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Tepetlaoztoc Project: Archaeological Investigations



Research Year: 1996

Culture: Aztec

Chronology: Late Aztec and Early Colonial

Location: Valley of México

Site: Tepetlaoztoc

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Introduction

Tepetlaoztoc, an ancient Aztec capital in the Valley of México, offered a rare opportunity for archaeological research. In 1967 not only were its remains in reasonably good condition (an increasingly unusual situation, due to México City's massive growth), but Early Colonial period censuses document the community's structure immediately after the Aztec period. Tepetlaoztoc's ethnohistoric documents (principally the Códice de

Santa María Asunción and the Codex Vergara) have been well studied and are presently being published in facsimile editions. Furthermore, while the Tepetlaoztoc area was generally surveyed (Parsons, 1971), no excavation had been undertaken. Development now threatens this area. Ethnohistorian Herbert Harvey and geographer Barbara Williams worked on Tepetlaoztoc materials for years and were concerned that the chance to excavate in this uniquely well-documented Aztec-period archaeological site would soon pass; they urged their archaeologist colleagues to undertake a large-scale multi-disciplinary project to study Tepetlaoztoc. This project was a response to their plea.

The Tepetlaoztoc project was intended as a pilot project with two immediate aims: a plan-of-work for the long-term project and its personnel, including proposals to submit to potential funders (NSF, NEH), and a descriptive paper suitable for publication as an illustrated article for *Archaeology* or *Arqueología Mexicana* magazines, discussing the Aztec city of Tepetlaoztoc and how its archaeological landscape relates to its codices. The pilot project entailed travel to México for a site visit to identify and photograph remaining resources and talk with local landowners and political officials about future plans for development. While in México, I also contacted Norberto Gonzalez Crespo, president of the Consejo de Arqueología of INAH, to discuss the feasibility of the project, and request a permit to conduct the pilot phase of the project.

The project is important because the "Aztec Empire" of México is well known to us from ethnohistoric sources, but very few Aztec period archaeological sites have been excavated. This problem of the lack of material evidence provided by excavated sites could be addressed at leisure, but for the breakneck pace of land development in the Valley of México, home of modern México City as well as ancient heartland of Aztec (Nahua) culture. If the codices were about to be put into a recycling bin, there would be a justly-horrified outcry against this desecration: we must see the destruction of the archaeological remains in the same light.

Our proposed research would permit future study of Tepetlaoztoc's archaeological remains, as well as demonstrating the great potential of a truly conjunctive research strategy, which would use a combination of historical, ethnographic and archaeological methods and data to reconstruct this city-state in one of the most exciting and intriguing ancient cultures. Our larger goal was to excavate a large sample of residential sites within the area of the kingdom.

Each "household archaeology" excavation would involve complete exposure of walls, floors, and immediate peripheral space of the residence. While excavations of this type have been conducted virtually from the beginning of New World Archaeology, only recently has this strategy been overtly conceptualized and, most importantly, new techniques have been developed that enable us to reconstruct, first the functional use of residential space, and the size, structure and function of the household. The household is the fundamental unit of virtually all human societies and household archaeology has the capacity to generate an understanding of the entire society, including the degree of economic stratification, nature of the division of labor and distribution of political power as these are reflected in variations in houses and artifacts.

On the basis of the Post-Conquest documents, including the Codex Vergara and Códice de Santa María Asunción; it appears that the nuclear rather than extended family was the majority type of household. We had assumed that the Pre-Conquest households were composed primarily of patrilocal extended families and that a shift to nuclear family households occurred after the Conquest as the product of stimulus from the Spanish clergy. Archaeological surveys of the type Parsons conducted at Tepetlaoztoc, in other areas of the Basin of México, however, had revealed numerous small residential mounds that would seem to have housed very small families--most likely of the nuclear type. Excavations of a substantial sample of residences would have resolved this question.

The particular value of applying household archaeology to Tepetlaoztoc lies not only in the broad base of data in this case but to the specific nature of information in the Post-Conquest period. The Codices Vergara and Santa María Asunción provide household-level data on age, sex, kinship relations, socioeconomic status and land holding of each household in the period immediately subsequent to the conquest. The sample of house remains in the 1967 survey revealed that preserved residential remains were abundant--and included urban and rural households, and thus could address issues such as the degree to which variation household size, composition, and function reflect Pre-Hispanic patterns in the same area. Excavated houses could answer these questions.

Parsons' Tepetlaoztoc survey revealed a pattern found in other areas of the Basin of México: i.e., that rural households were dispersed over the countryside and most probably situated on their agricultural holdings--in sharp contrast to the pattern found today in which farmers reside in nucleated villages and farm lands outside of the village, often at a distance of two to three kilometers from their residence. The present-day pattern is the product of the 16th and early 17th century process and policy of the Spanish state and church to congregate dispersed rural populations into large nucleated, often planned, communities to facilitate conversion and tax collection. The process was initiated in the mid 16th century and continued into the early decades of the 17th century in the Basin of México. Archaeological excavations in a large sample of residences would provide details as to this process. With the exception of a few outlying and very recent "Colonias," as they are called, virtually all of the population of Tepetlaoztoc today resides in the municipal center, including the residents of the barrio of Santa María Asunción (see [Figure 3](#) and [Figure 4](#)).

Within the Tepetlaoztoc kingdom area, Parsons, defined the following sites: TA-24 (the town of Tepetlaoztoc), and 10 rural sites, TA-25-34 (see [Figure 1](#) and [Figure 2](#) from Parsons, 1971). On these sites he found over 400 house mounds, approximately one quarter of which were at TA-24. Furthermore, in a great number of these, wall lines were visible and partial residential plans were drawn. Our experience in excavating structures of this type and condition is that the overburden can be removed with only a small crew over a short period, that complete floor plans can be exposed and in situ artifacts found that identify the functional use of space. The original plan was to finance these excavations with a more substantial grant from another source, but urgently needed was a preliminary survey to plan a full program of research, and to give Tepetlaoztoc's rich heritage the attention it deserves.

Submitted 08/01/1996 by:
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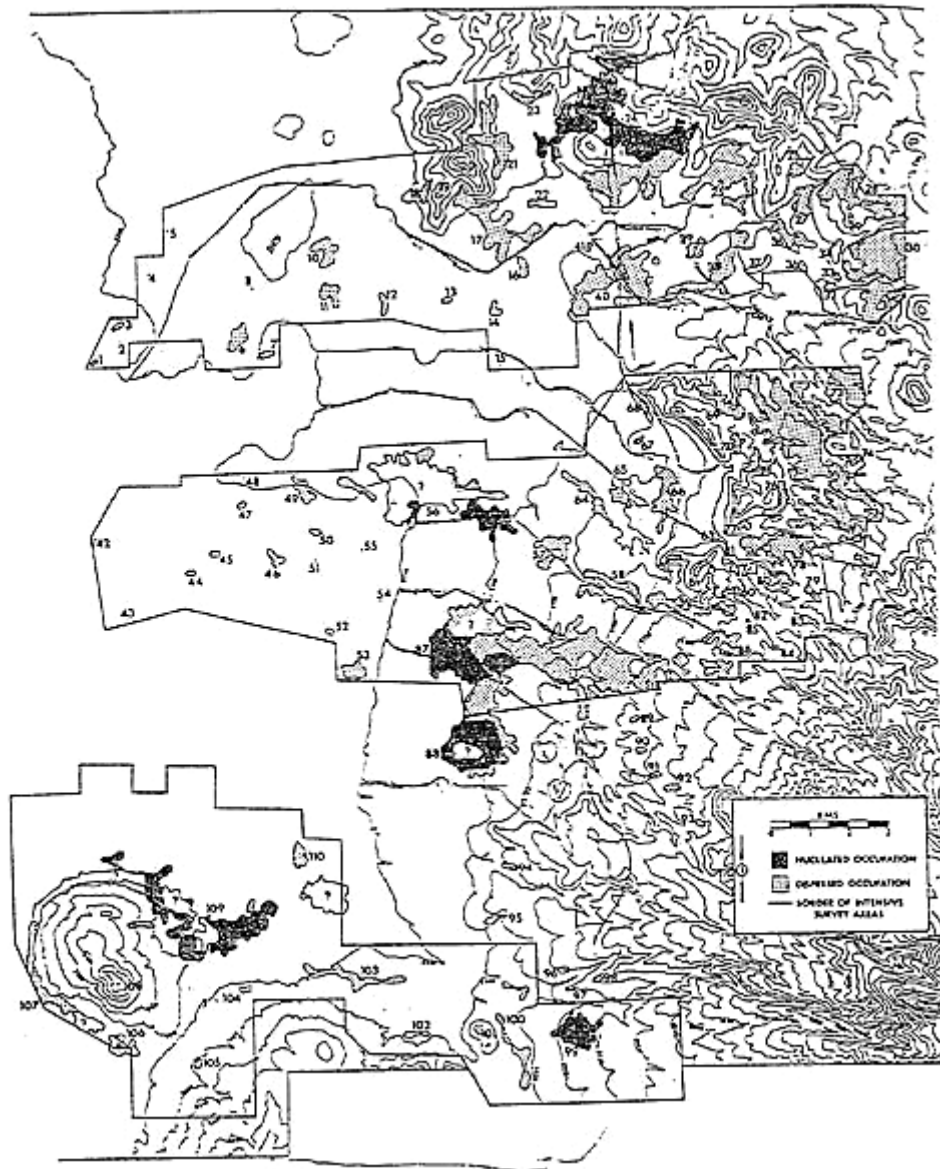


Figure 1. Map of the Texcoco Region Showing Aztec Settlement (from Parsons, 1971).

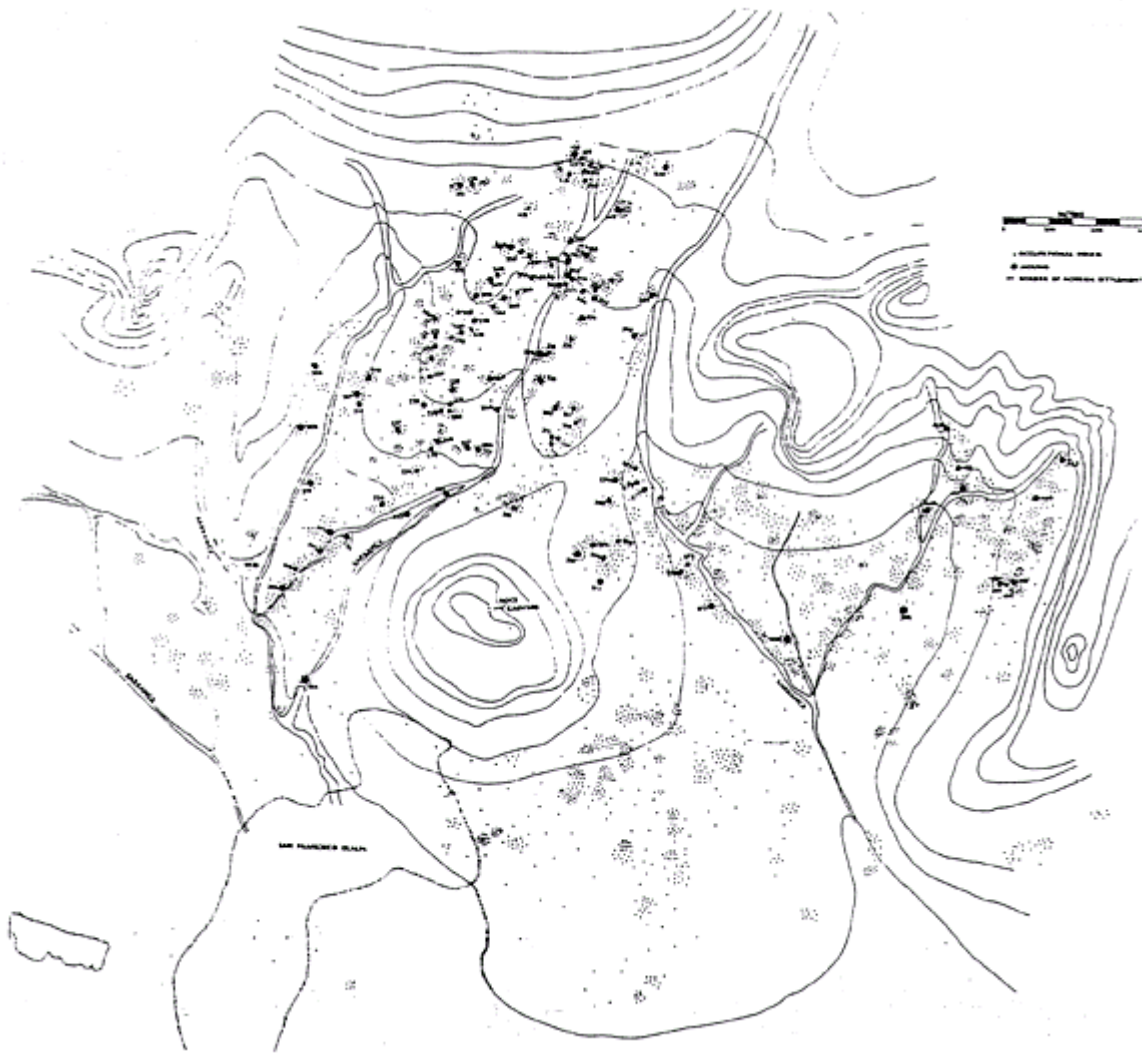


Figure 2. Site TX-A-24 (Impressionistic Contours) (adapted from Parsons, 1971).

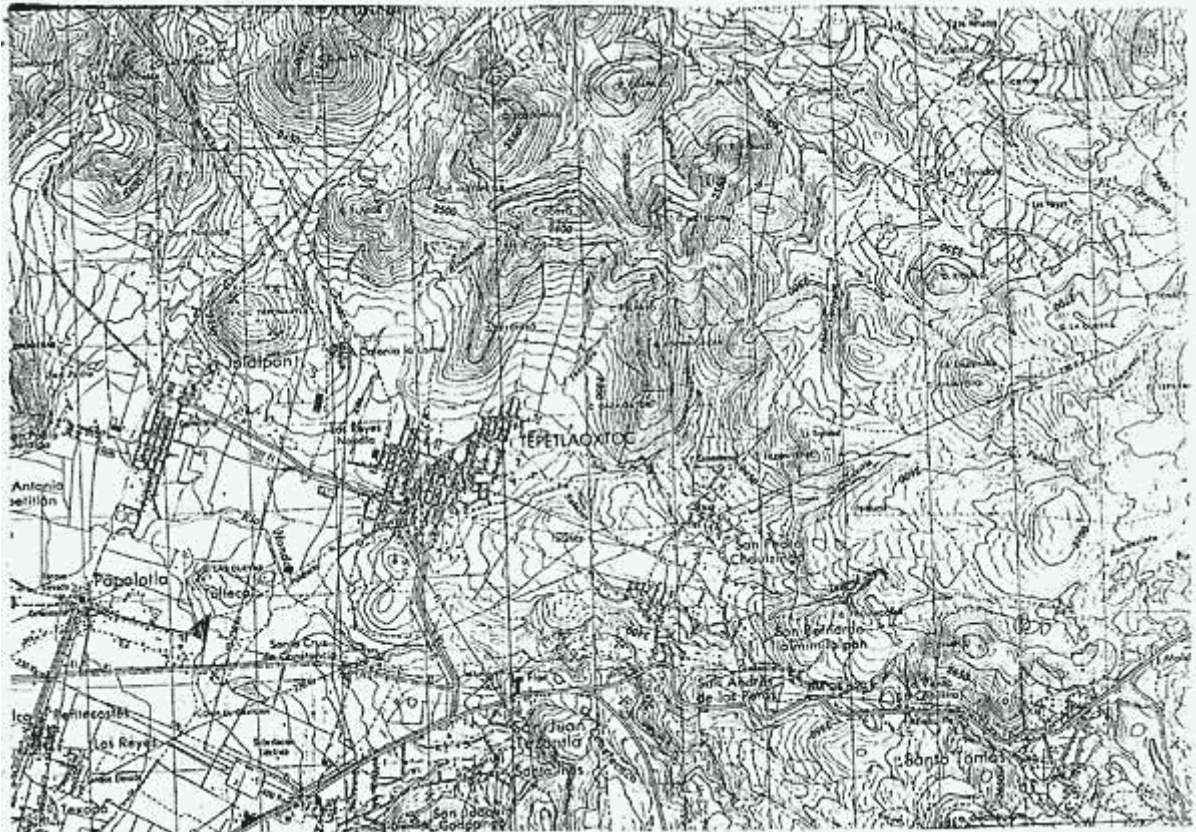


Figure 3. Map of the Tepetlaoztoc Area, Scale 1:50,000 (portion of Cetenal Map Sheet Texcoco).



Figure 4. Aerophoto of the Tepetlaoztoc Area, Scale 1:24,000 (from Cetenal Series).

Results of the Pilot Project

I spent approximately one month at Tepetlaoztoc, in August of 1995, testing the feasibility of a household archaeology project. The original plan was to use funding from the Foundation to resurvey the area around Tepetlaoztoc and assess the present day condition of the area sites. If the preserved remains of residential structures, mapped by Parsons as part of his Texcoco Project (Parsons, 1971) were adequate for sampling, the resurvey would serve as an initial stage of a large excavation project to be funded by the National Science Foundation next year. I suggested a project at Tepetlaoztoc for two reasons:

Parsons located over 400 residential mounds in his survey of the town site, many of which had visible surface architecture in the form of wall lines on the surfaces of the mounds.

Two 16th century Codices, the Vergara and Santa María Asunción, were among the most detailed censuses taken by the Spaniards dating from the 1540s, and provide data on household size and composition of one of the barrios of the town of Tepetlaoztoc. The Codices even include data on land holdings for each household and types of soil found in the land holdings, an extremely rare element in the early Spanish census.

Because of these two resources, the site seemed ideal to conduct a large number of excavations in Aztec residences to provide information on a number of questions raised by recent ethnohistoric research on the Post-Conquest situation. Our experience in excavating Aztec residential sites suggested that with a relatively small number of workers, over a short period of time, a large number of residences could be excavated during a single season, with a relatively modest budget. The situation, therefore, seemed ideal in terms of sampling problems.

Our concern with respect to preservation today of the sites surveyed by Parsons rested on recent developments in the Basin of México that are threatening much of the surface archaeology. The factors that threaten the sites are as follows:

The growth of México City from a city of 3,000,000 to over 20,000,000 people between 1950 and 1995. This is not a problem in Tepetlaoztoc, however.

Recent use of tractors and what are called chisel plows to work over the tepetate surfaces (a sub-soil consisting of compacted volcanic rock that can be pulverized and converted into a useful soil) in much of the badly eroded areas of the Basin. It should be noted that many Aztec house sites exist in these areas because they have been lost to cultivation, as the product of 16th and 17th century soil erosion.

The August survey confirmed our worst fears. In the area held by the barrio of Santa María Asunción as its agricultural land in 1540, Parsons located 200 residential mounds on the present-day severely eroded area north of Cerro Teponaztle, of which 112 were well enough preserved to provide information on household size and room arrangements, even from surface survey. These would have been ideal for large-scale excavation. All of this area, with the exception of one small locality on the northeast slope of the hill, has been extensively chisel plowed; a series of contour embankments constructed of the crushed tepetate; and a eucalyptus grove planted by the forestry department of the federal government, as part of their program of land reclamation. In this process all of the 200 mounds have been destroyed (see [Figure 5a](#), [Figure 5b](#), [Figure 6a](#), and [Figure 6b](#)).



Figure 5a. Area North of Cerro Teponaztle after Eucalyptus Reforestation Project.



Figure 5b. Area North of Cerro Teponaztle Prior to Reforestation, Cerro Teponaztle in the Background. Note Eroded Tepetate Surface, and Remnants of Aztec Residential Mound.



Figure 6a. Area North of Cerro Teponaztle after Reforestation. Note Tepetate Fragments, Sherds and Rock Rubble from Aztec House Mounds between and Incorporated in the Terrace Construction.



Figure 6b. Area North of Cerro Teponaztle after Reforestation. Note Tepetate Fragments, Sherds and Rock Rubble from Aztec House Mounds between and Incorporated in the Terrace Construction.

In the deeper soil areas in the valley east of the hill, still used for agriculture by the barrio, Parsons recorded 36 residential mounds. These areas have not been chisel-plowed because they have adequate soil depth, but two recent developments have left even these areas in poor condition, in terms of the archaeological remains. One is the extensive use of tractors and deep cutting plows, in the past provided only by a few private contractors and, hence, restricted in its use but now provided by the State of México at nominal charges to all of the municipios in the state. This has meant a great extension of their use and has resulted in much more massive destruction than the old Spanish plow, which was in exclusive use in the area as late as 1970 and was still extensively used as recently as 1985.

A second process is the conversion of much of the area today to nopal planting, a process stimulated by the growth of the México City fruit market. This involves considerable earth movement, including the construction of embankments for the planting of rows of nopal cactus. Complicating my survey in August, furthermore, was the presence of very high dense corn in the fields and extensive plantings of barley and wheat. Even considering these difficulties, I was able to establish the locality of many of

Parsons' 36 mounds and discovered that only a few were preserved and even these had suffered heavy damage (see [Figure 7a](#), [Figure 7b](#), [Figure 7c](#), and [Figure 7d](#)).



Figure 7a. Area North of Cerro Teponaztle with Deeper Soil, now Tractor Plowed and in Barley. Former Site of Several Aztec Residential Mounds.



Figure 7b. Deeper Soil Areas East of Cerro Teponaztle.



Figure 7c. Recent Nopal Plantation East of Cerro Teponaztle.



Figure 7d. Site of Destroyed Aztec Residential Mound.

I then examined the immediate periphery of the modern town of Tepetlaoztoc, an area not included in Parsons' surveys. Most particularly I focused on those areas occupied by the modern barrio of Santa María Asunción. By approximately A.D. 1600 the Spanish crown had forced Aztec households, living in a dispersed settlement pattern, into more nucleated settlements. The present barrio of Santa María Asunción is the product of that resettlement program. Nevertheless, Tepetlaoztoc today is a relatively low density and somewhat dispersed town and many of the houses have relatively large lots (see [Figure 3](#)). These are used for farming small garden plots that are too small for tractor plowing.

In these areas I was able to find clear evidence of relatively undisturbed archaeological deposits but no clear evidence of surface mounds. The evidence of occupation was in light to medium concentrations of Aztec ceramics. In my resurvey of the area surveyed by Parsons on the valley floor I also found a number of undisturbed localities, where he did not locate house mounds but where surface occupation in the form of sherds was relatively heavy. In these areas household archaeology is still feasible and could be highly productive; however, the original reason for the selection of the Tepetlaoztoc site

was the presence of a large number of surface mounds with room patterns easily visible. What this means is that the second phase of this project would be significantly more expensive than originally conceived. We would have to conduct an initial phase of test pitting to locate the house sites and then follow up successful results with larger scale excavations.

In May 1996, I returned to México for a week and spent several days to reexamine the deeper soil areas as confirmation of the destruction of the 36 mounds in those areas. Jeffrey Parsons accompanied me on one of my visits. The fields were then bare of vegetation and observation of surface remains more reliable. We discovered that some of the level fields near the barrancas often had areas of soil depths of less than 30 cm and the plow shares had shattered the tepetate surface below, as evidenced by the abundance of tepetate fragments in the soil. The fields also had scattered rock rubble from destroyed house mounds and left only concentration of sherds to mark the former mound sites (see [Figure 7d](#)). It was evident that few if any of the 36 mounds in this area were intact. A reexamination of the few fields that local informants indicated had not been tractor plowed on the eroded piedmont and had also escaped the reforestation program, revealed that at best, only remnants of residential mounds were still intact.

Related Research

In August 1995 Sanders returned to the Teotihuacán Valley to revisit a number of Teotihuacán Period sites in its Middle and Upper portions, along with some sites in the Maquixco Alto area. The following sites were visited during the resurvey season, TC-25, near San Francisco Tlatuca, TC-87-88-89 at the Rancho of Tlatilhuacan, TC-83 the large provincial center east of Axapusco, TC-73 the provincial center located on the lower eastern flank of Cerro Buena Vista, TC-40 the provincial center located within the adjacent to the Panteon of San Juan Teacalco, TC-46 the large village site west of Maquixco Alto and TC-44 a small site found on the summit of Cerro Tiquimil that we have identified as a potential specialized tezontle mining community.

The aims of Sanders resurvey were as follows:

To check on the dating of the small residential mounds found at TC-87, TC-25, and TC-46. In our preliminary report, written in 1965, we concluded that all, or part, of the rural population of the Teotihuacán Valley in Teotihuacán-times resided in large lineage-size compounds similar to those in the city. A more careful examination of our survey data, however, demonstrates a wide range of residential mounds and, hence, household size, and that a substantial portion of the population resided in households only slightly larger than the Aztec, i.e., nuclear family or small extended family units. Sanders revisited the above sites to obtain a fresh field impression of the accuracy of the earlier surveys of those sites with respect to the dating of the smaller mounds.

To verify the urban nature of the large sites and most particularly to test Marino's observation that some of the buildings in the site were oriented on a grid similar to that

of the city. He suggested that TC-73 even had a central avenue (running, however, east-west) and that the ceremonial structures and residences were aligned along this avenue in very much the way they were at the urban site of Teotihuacán.

A major problem in obtaining fresh field data on these sites is the massive destruction that has occurred on virtually all archaeological sites throughout the Basin of México in recent years; the product of several processes and innovations in agricultural technology described previously in this report.

The two processes, use of tractors in deep soil areas and chisel plows to reclaim eroded areas, have obliterated much of the architecture on revisited archaeological sites, including the small mounds at TC-87, TC-25 and TC-46. By a careful examination of them, however, Sanders was able to locate the original site of the mounds and the visible surface pottery strongly suggests a Teotihuacán Period dating for these mounds.

The resurvey of the provincial centers strongly supported our initial evaluation as to their urban nature and political status. Much of the residential area of TC-40 has been deeply plowed but all of the public architecture has survived, although the summits of mounds have been deeply pitted and the basal areas have been strongly eroded by the use of the heavier equipment. AT TC-73 preservation is much better and the site is nearly intact, even including the residential portions of the sites. TC-83 has been virtually unaffected by the post-1965 processes.

All in all, therefore, the resurvey was successful in resolving the initial questions although the condition of the archaeology today is a depressing sight. For example, TC-46, a large village site, has suffered major alterations over 80% of its surface, including chisel plowing of the thin soil areas for the planting of nopal and the construction of massive terracing over the southeastern portion of the site and adjacent areas that contained the postulated Pre-Hispanic irrigation system. In contrast, the area immediately above the Maquixco Alto–San Cayetano Road (on the lower, south flank of Cerro Tiquimil) has been virtually untouched, apparently because it is church land. Even the floors we detected in the road cut in 1963 are intact (see [Figure 8a](#), [Figure 8b](#), [Figure 8c](#), [Figure 8d](#), [Figure 9a](#), and [Figure 9b](#)).



Figure 8a. View of the Summit of Cerro Tiquimil in the Teotihuacán Valley: Locus of Well Preserved Site TC-43.



Figure 8b. View of Sites TC-87-88-89, Upper Teotihuacán Valley. Area in Photo had 5-6 Teotihuacán Period Residential Mounds in 1963: All have been Levelled by Tractor Plowing.



Figure 8c. TC-43 Ancient Quarry Site on the Summit of Cerro Tiquimil.



Figure 8d. Lower North Flank of Cerro Tiquimil, TC-46 Site Location. Area to Right is Church Land and is the only Unaltered Part of this Large Teotihuacán Village Site.



Figure 9a. Tlaltenco Portion of TC-46 showing Recent Nopal Plantings using Chisel Plows. In this Area there were Approximately Ten Mounds in 1963.



Figure 9b. Tescotitla Portion of TC-46. Note High Terrace Construction Accomplished with Earth Moving Equipment that covers the Site Area and Several Teotihuacán Period Mounds.

In addition to the reexamination of the Teotihuacán Valley sites in August 1995, I spent two days in the Cuauhtitlán region (surface surveyed by me in 1974) and in the Temascalapa Region (surveyed in 1975). To conduct the surveys we used aerophotos based on fly-overs conducted in the early 1970s and maps generated from them by Cetenal. On the north piedmont and immediately adjacent alluvial plain of the Guadalupe Range, Pre-Hispanic settlement was heavy and ranged in date from Middle Formative to Aztec. We estimate that 70% of this area was still agricultural lands in 1974 and no more than 30% was heavily urbanized (see [Figure 10](#)). Numerous residential mounds were present on these sites, particularly on Aztec, Toltec and Teotihuacán Period sites. My resurvey in 1995—an intervening period of only 20 years revealed that these ratios had been reversed—and furthermore, new flights and new maps published in 1982 indicate that this process of urbanization and consequent site destruction had actually occurred in less than 10 years (see [Figure 11](#)).

West of the town of Cuauhtitlán, the piedmont consists of a series of nearly parallel, gently sloping, ridges descending from the Sierra de las Cruces. Perhaps 80% of this area was surveyable in 1974 and our survey revealed hundreds of Pre-Hispanic sites. Several of the ridges are now covered with high-rise apartment buildings.

Our resurvey of the Temascalapa region—a more isolated and rural area was almost as depressing. The purpose of my resurvey was to complete our photographic record of several Teotihuacán and Aztec Period sites that had well-preserved architecture in 1975. All these remains have vanished as the product of mechanization of agriculture.

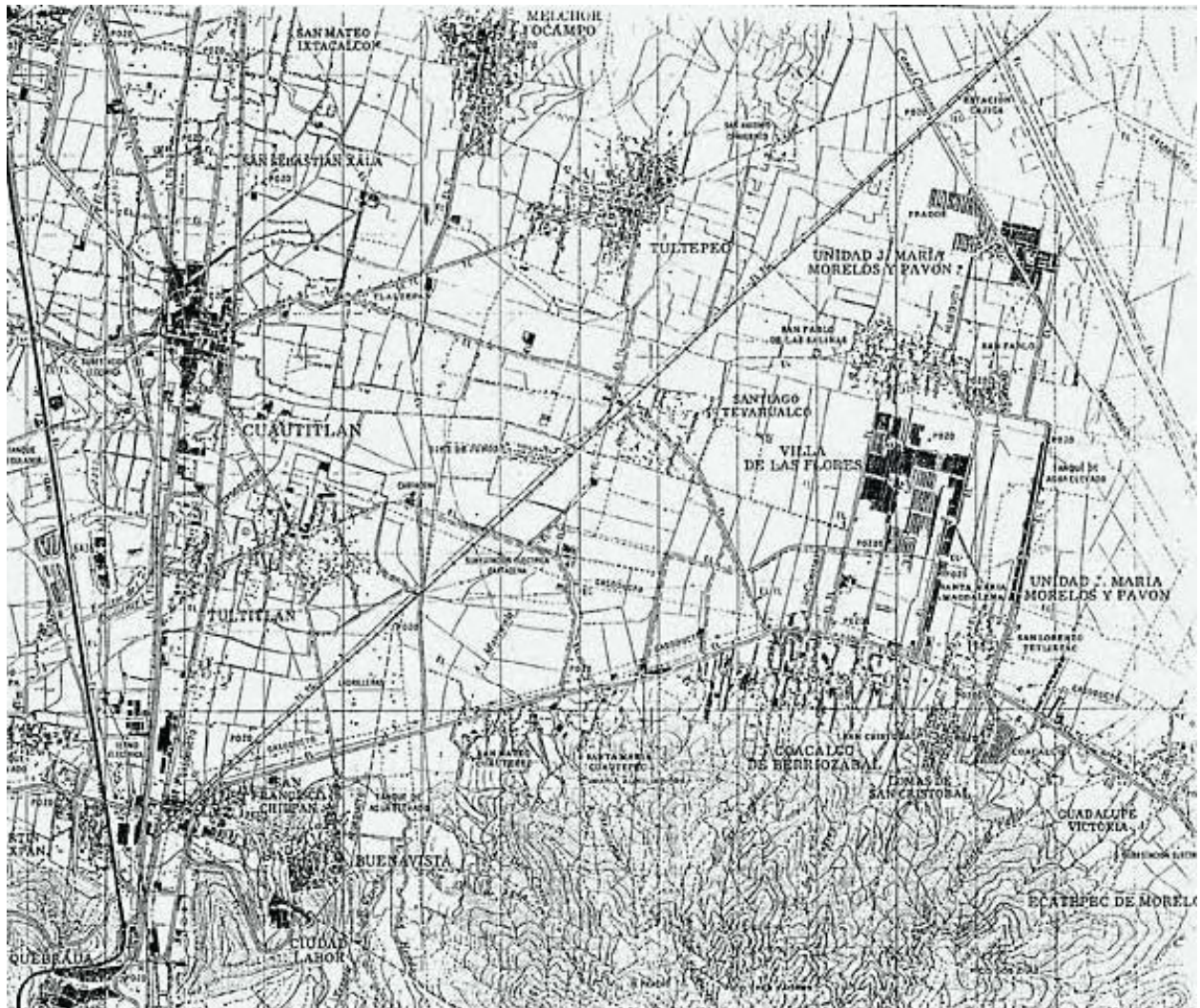


Figure 10. Map of the North Slope and Adjacent Alluvial Plain of the Guadalupe Range in Cuauhtitlán Area. Scale 1:50,000. (Cetenal Map Sheet Cuauhtitlán, Date 1975).

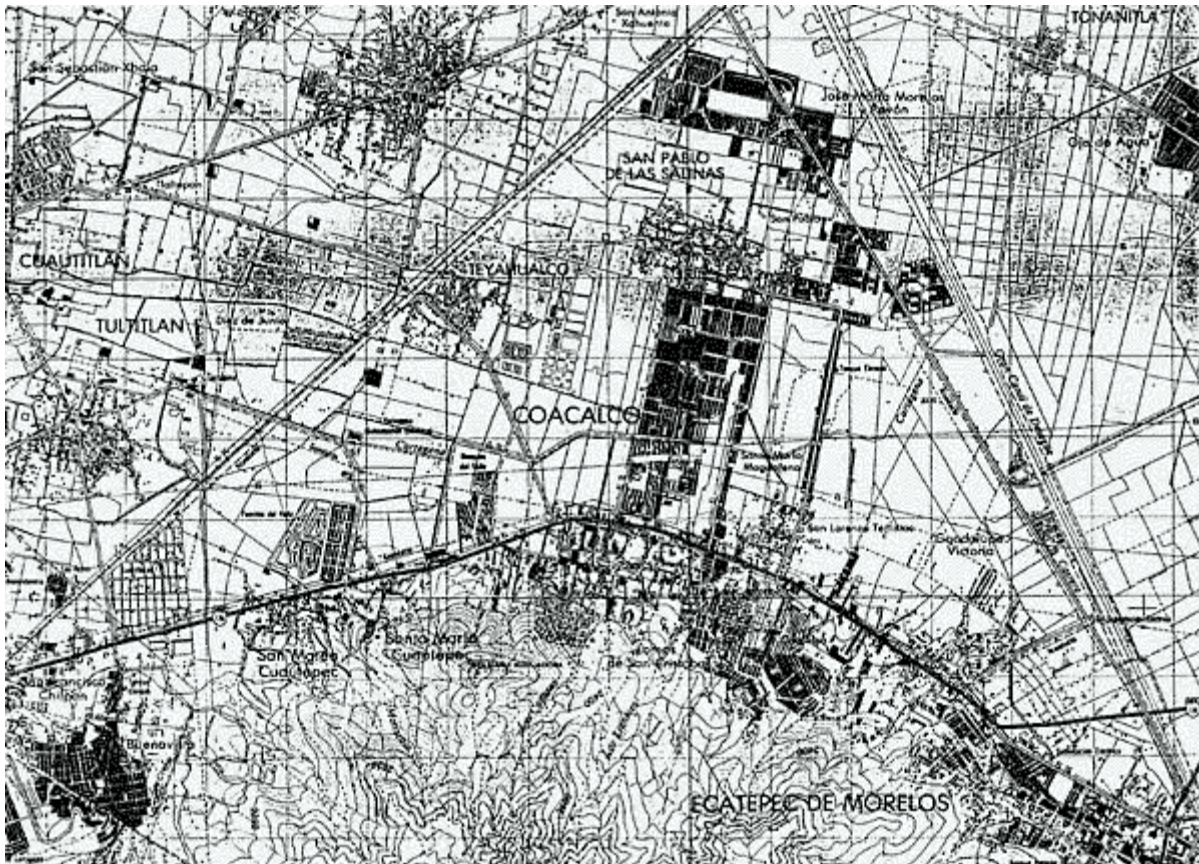


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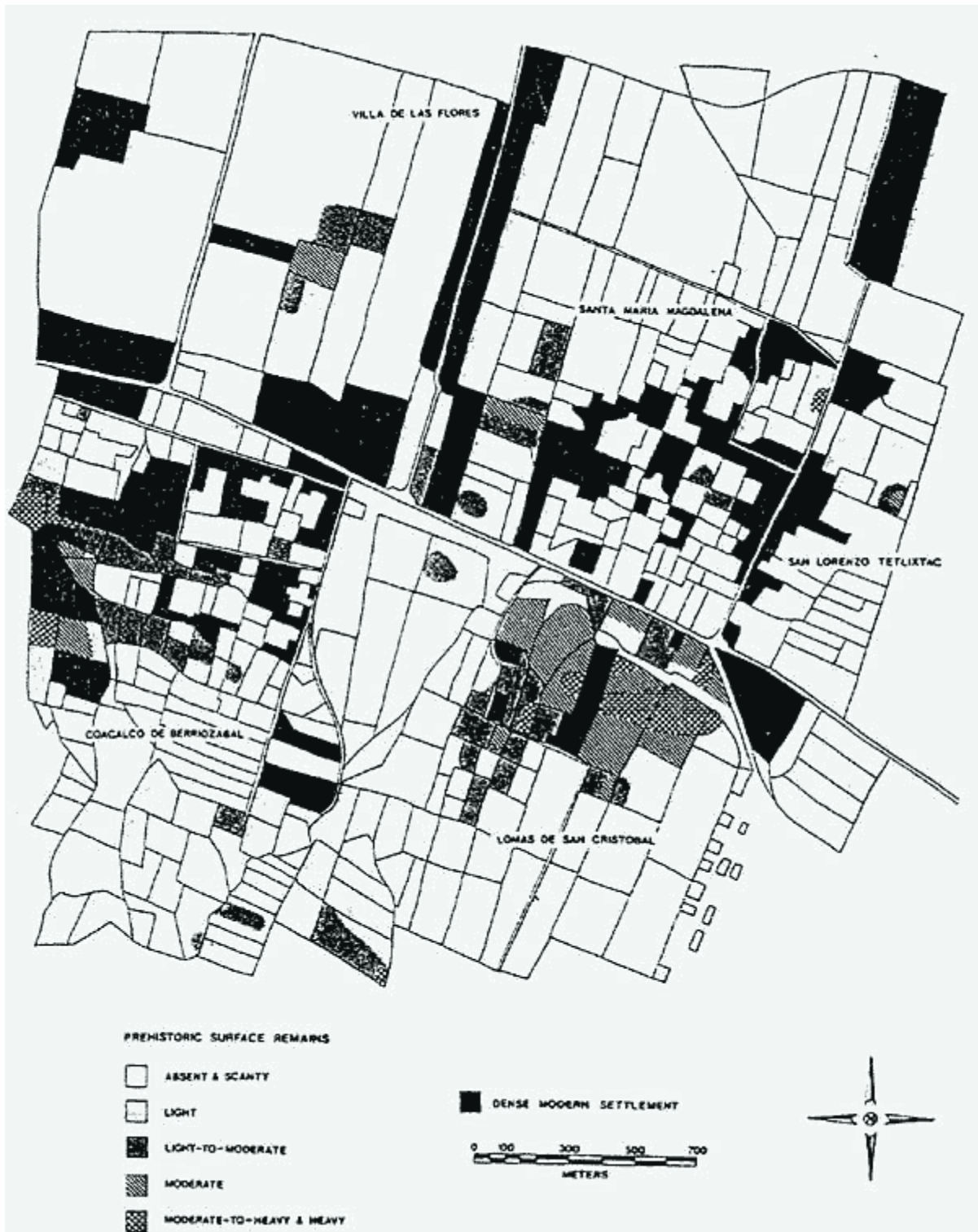


Figure 12. Cuauhtitlán Region, on North Slope of Guadalupe Range showing Sites and Modern Occupation in one of the most Heavily Urbanized Areas in 1975.

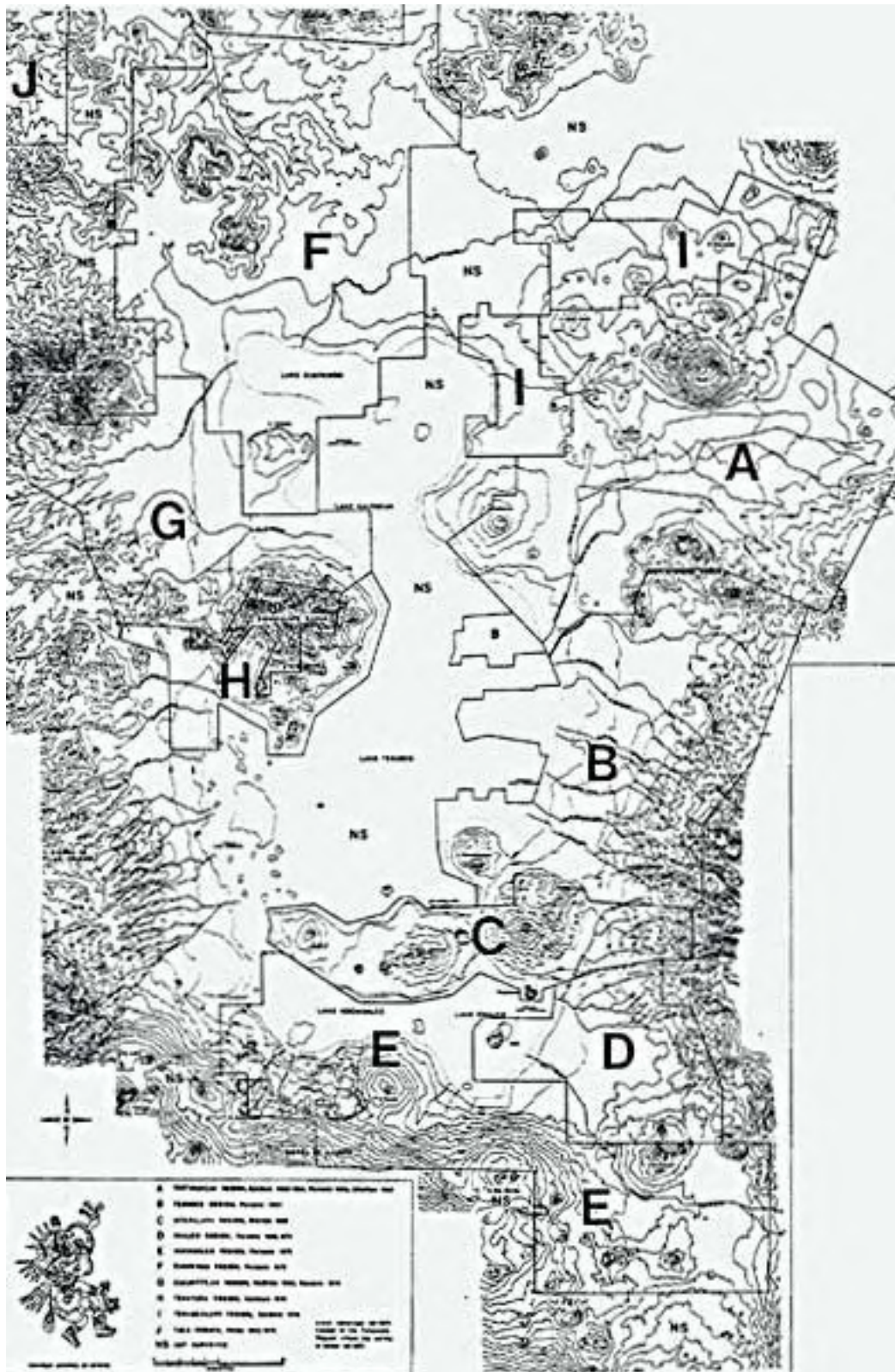


Figure 13. Basin of México Showing Survey Regions.

Conclusion

In conclusion, the particular value of a major household archaeology project at Tepetlaoztoc was the possibility of combining historical and archaeological data, to elucidate a number of major issues in Late Aztec and Early Colonial culture history, particularly the size, composition, and spatial relationship of households during a period of perhaps 200 years. The 16th century documents were unusually detailed (even including land holdings with respect to households) on the one hand and the archaeological data revealed by Parsons 1967 survey equally abundant. Because of the extensive destruction of the archaeological remains of a once widely dispersed rural population we are now reduced to possibly documenting the final decades of the process (i.e., when the congregación policy was completed and the population concentrated at the town).

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