

INVESTIGATING AN ANCIENT SUBURB

Excavations at the TUV Mound, Tal-e-Malyan, Iran

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Archaeology is often described as the science of the human past, a discipline which seeks to explain such complex phenomena as the evolution of early man, the domestication of plants and animals, and the origins of cities and state societies. However, archaeology also continually sheds light on the development of less monumental but intrinsically human institutions and activities. One recent University Museum expedition, the Malyan Project, has, for example, unexpectedly found itself excavating a slice through ancient suburbia.

What is suburbia? Strictly speaking, it is merely the suburbs of a city. According to *Webster's Seventh New Collegiate Dictionary*, the word 'suburb' is derived from the Latin *suburbium* (*sub-* under or near + *urbs* city), and is (a) an outlying part of a city or town, or (b) a smaller community

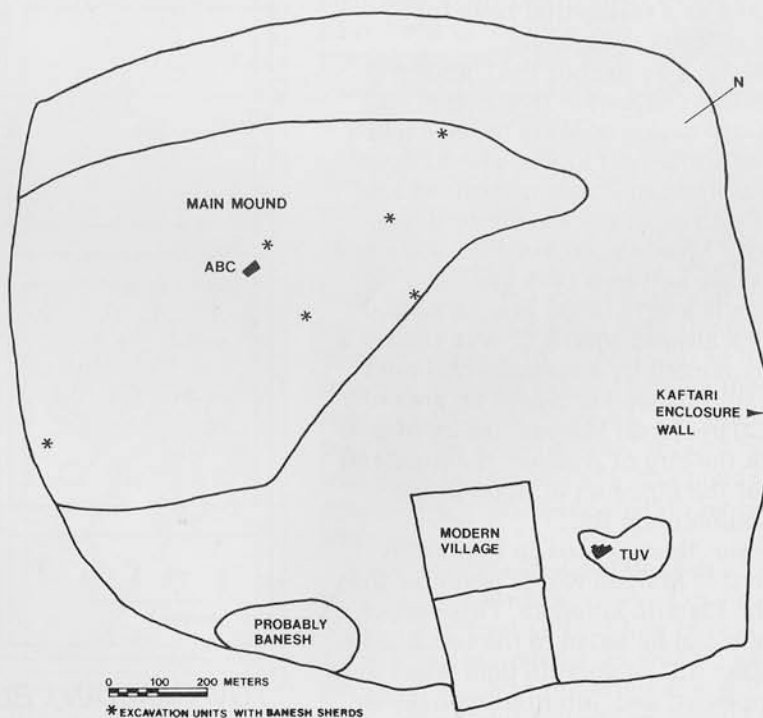
adjacent to a city. Thus one cannot have suburbs without cities. However, suburbia also has additional connotations. Suburbs are not thought to be just small communities lying by chance very close to a larger settlement. Rather, suburbs are believed to have very close functional interdependencies with the city they border. For example, many modern suburbs serve as a bedroom zone for people who actually work in the city proper.

Sociologists would say that suburbs are highly specialized communities which lie outside a central city and are politically and economically dependent upon it. The specialized function of such a suburb need not be wholly residential, but will represent only a portion of the total functional range which the true urban center exhibits.

Many of the current connotations of

1 Map of Iran

2 This schematic plan of Malyan represents a projection from excavation and survey data of the extent of Banesh occupation in the late fourth millennium B.C.



'suburbia' can be directly related to consequences of the Industrial Revolution. The need for large numbers of factory workers, when coupled with easy means of transportation, leads to the formation of bedroom suburbs, for example. But does this mean that we should automatically conclude that because there were no factories or mass transit systems in the ancient world, there were also no suburbs? Obviously not!

Most scholars would agree that as long ago as the fourth millennium B.C. there were settlements in greater Mesopotamia which functionally deserved to be classified as cities. Given the existence of such cities, it must be conceded that small settlements which fulfill the *literal* definition of a suburb (that of close juxtaposition to the city) might have existed also. Examples of such communities are in fact documented in the archaeological record of the ancient Near East.

One of the clearest examples of an ancient suburb was found at Nuzi, a site in northern Iraq near modern Kirkuk. During the second half of the second millennium B.C., the city of Nuzi was clearly demarcated by a wall. Lying outside that wall was a small suburb, consisting of four large private houses. These homes were evidently owned by very prosperous individuals. Numerous business records were recovered from these structures, and even the names of the owners are known (Starr 1939:333-347). The Nuzi suburb clearly functioned as a residential zone for wealthy citizens of that city.

The Malyan Project of the University Museum has conducted research at an ancient city which appears to have had a suburb of a different kind. Tal-e Malyan lies on the Iranian Plateau, about 46 km. north of Shiraz, in the Kur River Basin. University Museum excavations were conducted there between 1971 and 1978.

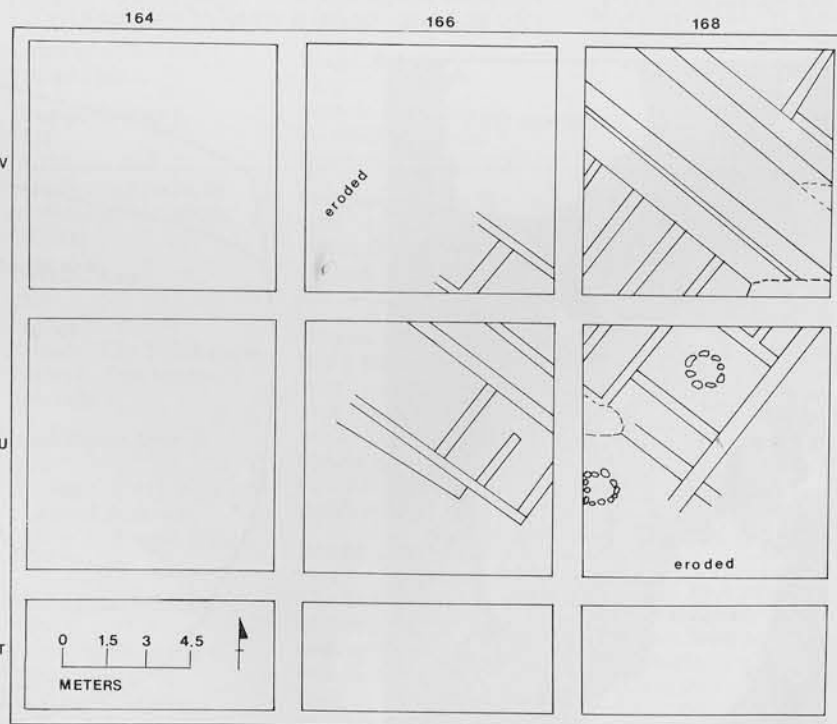
Malyan is a very large, low, mounded site which around 2000 B.C. was clearly a city, surrounded by a monumental mud brick wall; this wall enclosed an area of about 200 hectares. Malyan can be identified with the city of Anshan, the highland capital of the kingdom of Elam in the second millennium B.C.

However, there is also an important settlement at Malyan which predates the era of the Elamite kingdom. This earlier settlement can be dated to the late fourth millennium B.C., a volatile time when new cities appeared and 'internationalization'



3 Aerial view of the TUV Operation (900 square meters) looking west. B.L. III is in the foreground, B.L. II in the background. (Photographer: Jack Balcer)

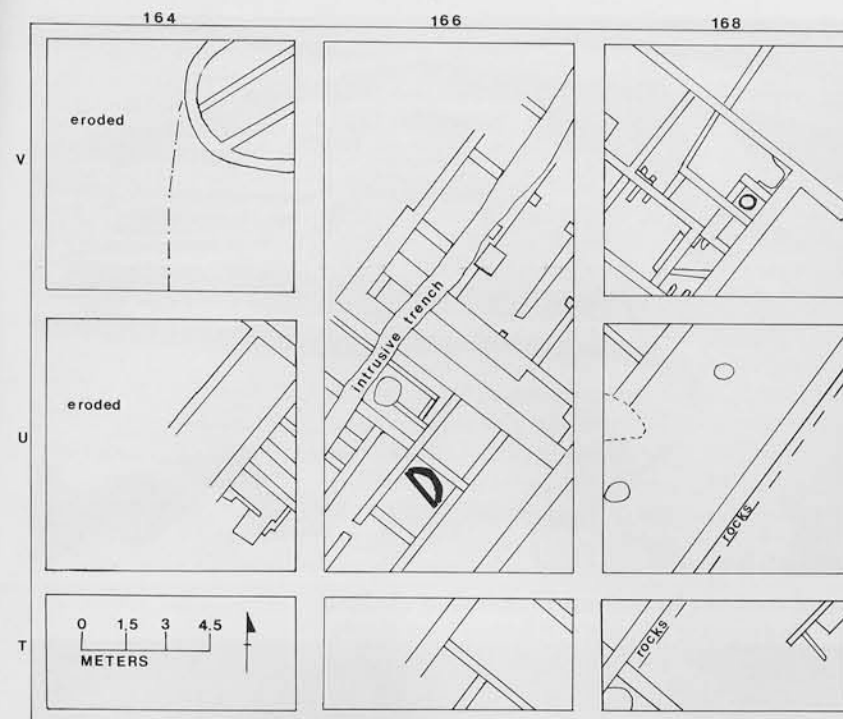
4 The topmost building level at TUV has a neatly rectilinear plan, but few preserved features other than the two circular wells (outlined by stones) in U168.



TUV (MALYAN): BUILDING LEVEL I

through long-distance trade networks was a potent force.

This phase of occupation at Malyan has been named the *Banesh*. Direct mapping of the extent of Banesh settlement is impossible because of heavy later cultural overburden. However, the probable extent of Banesh occupation can be estimated from the distribution of Banesh ceramics in the various trenches excavated by the Project, and in the waste piles left by the construction of modern irrigation *qanats* across the site. Malyan in the Banesh phase is thus estimated to have covered 50 hectares, not

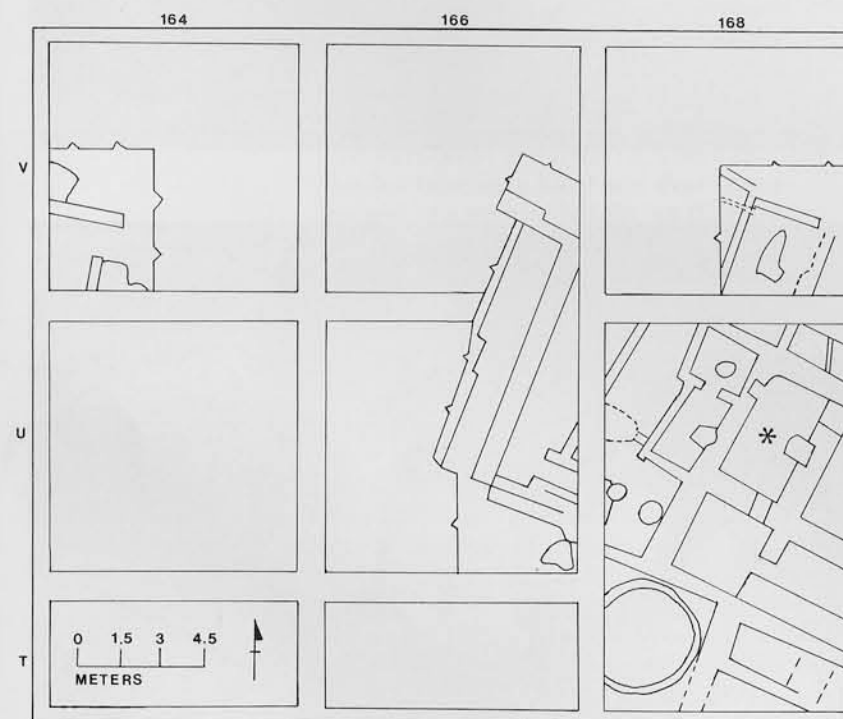


TUV (MALYAN): BUILDING LEVEL II

5 The northwest portion of the main structure in B.L. II (V166-V168) contains many hearths and bins, plus large quantities of bone residue, suggesting that it was a large kitchen area. In

the southwest (U164-U166) is a block of probable storerooms. A large courtyard lies on the east (U166-U168-V168).

6 The long, narrow space in U166-V166 is a blocked alley, opening south into an exterior trash-dumping zone. Room 225 (*) has an elaborate hearth on its east wall.



TUV (MALYAN): BUILDING LEVEL III

so large as it would become by 2000 B.C., but already of respectable size for an ancient city.

However, the Banesh phase occupation at Malyan occurred in at least three physically discontinuous zones. Excavations have been conducted in two of these three areas. The third zone, in the southeastern sector of the site, is known only from analysis of surface collections.

The largest occupation mound or main Banesh city (estimated to have covered about 47 hectares) has been partially explored in the ABC operation. This sounding obviously constitutes only a small sample of the ancient Banesh city. Nonetheless, four building levels of the Banesh phase have been exposed there. The recovered architecture is best described as 'large-scale,' while many of the small finds associated with these structures suggest that the function of this area was elitist in nature. Segments of elaborate wall paintings have been recovered from the ABC operation (Nickerson 1977). Numerous seal impressions and Proto-Elamite tablets have also been discovered there, suggesting the presence of administrative activity in this locale (Sumner 1974, 1976).

About 300 meters northeast from the perimeter of the main mounded zone at Malyan lies a separate small mound, about 3 hectares in area, which was inhabited during the Banesh phase only. This mound is surrounded by a flat area that lacks significant cultural deposit and appears to have been unoccupied during antiquity. During the 1974 and 1976 field seasons, the TUV operation was excavated at the southern end of this mound.

The TUV mound thus fulfills the literal definition of a suburb, for it is unquestionably a small settlement lying near a much larger one. Unfortunately, there are no detailed written records like those from Nuzi to reveal the exact nature of the relations of this suburb with the main Banesh community at Malyan, so the interpretation of the occupation there must rely on archaeology alone. The question is whether TUV was a 'true' suburb of Malyan or a functionally independent small village that happened to lie close to Malyan.

Parts of three distinct Banesh phase construction units have been explored at TUV. The topmost, Building Level I, is the least well understood, as erosion has removed much of the original architectural plan: only about 200 square meters of this

phase remain. Furthermore, preservation is very poor; walls remained standing only to a height of one or two courses of mud brick. The only features to be preserved were two regular, circular wells that may have provided water for the Level I building.

The major impression created by the recovered architecture is that of a very neat and regular plan. The Building Level I structure did not grow haphazardly. However, the small sample size and poor preservation of this level force us to conclude that the answer to the question of the functional role of TUV will not be easily found in this uppermost level.

Fortunately, the archaeological record is much richer for Banesh phase Building Levels II and III at TUV. Of these lower remains, B.L. II is the more extensively sampled. About 455 square meters have been excavated. A large courtyard (ca. 17 x 4.5 m.) occupies the eastern section of the excavated zone. To the north, west, and south of this courtyard lie continuous maze-like arrangements of small rooms. In addition to this major architectural complex, a free-standing round structure was found in the northwest sector of the excavated zone. This round building has three interior compartments divided by narrow partition walls. Unfortunately, the purpose of this structure remains enigmatic. There were neither associated features nor faunal and botanical remains recovered from it.

Except for this round building, the architectural plan of B.L. II is rectilinear, with consistent orientation of room corners toward the cardinal points. The outlines of the three major room-blocks represented in our sample were thus clearly 'planned.' However, the *internal subdivisions* of the major constructional units have a rather haphazard, 'thrown-together' appearance; rooms and alcoves are demarcated by flimsy partition walls, sometimes set at odd angles to the main axis of orientation of the B.L. II complex.

Generally speaking, preservation of B.L. II was very good. Numerous hearths, bins, and other features associated with the rooms were intact. These features suggest that at least part of B.L. II was used for domestic functions such as cooking. Finally, extensive trash deposits from this building complex provide us with a large data-base of moveable archaeological elements which can be used to help create a functional reconstruction of life in this



7
B.L. II architecture at the TUV Mound, square U166, excavated in the 1974 season. Looking southwest at this 10 x 10 meter excavation unit. (Photographer: William Sumner)

8
In the foreground is round structure 315 of B.L. III at the TUV Mound, excavated in 1976. (Photographer: Jack Balcer)

9
Feature 227, an elaborate hearth installation in room 225 of B.L. III at TUV. Looking east. (Photographer: Jack Balcer)

level.

About 275 square meters of B.L. III have been excavated. The main exposure shows that the original plan of this level included several complexes of small rooms, an alley, a free-standing circular structure, and an outside area used for the dumping of trash. Generally, preservation throughout this level was exceptionally good. However, the stratigraphic history of B.L. III is complicated by varying rates of abandonment in different rooms. In fact, eventually the southern and northern segments of B.L. III were completely abandoned; those zones were remodelled and converted to radically different functions. At the same time, the central areas of B.L. III continued to be utilized in their original formats.

The general orientation of B.L. III is slightly different from that of the two levels which succeeded it, running somewhat more north-south, east-west. However, neither the walls nor the room corners of B.L. III can be said to be oriented exactly to the cardinal points.

The circular structure, feature 315 (diameter ca. 3.5 m.) is of a distinctly different kind from the circular building excavated in B.L. II. The outer wall of the B.L. III example is also made of mud brick, but in this case the wall is just one brick thick, and there are no interior partitions. Furthermore, feature 315 has a highly distinctive floor. There are two superimposed very hard 'cement' floors, the matrix of which contains numerous small pebbles. The entire structure has a strikingly red coloration; the most intense of these heat-related effects are found in the northwestern portion of the feature. There the wall has become very hard and thus is preserved to a greater height, so that the beginnings of corbeled doming are evident. Perhaps this feature is a large walk-in oven, or a burned silo.

Many well-preserved features such as hearths, bins, and ovens suggest possible domestic functions for B.L. III. However, one room (225) within B.L. III's central sector is exceptionally elaborate. This room is accessible through doorways on its east and south sides, and has a two-room annex leading off it to the west. Room 225 is the largest room (that could have supported a solid roof) in B.L. III. The mud-plastered floor of the room is in excellent condition, by far the hardest and most level floor of that building complex. In the northwestern corner of the room, some remnants of white plaster occur on the

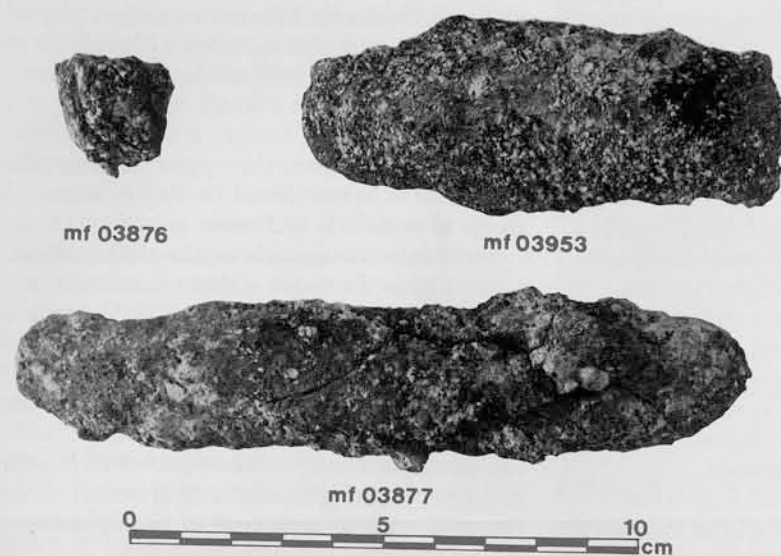
floor as well. Considerable traces of white lime plaster are found *in situ* on all four walls of the room. Moreover, fallen bits of both white and black-painted plaster were recovered from the fill of the room. One fallen piece is large enough to have retained a distinct design, a step pattern, which suggests that the upper portion of at least one of the walls of room 225 was painted with this bichrome motif.

Built into the middle of the east wall of room 225 is the most elaborate raised-box hearth (feature 227) found at TUV. In its earliest plan, this hearth consisted of a lower bin or plastered compartment set into the wall, adjacent to an elevated box also partially set into the wall. This elevated platform was composed of layers of heat-retaining stones and sherds, covered with a thick coat of mud plaster. A shallow channel or groove was impressed into the upper surface of this box; this groove led to the center of the front edge, directly above a crucible or cup set into the floor in front of the hearth and evidently intended to collect a run-off product from the hearth installation.

How then does one proceed from recovered architectural evidence (such as that just described) to an understanding of the functions for which that architecture was utilized in the past? Obviously, the information gathered about portable elements of site content—the artifacts and ecofacts—must then be incorporated into the analysis. There are two broad steps in this process. One involves the assignment of each find to the broad functional class of activity which it represents. At TUV we have recognized such functional classes as food preparation/consumption, storage, metallurgy, information processing, and many others. The second part of the interpretative analysis examines the spatial distribution patterns of these classes within the immovable architectural framework.

Such analysis has allowed the construction of a *functional profile* for each of the three Banesh building levels at TUV. The functional profile is a summary of the specific activities known to have occurred in each level, along with the relative frequency with which debris resulting from these activities was recovered in the archaeological record.

Compilation of the functional profile for a level also results in the derivation of the *functional size* of that level, that is, the minimum number of different functions that the site or level in question can be

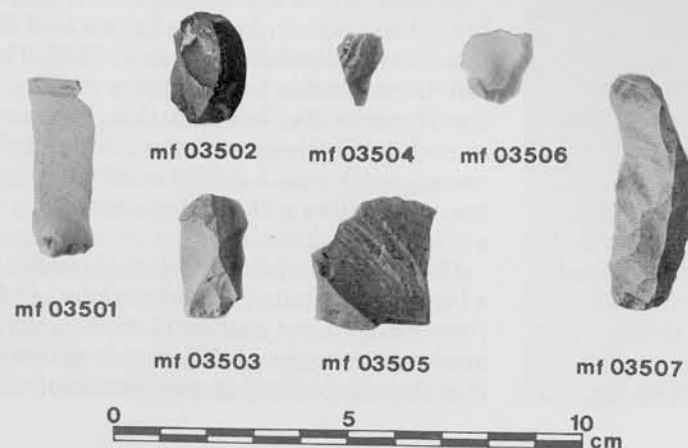


inferred to have had. The functional size of a level generally varies depending on the character of the deposits from which it is calculated. Therefore we prefer to speak of a *functional range* for each level at TUV. The lower number in each range is calculated using only archaeological evidence in primary and secondary context, that is, respectively, material still in the place where it was last used or where it was thrown away. The higher number is based on a calculation which also included the evidence in tertiary context (redeposited materials which have lost all relationship to either their original place of use or their original place of discard). Even the very enigmatic B.L. I has a functional range of 12-13, while that of B.L. II is 13-15, and that of B.L. III is 20-20.

However, it is necessary to consider whether these functional profiles which we

10
Copper-based metallurgy at the TUV mound is documented by finds such as these iron-rich copper slags from B.L. III. (Photographer: Jack Balcer)

11
A selection of chipped stone artifacts from the TUV Operation. (Photographer: Jack Balcer)



have constructed so painstakingly may not themselves be an artifact of the area and volume of material excavated within each building level. We find that despite the small volume of material removed from B.L. I (only 30 cubic meters) its functional range is nearly the same as that of B.L. II (182 cubic meters of excavated deposit). B.L. III, intermediate between B.L. I and B.L. II, both in area and in volume of matrix removed (110 cubic meters), has the highest functional range of the three. Thus it would appear that at TUV functional range is *not* directly correlated with the amount of excavation done in a level. The functional range determination appears to be a good indicator of the relative complexity of activities being undertaken in or near the particular structures which we have sampled. (Obviously, we can draw no conclusions about the relative complexity of these levels in other unexcavated portions of the TUV mound.)

Thus the functional profiles reconstructed for TUV convincingly demonstrate that TUV was not just an area of simple domestic habitation, or an area with one overwhelming primary function. Rather, there is a diverse functional profile which suggests a wide combination of small-scale craft, domestic, and administrative activities.

For example, the functional profiles indicate that for part of its history TUV was a locus for a cottage industry in copper metallurgy. Small pieces of copper ore, numerous small fragments of slag, crucible/furnace fragments, molds, sheet stock, and bar stock have all been found at TUV. (Finished copper items occur as well, but are not counted as evidence for *in situ* copper metallurgy because they could well have been imported.) In both B.L. III and B.L. II metallurgical evidence is common; however, in B.L. I evidence assignable to this class occurs only in very slight quantity. Copper-based metallurgy may still have been conducted somewhere on the TUV mound at that time, but not in the immediate vicinity of our operation.

Despite the fact that TUV is clearly a metal-using and metal-producing community, the production of chipped stone tools from flint, chert, jasper, and prase (a green chalcedony) also was an important local craft. Raw material, debitage, and finished tools have all been found at TUV, indicating that at least some production of chipped stone tools was done *in situ*. This industry would appear to have been an

important small-scale craft activity in all three of the building levels sampled by the TUV operation.

Still another craft that may have been practiced at TUV is shell-working. This activity, admittedly, is not so firmly demonstrated as those just discussed, for most of the evidence from TUV is in the form of raw material (apparently unworked shell). However, there are some finds of shell inlay and shell beads to suggest uses for which the raw material may have been intended. At least some shell is present in all three of the building levels at TUV.

We have not yet discussed the sherds and animal bone which were the most common finds at TUV, recovered in immense quantity. What activities produced this extensive refuse? Certainly at least food production/consumption and storage activities are indicated. The bone remains undoubtedly are largely residue from eaten animals. Many of the sherds come from vessels of a size suitable for cooking/serving functions. Taking the bone and sherd evidence in conjunction, it is a plausible inference that cooking and eating of food must have occurred in or near the excavated portion of each building level. Therefore we can add these domestic activities to our composite functional profile for TUV.

One very important group of artifacts at TUV may be related to a broad class of activities concerned with information processing. Information processing refers to a society's ability to absorb new knowledge, to relate it to older information, and then to record this material for later utilization. In part, it is the evolving ability to manage information processing better which thus allows increasingly elaborate cultural developments to occur. Yet, since information is processed in various ways in different societies, analysis of the manner in which an ancient community accomplished this essential human activity is critical if we are to achieve adequate understanding of the way such a community operated.

The Banesh phase occupation at both the Malyan main mound (ABC operation) and the TUV mound is characterized by the presence of inscribed tablets. Such tablets represent a significant development in the ability of a society to deal with information. The Malyan tablets have both numbers and pictographic symbols, and are part of a wide-spread phenomenon of tablet use in the Near East during the latter fourth

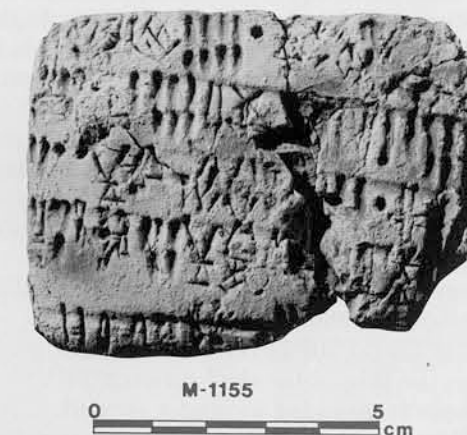
millennium B.C. The tablets at Malyan are called 'Proto-Elamite,' because they are similar to tablets recovered at Susa in levels stratigraphically underlying layers with tablets written in the Elamite language. In a broad sense, the origins of the Proto-Elamite writing system must of course be related to the earliest tablets in Iraq proper.

In addition to the Proto-Elamite tablets (7 complete examples, 14 fragments) from TUV, the following kinds of artifacts have been assigned to the information processing functional class: potter's marked vessels, small geometric objects, bullae, seals, and seal impressions.

A potter's mark is a symbol impressed on a pottery vessel by the maker of the pot to indicate his authorship of the work. Geometric marks that may be potter's marks are present but extremely rare in the ceramic assemblage at TUV; only one

12
Mf 1861, a Proto-Elamite tablet from B.L. II of the TUV Operation. (Photographer: William Sumner)

13
Matthew Stolper (left) and Michael Nimtz excavating a Proto-Elamite tablet at TUV during the 1974 season. (Photographer: William Sumner)



example of each of five different marks is represented there.

Small geometric objects have been included in the information processing class because in many places such items appear to serve as information-conveying symbols. A recent comparative study (Schmandt-Besserat 1977) has reviewed the widespread occurrence of small geometric objects in the Near East from the ninth to the second millennia B.C. This review concluded that such objects were part of a complex informational token system used originally long before the development of writing, and perhaps in fact linearly related to the origins of pictographic writing systems. (Schmandt-Besserat's theory is an interesting one, but it must be pointed out that it is not yet possible to say *all* such small geometric objects are necessarily counting tokens. Some may have been gaming pieces, for example.)

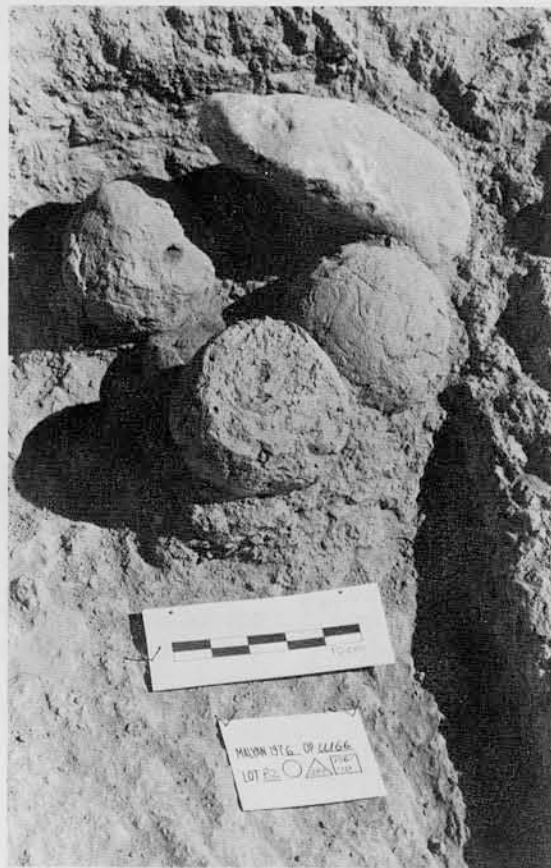
The possible tokens at TUV are a small clay ball, three squat cone-shaped clay objects, and two small clay cylinders. Eight small, frequently polished, stone balls also occur. (Only balls with a diameter of 3 cm. or less have been classed as small geometrics.)

The TUV bullae are rather odd. They are similar to bullae known elsewhere in the ancient Near East in so far as they are large clay balls bearing seal impressions. However, the outer clay shells on the TUV bullae do not enclose sets of geometric objects (as do bullae found elsewhere); rather the thin outer shell on each TUV example is moulded around a second, solid, large clay ball that is the sole content of the bulla's interior.

There are eight such sealed bullae from TUV; impressions of both stamp and cylinder seals occur on this assemblage. Five of these bullae were discovered piled in a small heaped archive in B.L. III. In addition to the indisputable bullae, three large solid clay balls which may be bullae interiors are also known from TUV.

The final kinds of artifacts which can be placed within the information processing functional class are seals and seal impressions. In the ancient Near East, stamp seals and cylinder seals were frequently used to indicate ownership or to authorize the containment, shipping or storage of merchandise. Impressions of both stamp and cylinder seals were found at TUV; both naturalistic representations and abstract geometric designs occurred.

Thus we have used the functional class



14
A small archive of bullae in situ in room 309 of B.L. III at TUV. (Photographer: Jack Balcer)

'information processing' to group all the artifacts from TUV which seem to convey information specifically through the use of visual symbols (exclusive of broader kinds of artistic endeavor such as painted pottery). The tablets, seals, seal impressions, and bullae are plausibly interpreted as being connected to some sort of administrative accounting activity. The small geometric objects and potter's marks are better regarded as parts of a more generalized informational system.

The preceding discussion has briefly reviewed some of the major functional classes of evidence from TUV. When we put all our information together, it appears that in our excavation of B.L. III we have sampled a structure in or near which administration was an important activity, an activity which involved the writing of Proto-Elamite tablets, the use of bullae and small geometric objects, and the processing of storage containers and vessels (as indicated by both sherds of large storage jars and numerous seal impressions). Small-scale craft activity (copper-based metallurgy, production of chipped stone tools) was also important in this level. Domestic activity appears to have been a relatively unimportant contributor to the

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debris of the archaeological record for B.L. III.

In B.L. II, administrative activity appears to lessen in frequency, but evidence for the continuation of various small-scale craft activities grows in relative importance. The domestic component of the functional profile is more important than it was for B.L. III, especially if one considers the numerous hearth and oven features in the northwest room-block of B.L. II and the relatively large amounts of bone discarded in that area to be indicative of the domestic sphere.

In B.L. I, we have a reversal of the situation described for B.L. III. There is no indication of any administrative activity in this sector of the TUV mound at this time. Small-scale craft activity appears to have continued, but metallurgy has nearly disappeared from our record. It is the more individualistic crafts of chipped stone tool production and shell utilization which continue. The domestic element has become relatively much more significant than in the lower two building levels.

It is time now to return to the question with which we began. Can we truly identify the TUV mound as an example of an ancient suburb? It has been shown at the start of this paper that TUV meets the locational criteria for designation as a suburb of Malyan. The TUV mound is definitely a community site lying very close to Malyan, and it is a *much smaller* community (in area of apparent occupation) than its neighbor. The only criterion remaining is that of *functional interdependence* between the neighboring communities. Such functional interdependence is very strongly suggested by the joint occurrence of the information processing complex of artifacts described above at both the Malyan main mound (ABC operation) and the TUV mound.

Not only does it now appear legitimate to consider TUV a suburb, but we can go on to categorize in detail the functional nature of this segment of ancient suburbia. The portion of the TUV mound which we have excavated is part of neither a 'bedroom' nor a 'factory' suburb. There is in fact no monocausal explanation for the functional existence of TUV as a community. It can not be categorized as a purely residential zone, because of the indisputable evidence for administrative and craft activities in this area. Yet it is equally clearly not a pure specialized manufacturing center. The site lacks the

very large quantities of industrial debris (i.e. byproducts such as slags) which should be there if a manufacturing specialization were the main reason for the existence of the site.

Rather, the occupation at TUV (part of a very early urban system on the Iranian plateau) appears to share in a pattern common to many *pre-industrial cities* known from historic records in many parts of the world (cf. Sjoberg 1960:91-103). This pattern of land-use customs is at first sight paradoxical. Large sectors of a pre-industrial city often may be characterized as distinct quarters (e.g., temple quarter, craft quarter) but at the same time relatively little cultural importance is attached to *unique* functional specialization for any specific plot of ground within the quarter. We know from cuneiform records that in the fully evolved cities of the ancient Near East temples, for example, were not just places of worship but frequently entire estates which conducted residential, workshop, and administrative activities as well as those we today would consider to be religious in function.

The excavations by the Malyan Project have helped to demonstrate the existence of such a multiple-function land-use pattern even in a very early suburban situation of the late fourth millennium B.C.



Ilene M. Nicholas is a lecturer in the Department of Anthropology of the University of Pennsylvania from which she received her Ph.D. degree last spring. Dr. Nicholas was a staff member of

the expedition to Tal-e-Malyan, Iran and the work there, on which this paper is based, was the subject of her Ph.D. dissertation. She is shown here working with TUV hearth 227.

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