence for occupational specialization among the Classic period Maya at Tikal, Guatemala. *American Antiquity* 38: 396-406.

1979a Priests, peasants and ceremonial centers: The intellectual history of a model. In *Maya Archaeology and Etnohistory.* Edited by Norman Hammond and Gordon R. Willey. University of Texas Press: Austin. Chapter 1: 3-20.

1979b Theories of ancient Maya social structure: Priests peasants, and ceremonial centers in historical perspective. *Katunob:* Occasional publications in Mesoamerican Anthropology, No. 12. Greeley, Colorado.

1979c Plaza Plans and settlement patterns: Regional and temporal distribution as indicators of cultural interaction in the Maya area. Paper presented with the Symposium: Interdisciplinary Approaches to Maya Studies. XLIII International Congress of Americanists. Vancouver, 16 August.

BRAINERD, G. W.:

1954 The Maya Civilization. Southwestern Museum, Los Angeles.

BULLARD, W. R., Jr.:

1960 Maya settlement pattern in the northeastern Peten, Guatemala, *American Antiquity* 25: 713-726.

CARDOS DE MÉNDEZ, A.:

1959 El Comercio de los Mayas antiguos. *Acta Anthropologica.* Epoca 2, Vol. II, No. 1. Escuela Nacional de Anthropologia e Historia, México.

CARR, Robert F. and James E. HAZARD:

1961 Map of the Ruins of Tikal, El Petén, Guatemala. Tikal Report No. 11. Museum Monographs, the University of Pennsylvania. Philadelphia.

CHOWNING, A. and HAVILAND, W. A.:
1961 The structure of Classic Maya cities. Paper presented at the annual meetings of the American Anthropological Association, Philadelphia.
COBEAN, R. H. *et al.:*
1971 Obsidian trade at San Lorenzo Tenochtitlán, México. *Science* 174: 666-671.
COE, W. R.:
1965 Tikal, Guatemala, and emergent Maya civilization. *Science* 147, 1401-1419.
1967 Tikal: A handbook of the ancient Maya ruins. The University of Pennsylvania, Philadelphia.
COWGILL, U. M.:
1962 An agricultural study of the southern Maya lowlands. *American Anthropologist* 64: 273-286.
DÍAZ DEL CASTILLO, B.:
1908-1916 The true history of the conquest of New Spain. Translated by A. P. Maudslay, 5 Vols. Hakluyt Society, London.
EKHOLM, G. F.:
1964 A Maya sculpture in wood. The Museum of Primitive Art: Studies, Number Four. The Museum of Primitive Art, New York.
FASTLICHT, S.:
1960 Las mutilaciones dentarias entre los Mayas. *Anales del Instituto Nacional de Antropología e Historia:* México, 12: 111-130.
FRY, R. E.:
1967 Tikal Sustaining Area Project, Field season report, project ceramist (November 7). Tikal Project, The University Museum, Xeroxed.
GANN, T. and J. E. S. THOMPSON:
1931 The history of the Maya from the earliest times to the present day. Charles Scribners Sons, New York.
HAMMOND, N.:
1972 Classic Maya Music. Part I: Maya Drums. *Archaeology* 25: 124-131.
HAMP, R. and A. WINTER:
1962 Bei Topfern and Topferinnen in Kreta, Messenien und Zypern. Mainz, Roman-German Central Museum.
HARRISON, P.:
1968 Form and function in a Maya «palace» group. Papers of the XXXVIII International Congress of Americanists, Vol I: 165-172. Stuttgart-München.
1970 The Central Acropolis, Tikal Guatemala: a preliminary study of the functions of the structural components during the Late Classic period. Doctoral dissertation in Anthropology, University of Pennsylvania.
HAVILAND, W. A.:
1962 A «miniature stela» from Tikal. *Expedition:* 4: 2-3.
1963 Excavation of small structures in the northeast quadrant of Tikal, Guatemala. University Microfilms, Ann Arbor.
1967 Stature at Tikal, Guatemala: implications for ancient Maya demography and social organization. *American Antiquity* 32: 316-325.
1970 Tikal, Guatemala and Mesoamerican Urbanism. *World Archaeology* 2: 186-198.
IDELL, Albert E.:
1956 The Bernal Díaz Chronicals: the true story of the conquest of México. Doubleday, Garden City.
JONES, C.:
1969 The Twin-pyramid group pattern: a Classic Maya architectural Assemblage at Tikal, Guatemala. Doctoral dissertation, The University of Pennsylvania.

KIDDER, A. V.:
1947 The artifacts of Uaxactun, Guatemala. Carnegie Institution of Washington, Publication 576.
1950 *Introduction. In Uaxactun, Guatemala,* by A. L. Smith (1931-1937). Carnegie Institution of Washington, Publication 588.
KNOROSOV, Y. V.:
1967 The writing of Maya indians (selected chapters). Trans. by S. Coe. *Russian Translation Series,* Vol. IX, Peabody Museum of Archaeology and Ethnology.
KUBLER, G.:
1962 The art and architecture of ancient America. Penguin Books, Inc., Baltimore.
MARTÍ, S.:
1968 Instrumentos musicales precortesianos. Instituto Nacional de Antropología e Historia, México D. F.
MILLON, R.:
1970 Teotihuacan: completion of map of giant ancient city in the Valley of México. *Science* 170: 1077-1082.
MONZÓN, A.:
1949 El Calpulli en la organización social de los Tenochca. Publicaciones del Instituto de Historia, primera serie, número 14, México.
NOWOTNY, K. A.:
1949 A unique wooden figure from ancient México. *American Antiquity* 15: 57-61.
POLLOCK, H. C.:
1962 Introduction. In *Mayapán, Yucatán, México.* Carnegie Institution of Washington, Publication 619: 1-22.
PROSKOURIAKOFF, T.:
1960 Historical implications of a pattern of dates at Piedras Negras, Guatemala. *American Antiquity* 25: 454-475.
1963 Historical data in the inscriptions of Yaxchilan, Part. I. *Estudios de Cultuya Maya,* México 3: 149-167.
1964 Historical data in the inscriptions of Yaxchilan, Part II. *Estudios de Cultura Maya,* México 4: 177-201.
PULESTON, O. S.:
1969 Functional analysis of a workshop tool kit from Tikal. Master's thesis in Anthropology. The University of Pennsylvania.
REINA, R. E.:
1963 The potter and farmer: the fate of two innovators in a Maya village. *Expedition* 5(4): 18-31.
1967 The law of the saints: a Pokoman pueblo and its community culture. Indianapolis: Bobbs-Merrill.
REINA, Rubén E. and Robert M. HILL II:
1978 The Traditional Pottery of Guatemala. Austin: University of Texas Press.
RENGER, J.:
1971 Notes on the goldsmiths, jewelers and carpenters of Neobabylonian Eanna. *Journal of the American Oriental Society 91:* 495-503.
ROMERO, Javier:
1960 Ultimos hallazgos de mutilaciones dentarias en México. *Anales del Instituto Nacional de Antropología e Historia,* México 12: 151-215.
SANDERS, W. T.:
1965 The cultural ecology of the Teotihuacan Valley. A preliminary report of the results of the Teotihuacan Valley Project. Department of Sociology and Anthropology, The Pennsylvania State University.

SAVILLE, Marshall H.:
1925 The wood-carver's art in ancient México. Museum of the American Indian, Heye Foundation, Vol. IX, New York.
THOMPSON, J. E. S.:
1931 Archaeological Investigations in the Southern Cayo District, British Honduras. Field Museum of Natural History, Publication 274, Anthropological Series 17, No. 3, Chicago.
1939 Excavations at San José, British Honduras. Carnegie Institution of Washington, Publication 506.
1954 The Rise and Fall of Maya Civilization. University of Oklahoma Press, Norman.
1964 Trade relations between the Maya highlands and lowlands. Universidad Nacional Autónoma de México, *Estudios de Cultura Maya* 4: 13-49.
1970 Maya History and Religion. University of Oklahoma Press, Norman.
TOURTELLOT, G. and SABLOFF, J. A.:
1972 Exchange Systems among the Ancient Maya. *American Antiquity* 37: 126-134.
VOGT, E. Z.:
1965 Structural and Conceptual Replication in Zinacantan Culture. *American Anthropologist* 67: 342-353.
1968 Penny Capitalists or Tribal Ritualists? — The Relationship of Market Behavior to Ceremonial Life in a Modern Maya Community. Proceedings 8th International Congress of Anthropological and Ethnological Sciences, Vol. II: 243-244, Tokyo.
WEISBERG, D. B.:
1967 Notes on the goldsmiths, jewelers and carpenters of Neobabylonia Eanna. Review article. *Journal of the American Oriental Society* 91: 494-503.
WILLEY, G. R. and SHIMKIN, D. B.:
1971 The collapse of Classic Maya civilization in the Southern Lowlands: a symposium summary statement. *Southwestern Journal of Anthropology* 27: 1-18.
WILLEY, G. R. *et al.*:
1965 Prehistoric settlement patterns in the Belize Valley. Papers of the Peabody Museum. Vol. 54. Harvard University.
WILLEY, G. R.; CULBERT, T. P., and ADAMS, R. E. W. (Eds.):
1967 Maya Lowland ceramics: a report from The 1965 Guatemala City Conference. *American Antiquity* 32: 289-315.