Analyzing Household Activities
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Perhaps the smallest spatial unit of archeological analysis is the _activity area_, and we have deferred it until now because we feel it makes more sense to discuss it in terms of the household cluster. Activity areas are spatially restricted areas where a specific task or set of related tasks has been carried on, and they are generally characterized by a scatter of tools, waste products, and/or raw materials; a feature, or set of features, may also be present. Even where activity areas are not clearly present, Mesoamerican archeologists have generally recognized _activity sets_—"tool kits" used for the performance of a specific task.

For example, in his excavations at Ticoman in the Valley of Mexico, George Vaillant (1931:416-419) found two burials accompanied by what seem to be kits for specific craft activities, both dating to the Late Formative period (Figure 2.12). Skeleton 17, an elderly male (?), had been buried with what Vaillant described as a "leather-worker's kit." Among the tools was supplemented by three small obsidian scrapers. For perforating holes in the leather there were three large bone awls made from deer radii, the distal portions of which were smoothed to a point. Two bodkins were used presumably to push the thread or sinew through the holes perforated by the awls. A small shovel-tipped tool of bone has no explicable use unless for fine work in the preparation of the hide or as an implement for weaving mats and baskets. [Vaillant 1931:313]

Burial 17 also had in his lap a set of 16 pocket gopher mandibles, which may well have been part of the same tool kit; each contains one sharp, chisel-ended incisor tooth. (Vaillant considered them too "brittle" to be utilitarian, but this is an underestimate of the gopher incisor.)

Skeleton 34, also an elderly male, was buried with a kit of 15 stone and 11 bone tools for "finer work, like perhaps the tailoring of a hide." Interestingly, Skeleton 34 is shown as having been buried in a seated, upright position with the tools near his feet—a position that suggests to us that he was buried in a bell-shaped pit whose outlines Vaillant did not detect. The tool kit is described as follows:
Thirteen obsidian blades and flakes provided for the cutting of the material. Two small bone awls served to perforate it and a needle equipped with an eye took care of the sewing. Six bird fibulae [sic]* were probably blanks from which other needles could be manufactured. A hollow bone cut at one end might have been a needle case, and a battered bone, much used, served no explicable use. Needles with eyes were almost always associated in graves with blades of obsidian, so that there must have been a tailoring industry, although whether it was in hide or textiles cannot be decided on the archeological evidence. [Vaillant 1931:313-314]

Three other Middle or Late Formative burials at Ticoman were accompanied by tool kits which, although not as elaborate as those with Skeletons 17 and 34, also seem to be “sets of tailoring implements.” All three burials were male. One middle-aged female, Skeleton 48, also had a single bone bodkin and an obsidian blade. On the basis of Vaillant’s data one could at least propose—as a hypothesis for future testing—that, at any one time, there were several households at Ticoman engaged in leather working or tailoring as a part-time specialty. Moreover, one could propose that this particular task was more often than not a male activity. Such clues to the organization of household activity cannot be obtained from a study of the artifacts alone. They can be obtained only from contextual data, such as activity areas or activity sets. For more data on the household tools of the Formative Valley of Mexico, we can refer the reader to an important synthesis by Paul Tolstoy (1971).

**Variation between Households**

Although Mesoamerican archeologists have very rarely carried out definitive functional analyses of Formative tools (as, for example, microscopic

*This is a misidentification by Vaillant. The bones are not even all bird bones, and one appears to be a dog fibula. All do, however, look like good needle blanks.

edge-wear analyses of stone artifacts), they have usually done a good job of describing and illustrating the tools they have found. Such are the continuities of rural Mesoamerican Indian life that ethnographic analogy has frequently been used, with considerable justification, in the interpretation of Formative artifacts. Customarily, variation
in artifact assemblages has been presented by site and level, or by site and time period.

Once houses or household clusters have been identified, however, still another kind of variation is available for study: the variation in activities between households. In this section, we will briefly discuss the variation between households at 1500-500 b.c. in the region we know best, the Valley of Oaxaca. Wherever possible, we will point out what seem to be analogous activity areas or tool kits from other Formative sites mentioned in the archaeologival literature. Our discussion is intended to raise possibilities, rather than to be exhaustive.

**Household Activities in Formative Oaxaca**

We have no way of estimating the adequacy of our Oaxaca sample. We have drawn on the 3 best-preserved houses from Barrio del Rosario, Huiztzo; the 10 best-preserved houses at San José Mogote; the 6 best-preserved household clusters at Tierras Largas; a single house from San Sebastian Abasolo; 2 houses from Santo Domingo Tomaltepec; and our 30 best-preserved bell-shaped pits. The data from this sample have encouraged us to tentatively divide household activities in early Oaxacan villages into four categories, as follows:

1. **Universal household activities.** These are activities represented either by tools, features, or activity areas, for which there was some evidence at every reasonably complete house in our sample; we might predict, therefore, that these activities were carried out by every household in the valley.

2. **Possible household specialization.** Some types of tools seemed to be of nearly universal distribution, but the activity areas where they were manufactured were found at only one or two houses. We interpret these as activities carried out at every village, but perhaps by only one or two households in each village.

3. **Possible regional specialization.** Some activities are represented at only two of our five excavated villages; at those two villages, however, they are represented at virtually every house. Such activities may be regional specialties which were carried out by certain villages in only one part of the valley, with virtually every household in those villages participating.

4. **Possibly unique specializations.** Certain activities are known from only one village in our sample. At each of these villages, however, they are present in more than one house or household cluster. We suspect that at least one of these activities may be unique to a single residential ward or barrio at the largest early village in the valley. Let us now give a few examples of each of these categories.

**Universal Household Activities**

Food procurement, preparation, and storage apparently were carried on by every household during the period 1500-500 b.c. No extensively excavated household cluster failed to yield evidence of the following: (1) fragments of grinding stones (metates and/or manos); (2) storage pits; (3) fragments of large storage jars, some with a 5- or 10-gallon capacity; (4) bones of cottontail rabbit; (5) carbonized kernels or cupule fragments of maize; and (6) fragments of pottery charcoal braziers. Where any of these ingredients were missing, we suspect it was because the house or household cluster could not be extensively excavated because of disturbance, poor preservation, or lack of time. What this suggests is that each household was probably autonomous in terms of certain basic subsistence practices during the millenium between 1500 and 500 b.c., regardless of any part-time specialization.

Nevertheless, there is a degree of variation between households, even in "universal" subsistence practices, that deserves mention. For example, virtually every flotation sample from a house floor or storage pit contained corn kernels and seeds of prickly pear fruit (Opuntia). The presence of beans (Phaseolus) or avocado pits (Persea), however, was
Analogous Activities in Other Areas

A glance at Paul Tolstoy's descriptions of utilitarian artifacts from the Valley of Mexico (Tolstoy 1971) suggests that many of the same tools—metates, manos, antler tine pressure flakers, deer metapodial cornhuskers, and so on—must have characterized early villages in that region as well. The same is true of MacNeish, Nelken-Terner, and Johnson's (1967) descriptions of tools from early villages at Tehuacán, Puebla. Perhaps the most striking difference is that villagers in the valleys of Mexico, Puebla, and Tehuacán made hundreds of chipped stone points for lances or atlatl darts, while Oaxacan villagers seem to have done virtually all their deer hunting without chipped-stone projectile points. Despite such regional differences, and despite our lack of information on the horizontal (house-by-house) distribution of utilitarian artifacts in areas such as the Valley of Mexico, the available data leads us to suspect the general range

household may have produced its own cutting and scraping tools. Antler tines (also present in some household clusters) were evidently used for pressure flaking.

Not quite as common were obsidian flakes and, at least as early as 1050 B.C., prismatic obsidian blades. Apparently important for cutting tasks, obsidian seems to have been available to all households, though no obsidian sources occur in the Valley of Oaxaca (in this regard, see Chapter 10). Bone needles made from split deer long bones occur with many household clusters, and may have been used for sewing, basket making, or some other tasks. Some houses had several needles, but no "kits" of needles (such as those at Ticomañ) have been found.

Another common household tool was the piscador or "cornshucker." Made from a sharpened deer metapodial, this awl-like tool is identical to piscadores used today by Oaxaca farmers to slit open cornhusks, or remove kernels from cobs; the wear pattern is identical as well.
of “universal household activities” was similar in all these regions.

If we turn to the tropical lowlands, there are also some noticeable regional differences. Perhaps the clearest is the fact that, in some coastal areas, it was fishing, rather than land-mammal hunting, that contributed the bulk of the animal bone in the household cluster. Nevertheless, such artifacts as metates, manos, piscadores, and antler tine pressure flakers were still common at lowland villages like Chiapa de Corzo (Lee 1969) or San Lorenzo (Coe, personal communication). Indeed, such regional differences as occur do not alter our overall impressions that households of 1500-500 B.C. were (1) generally autonomous with regard to food procurement, preparation, and storage, but (2) interdependent with regard to a series of part-time crafts that only certain households conducted (see p. 36).

Possible Household Specialization

Certain kinds of flint tool manufacture may have been carried out by specific households within each village, not as a full-time specialty but as a form of interhousehold cooperation between relatives and affines. For example, Feature 184 at the village of Tierras Largas was a bell-shaped pit that contained an unusually high number of small chert flakes and flake fragments, undoubtedly the waste debris from stone tool manufacture by pressure retouch. Over 300 pieces were recovered, along with a bifacial tool that was probably broken during manufacture. Perhaps each small village had one or two persons sufficiently skilled at pressure flaking to provide the rest of the village with certain tools. Our evidence from other pits and houses would suggest that the average villager rarely did more than pick up a conveniently sharp flake and use it without deliberate retouch.

Certain kinds of bone tool manufacture may have been similarly organized. Feature 140 at Tierras Largas was a bell-shaped pit that contained an unusual cache of deer bone, including at least one complete, unmodified long bone, and several other long bones that had been cut to produce socket-type handles, bone rings, and other tools. Although all households used bone tools, this was the only feature that indicated that one or two households might have done a great deal of the village’s bone tool manufacture.

Ground-and-polished celt manufacture also may have been a household specialty; several residential wards at San José Mogote had such households. One, dating to ca. 1150 B.C., contained a finished celt, a partially completed celt, and a large quartz pebble which clearly had been used to polish the celt bits (Figure 2.13). Nearby was a stone pounder which probably had been used to peck out the shape of the celt before polishing. The celts were of green metamorphic rock, while the polisher was of even harder quartz.

Analogous Activities in Other Regions

The “leather-working kits” included with certain burials at Ticomán in the Valley of Mexico (see pp. 34–35) suggest that that activity may have been a household specialization. Out of Vaillant’s sample of 43 adult burials, only 5 males had such
kits (and 1 female had what might be a smaller version). Or stated differently, 5 out of the 16 middle-aged to elderly burials definitely identified as “male” had leather-working kits. Leather working, therefore, might have been carried on by fewer than a third of the households at Ticoman.

Possible Regional Specialization

Certain kinds of shell ornament production may have been restricted to households in the northwestern, or Etla, region of the Valley of Oaxaca during Early Formative times. Two villages in that region—Tierras Largas and San José Mogote—have evidence of shell working in almost every house of the period 1150–850 B.C. that has been extensively excavated. Very few houses from other excavated villages of that time period have yielded shell-working activity areas, although finished shell ornaments appear at all other villages.

A “typical” shell-working activity area at San José Mogote would be an area of 1–2 sq m, small enough to suggest that a single individual (rather than a group) was at work. Such areas were usually in the corner of a house, and they were littered with small flint chips and fragments of cut and discarded shell. They would usually include 1 or more chert knives or burins (for cutting shell) and from 1 to 10 small chert drills or perforators (for drilling shell) (see Figure 2.14). They would also usually include fragments of ornaments which broke in the process of manufacture, as well as “undesirable” parts trimmed off such shells as *Spondylus* (spiny oyster) or *Pinctada* (pearl oyster).

Certain kinds of feather working may have had a similar regionally restricted distribution. Two (or possibly three) Early Formative bell-shaped pits from different household clusters at the village of Tierras Largas yielded the bones of macaw—most likely the military macaw (*Ara militaris*), whose blue-green feathers were widely prized in Pre-Columbian times. Wing bones seem to have been cut in such a way as to preserve the feathers. Since Early Formative villages in other parts of the valley have not produced macaw remains, the accumulation and/or working of these feathers may have been restricted to the Etla region, or possibly even restricted to households at Tierras Largas alone.

Salt making was restricted to villages near saline springs, our best-studied example being Fábrica

Figure 2.14 Artifacts and workshop debris from Early Formative shell-working activity areas at San José Mogote, Oaxaca. (a) and (b) Chert burins for cutting shell; (c) chert graver; (d) and (e) small chert drills; (f) utilized chert flake; (g) fragment of cut and engraved shell ornament; (h) broken fragment of mother-of-pearl holder for magnete mirror; (i) fragment of shell bead; (j) broken fragment of drilled pearl oyster.
San José (Drennan 1972). As early as 1300 B.C., the area was visited briefly, probably to obtain salt, but no houses were built. During the Middle Formative, the production of salt by boiling brackish spring water in pottery jars was evidently a common activity, with many jars retaining a mineral crust. Another small site called Las Salinas, founded near a saline spring not far away, may have been a salt-making village at 900-800 B.C.

**Analogous Activities in Other Regions**

*Salt making* was probably one of Formative Mesoamerica’s most widespread regional specializations. Suitable localities varied from the brackish springs of the Tehuacán Valley and the shores of saline Lake Texcoco in the Valley of Mexico to the fossil lagoons and estuaries of the coastal lowlands. In Chapter 4, Alan Zarky discusses the tiny Guatemalan coastal hamlets which apparently produced salt from dry former estuary beds.

The *manufacture of metates* from suitable volcanic rock may have been a regional specialization in still other areas. At the Early Formative village of Coapexco, near Amecameca in the Valley of Mexico, Tolstoy and Fish (1973:18) report atypically large numbers of *metates* and *manos*, including numerous unfinished specimens in and around the houses.

Formative sites near obsidian flows in other parts of Mesoamerica may have had similar regional specializations. Shook and Proskouriakoff (1956) mention *obsidian-working areas* at Middle Formative sites near Guatemala City; the Valley of Mexico is rich in such areas, but, so far, none have been reported for the early village period in which we are interested. Places near which early obsidian working might be expected include Guadalupe Victoria, Puebla; Otumba, Valley of Mexico; Zinápécuar; Querétaro; and El Chayal, Guatemala (see Pires-Ferreira, Chapter 10 of this volume).

We cannot help feeling that there must be many more such regional specializations in early villages than are reported in the literature. Perhaps, at the time, the excavators who ran across them assumed that they would not be of interest to anyone else.

**Possibly Unique Specializations**

*Magnetite mirror production* may have been restricted to one set of households in one residential area at the village of San José Mogote during the period 1150-850 B.C. Rare examples of finished mirrors have been found at four other villages—Fábrica San José, Hacienda Blanca, Tomaltepec, and Tierras Largas—but no areas of mirror manufacture have been found anywhere outside a small area (Area A) on the eastern edge of San José Mogote. On one small field in this area, intensive surface collection turned up more than 500 fragments of magnetite, hematite, and related iron ores.

A “typical” magnetite working area at San José Mogote might be an area 1-2 sq m in extent, once again suggesting that production was by individuals rather than groups. In addition to scattered lumps of unused iron ore (presumably rejected because of flaws or inappropriate cleavage planes), such an activity area might include a number of small flat mirrors, about the size of a thumbnail, which had broken during manufacture. Polishers of quartz or hematite (both of which are harder than magnetite) were sometimes present. Nearby might be found “mirror holders” of pearl oyster-shell artifacts with spaces just the right size for a small magnetite mirror. Whether these “holders” were made by the same individuals who made the mirrors is not yet clear. However, some shell working was carried on in the same household clusters with the magnetite working.

Mirror-polishing activity areas were typically inside houses. What is more, in Area A at San José Mogote, as many as four stratigraphically superimposed levels contained such activity areas, suggesting that four generations of households had the same part-time specialty. In no other Early Formative residential ward have such mirror-working areas so far been discovered.
We are sure that similar situations—spatially restricted, specialized activities which span several generations in the same residential area—must occur at other early Mesoamerican villages, but they are hard to find in the literature. Indeed, we have written this chapter largely in the hope that fellow archeologists will bring new activity areas and new tool kits to our attention, or point out to us ones we have overlooked.

The Recording of Household Activities

The preceding is an abridged and highly oversimplified review of a very complex topic. On the theory that one concrete example is worth a thousand words of discussion, let us consider one actual house in particular.

House 2 in Area C at San José Mogote (Figure 2.15), dating to approximately 1000 B.C., is a convenient example. Only the eastern half of the house had been preserved. The long axis of the house ran north-south, with a door on the east side, and with a midden to the south of (and slightly downhill from) the house. Here is how that house might be reported:

**Number:** House 2.

**Length:** Approximately 5 m (N-S) from corner post to corner post.

**Width:** Unknown (west half disturbed by modern adobe makers).

**Post pattern:** Two corner posts (in the NE and SE corners) represented by postmolds, both framed by lines of stones. Post diameters, 20 cm.

**Construction:** Wattle and daub, with white, limey clay surfacing. A row of foundation stones lines the east side, except in the doorway, which is 1.1 m wide. Two particularly large stones flank the doorway. Charred *Phalaris* (reed canary grass) present, probably from roof thatch. Floor, stamped clay with a light surface of clean sand.

**Major items plotted on floor:** Impression, containing silica exoskeleton of twilled *petate* or sleeping mat, near NE corner. Restorable out-leaned wall bowl (Vessel 3), near wall N. of door. Restorable cylindrical bowl (Vessel 1),
near wall S. of door. Restorable pottery charcoal brazier (Vessel 2), lying crushed in front of doorway. Nearby is a small charred corn-cob. The spilled ash from Vessel 2, when floated, produced six corn kernels, many cob fragments, two prickly pear fruit seeds, one burnt cane fragment, and two unidentifiable seeds.

**Activity areas:** Apparent shell-working area, covering about 1.5 sq m in SE corner. The artifacts include three fragments of chert nodules; two cores and five core fragments; and two separate concentrations of chert waste flakes 60 cm apart. One of the latter includes a chert burin, while the other includes a chert drill. There are numbers of cut and drilled shell ornament fragments and shell waste, primarily freshwater mussel. Two unused shells of Cerithidium (an estuary snail) and one Anomalocardia shell are present. Apparently the worker started with chert nodules and raw shell, made his own flake cores, then made his own burins and drills from the flakes, and finally worked the shell. Included in this activity area are several possibly unrelated items, including an unworked chunk of iron ore (another occurs near the door); a stone palette fragment; a broken fragment of ground stone mano (another occurs near the door); and two quartz pebble burnishers, one made on a former scraper.

**Associated feature:** A gray ashy midden outside the house, to the south and downslope. When floated, it produced 17 maize kernels, many cob fragments, 1 possible cucurbit seed, and 3 chile pepper seeds.

![Figure 2.16 Modern highland Maya house from Zinacantan, Chiapas, Mexico, conceptually divided into men's and women's work spaces. [After Vogt 1969: Figure 32.]]

Between the activity area or feature, and the house or household cluster. That level would be the "male" or "female" work area.

A very nice ethnographic model for such work areas can be drawn from Evon Vogt's study of the highland Maya of Zinacantan, Chiapas (Figure 2.16). According to Vogt (1969: 83-84):

**Possible "Male" and "Female" Work Areas in Oaxaca Houses**

Now we must raise one more possibility, which cannot yet be confirmed because our sample of houses is too small. That is the possibility that there may be an intermediate level of analysis be-
focal point for women's work, as well as for family interaction, since men and children sit by the fire for warmth and also eat near the fire.

On the basis of Vogt's data, one could predict that a future archeologist, excavating a Zinacanteco house that had been hastily abandoned, would find objects owned and use by men near the altar, objects owned and used by women near the hearth. However, some men's objects could well occur intermingled with women's objects because of the family interaction near the hearth, just mentioned.

There are obvious problems in applying the Zinacanteco model to houses of the Formative period. For example, Early Formative houses in the Valley of Oaxaca usually had no hearths; instead, they had portable pottery braziers which could be moved from place to place within the house. Moreover, very few early houses show anything resembling an altar; one or two Early Formative household clusters in Oaxaca had possible ritual features, but we will defer their discussion until Chapter 11.

On the other hand, we have no doubt that even these early households had "objects owned and used by men" and "objects owned and used by women," and the distribution of these within the house well might have been patterned. Thus, early houses could have been "conceptually divided" into work areas with men's tools and male-related features, work areas with women's tools and female-related features, and areas of overlap due to family interaction.

Our candidates for women's tools include metates and "two-hand" manos; pottery charcoal braziers; pots showing a crust where maize had been soaked in lime; some hammerstones for food preparation; deer bone cornhuskers; spindle whorls; sewing (as opposed to leather-working) needles; and so on. We suspect that most of the flint chipping was done in male work areas, and that antler tine pressure flakers, projectile points, and many kinds of chert bifaces and scrapers were men's tools. On the basis of the Ticomán data already mentioned, we suspect many bone hide-working tools (fleshers, beamers, etc.) also were used by men, along with tools for land clearance (celts), weapon manufacture (shaft smoothers, burins), and a variety of extractive tasks. Men also may have used some kinds of small "one-hand" manos, as well as hammerstones for celt manufacture.

In at least some early houses from Oaxaca, we do note a tendency for our presumed "women's tools" to occur to one side of the midline as one enters the house, while presumed "men's tools" occur to the other side. In House 1 at Tierras Largas (Figure 2.17), most chert cores, scrapers, areas of retouch flakes, and at least one biface lay in front of or to the left of the door as one would enter. All bone needles, deer bone cornhuskers, and pierced sherds (probably spindle whorls) lay in front of or to the right of the door as one would enter. In addition, a gray ash deposit from cooking activity occurred in the "right half" of the house, and contained a needle and a deer bone cornhusker.

Most of the chert working in House 2 at San José Mogote (Figure 2.15) also was concentrated to the left of the door as one entered: cores, nodules, debitage, and utilized flakes. In front of the door was a smashed charcoal brazier with food debris, and more food remains occurred to the right of the door. Coextensive with, and possibly related to, the chipped stone scatters was a shell-working area, only one of many craft areas associated with presumed "men's tools" in early Oaxaca villages. It was most often in these "men's work areas" that burins and drills were made, shell and mica were cut and drilled, and ritual ornaments polished or burnished. One suspects, therefore, that this was an activity carried on by males in their free time, away from the hunt or the milpa. Obviously, to demonstrate this convincingly we need a much larger sample of houses; our sample is not yet statistically significant.

Indeed, obtaining an adequate sample of men's and women's work areas will be difficult, for only a small percentage of houses are sufficiently undisturbed; in many, the floor debris is so kicked
Figure 2.17 Plan of House 1 in Area A at Tierras Largas, Oaxaca, with selected artifact categories plotted on floor and intrusive features omitted. Late San José phase, ca. 900 B.C.
around that the areas are blurred. Nevertheless, we believe that the search for this intermediate analytic level is worth the effort, in terms of its potential for illuminating sexual division of labor in the Formative (Figure 2.18).

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