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COVER: Architectural drawing of the new J. Paul Getty Museum. See pages 175-181.

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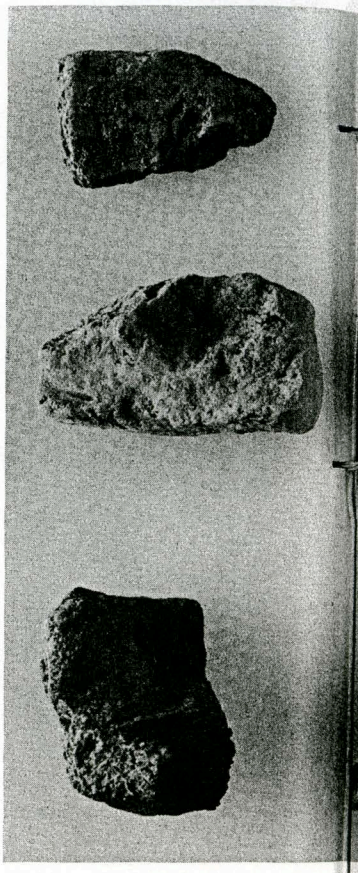
Mud Objects from al-Hiba

A Study in Ancient and Modern Technology

By EDWARD OCHSENSCHLAGER

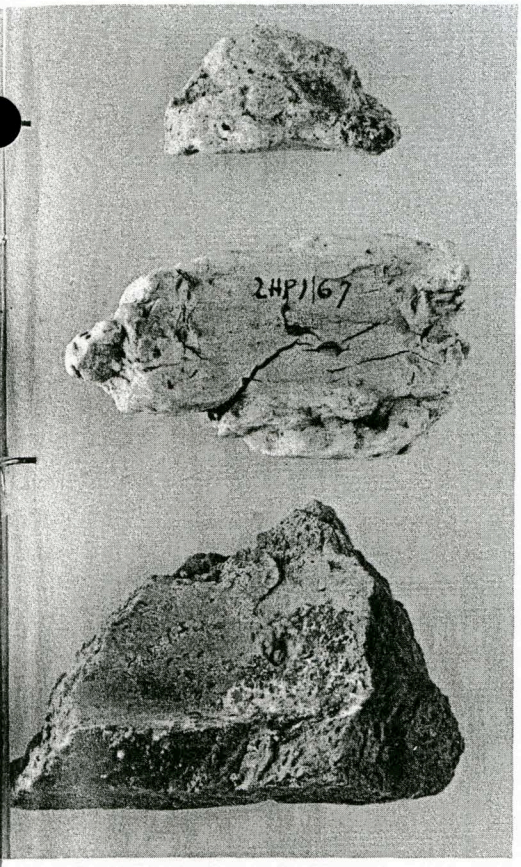


Increasingly archaeologists are coming to appreciate the close interconnections between modern technology and archaeological inquiries into the past. The fields are natural allies, in fact, for they are both concerned with establishing historical continuities and with interpreting the past from the practices of the present.

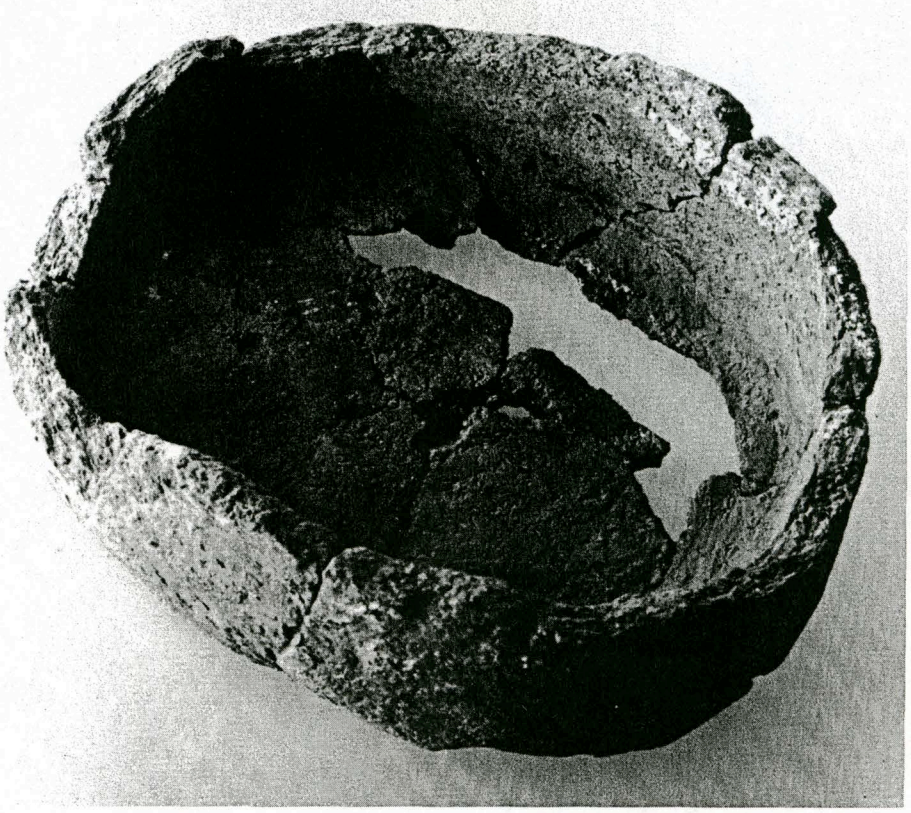
During the past seven years, the Metropolitan Museum of Art and the Institute of Fine Arts of New York University have conducted for three seasons excavations at Tell al-Hiba, a site in southern Iraq. In the course of these investigations, it became evident to the field director Donald P. Hansen that study of modern methods of manufacture would help his investigating team to understand better the ancient sun-dried mud artifacts produced in the region some four and a half millennia ago. This industry seems to have changed very little from that time to the present. Accordingly, during the second and third seasons at al-Hiba, a study was undertaken to record in detail the modern techniques of fashioning sun-dried objects. The study yielded some valuable and unexpected conclusions. As excavators we gained not only an appreciation for the widespread use of sun-dried mud objects but also insight into the manufacture of certain small items, such as toys and musical instruments. This insight may have great bearing on the interpretation of the many crude figurines found in excavations.

Tell al-Hiba is surrounded by water, on three sides by marsh and on the fourth by the canal known as Abu Simich, which flows into the marshes near the southeastern corner of the mound. Two small villages are presently situated at the edges of this tell, while several others are within walking distance. The people are largely dependent on the produce from plots of irrigated land, on small herds of sheep, goats and water buffalo and on fish netted or speared in the canals or marshes.

From August through January the mound and its surrounding area are also inhabited by the nomadic Hadij, a Bedouin tribe whose hand woven tents, sometimes isolated but more often in groups of three or more, can be seen in every part of the landscape. A yearly migration brings them here when the recession of the marshes furnishes pasturage for their herds. When the marshes again begin to expand owing to the winter rains and the increased use of the irrigation canals which empty into the marshes, the



Fragments of mud pottery from al-Hiba Early Dynastic IIIB contexts.



Fragmentary Early Dynastic sun-dried mud vessel from al-Hiba. The individual sherds were recovered, baked and reassembled.

Hadij move south to Kuwait and the great deserts of Saudi Arabia before returning to this area in Iraq in July or August during the hottest part of the summer.

Although the pattern is changing rapidly, certain aspects of life in these small villages of southern Iraq appear to have remained remarkably constant over the nearly 4,500 years which separate the Sumerian period from our own time. Archaeological evidence reveals striking parallels in methods of transportation and home building, as well as in the weaving of mats and the making of baskets. The economic basis of life in the two periods is also strikingly similar, and there is even some reason to suppose that the general ecology of the area was not too different in ancient times from what it is today. Under these conditions, it seemed reasonable to suppose that a comparison of the roles of various objects in the villages of today with what can be deduced from the archaeological context of similar artifacts in Early Dynastic (hereafter ED) times might prove of some value in the interpretation of the ancient remains. Such a study might also help identify factors responsible for persistence or change in certain features of the artifacts.

During the 1970-1971 season, fragments of shaped clay objects were recovered from a large ED IIIB structure, which may have been an administrative building. Many of the fragments were unbaked when excavated but were subsequently carefully fired in the expedition's kiln. Some partially baked in antiquity by a fire that had destroyed parts of the building were fairly well preserved. Others were very lightly baked, apparently by exposure to fire during the course of their use in ancient times. Luckily, some of the excavated fragments were complete enough to allow us to identify them by shape.

The careful collection and classification of material provided us with a wide variety of sun-dried mud forms, a category of archaeological evidence previously limited to large storage jars and conical ovens. Fragmentary evidence of these sun-dried mud artifacts is often difficult to discern under normal field conditions. Because the ED IIIB types are made of local sedimentary soil, presumably from the banks of ancient canals, and because their handmade forms are rather irregular, they are easily overlooked as amorphous pieces of mud or fragments of mud brick. Even when recognized and collected, they are likely to

A potter making a sahan or shallow dish. A previously made sahan is drying in the background.

crumble fairly quickly if not given special protection and care. The availability of a kiln, originally erected for baking clay tablets found in the excavations, was of immeasurable help in the preservation of this evidence.

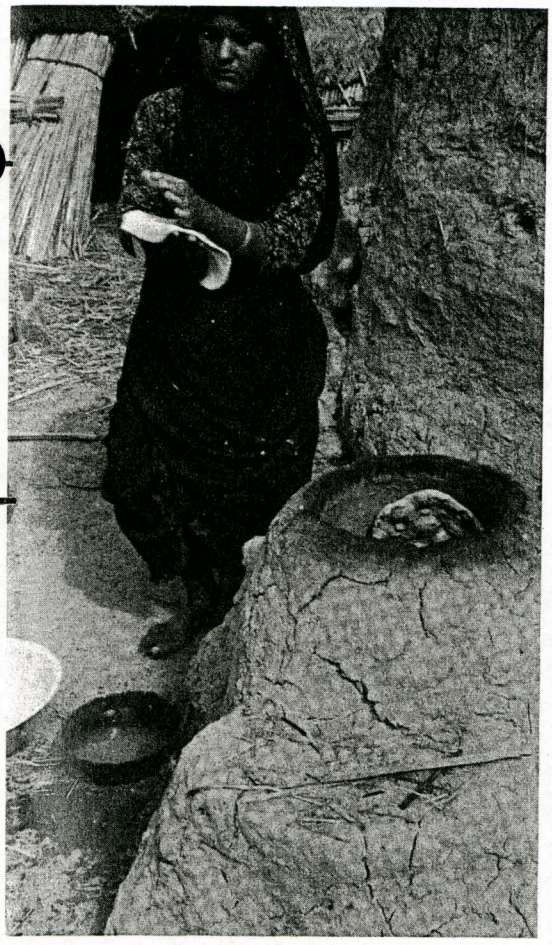
These finds led us to seek help from people living in the area in the hope that we might discover a parallel industry in modern times and thus learn something about the possible methods of manufacture and the functions of the ancient vessels. We discovered that similar locally made objects of clay or mud are found in every household in the modern villages and very often in the tents of the temporary Bedouin settlers as well. Indeed, the unbaked or sun-dried objects are much more numerous and varied in form than are the baked pottery objects. There are several reasons for this.

Unbaked objects can be made quickly by almost anyone, and they require no investment beyond the time of the maker. Baked pottery, on the other hand, takes longer to make, requires better clay, greater skill in the building up of the vessel walls, and some knowledge of the firing properties of the local materials. It also requires an investment in fuel for the firing process. As a result, baked pottery is usually made as a specialty by only a few women, and other villagers purchase these wares for cash or through barter. Then, too, in recent years, vessels of metal, plastic, china or glass have been available in the larger market towns. As these are both inexpensive and sturdy, they have entirely replaced most forms of baked pottery.

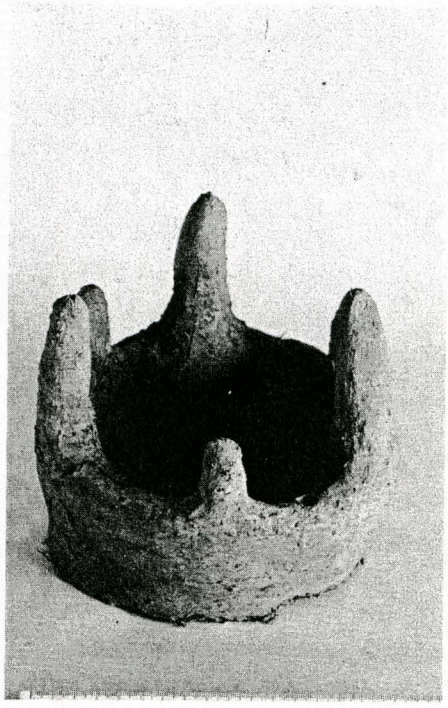
All the potters among the village people are women. Occasionally men will help with the gathering of the clay, but even this is considered unusual. Mud pottery is made exclusively in the summer, except when a broken object has to be replaced. (During the rainy winter season it is too cold to work comfortably, and the sun is not strong enough to dry the wares efficiently.)

As a rule, in every dwelling there is at least one woman who can make the vessels for her family. The homes of newlyweds are a regular exception to this rule; they are equipped with mud pottery by the mother of the bride. In those dwellings that boast more than a single maker of mud pottery, the middle-aged or older woman is likely to assume the job and thereby free the younger woman for more strenuous sorts of household work. Making sun-dried pottery, moreover, is a strictly part-time occupation, for the potter makes only those vessels which her immediate family needs. The breakage rate for these objects is amazingly low; most informants agreed that a mud vessel would last anywhere from a year to six and a half years if well taken care of. Depending upon the form and use of the individual item, a broken pot might be mended for further use—a simple enough process of wetting the two pieces thoroughly with water or spit and rejoining them with a daub of fresh mud.

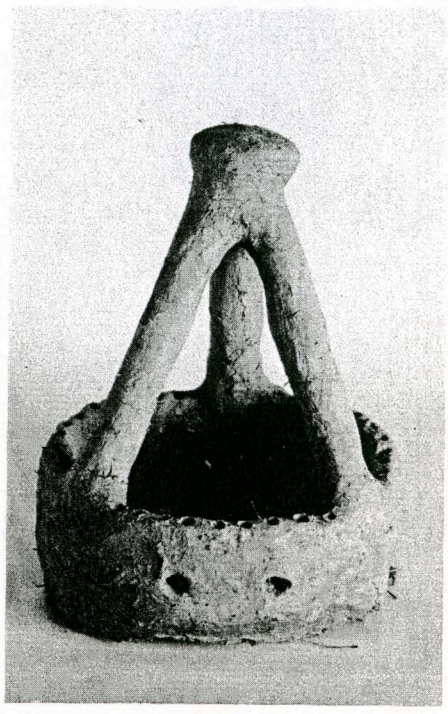
Children are very adept at learning to make mud objects just by watching their elders, and for this reason there is no formal training involved in the art. They absorb the techniques quite unconsciously, and first put them to use making a



A young girl baking wheat bread in a tanur. She is flattening a ball of dough before placing it in the oven. Inside the tanur a nearly finished loaf is seen.



A mogad or dish with interior supports.



A finished tinga or incense burner with handle.

wide variety of toys—human and animal figurines, models of vehicles and houses. These toys comprise a special category of sun-dried mud objects, and we will return to them later. We had hoped to be able to photograph both adult women and children in the act of making pottery, but often sentiment against it was strong in the village. Frequently, on the other hand, one of the village men would offer to make a mud pot for the camera, and in several cases these neophytes did well by prevailing village standards.

It is interesting to note that the Bedouin who camp in the area never make mud pottery unless they intend to stay in one place for an extended period of time. The sun-dried mud forms most often encountered in their more permanent camps are the *tanur* (oven), *tinga* (incense burner) and *mogad* (dish with interior supports). When moving from camp to camp they use a metal disk in place of a tanur or *tabag* (cooking disk) for baking their bread. According to informants, they never carry mud pottery with them when they move to a new campsite but always leave it behind. In one case which we witnessed, a tanur was deliberately broken by its maker before she began her journey. When questioned about this intentional destruction, all informants seemed to agree that it was the result of an individual idiosyncrasy and not a manifestation of a superstitious or religious belief.

Indeed, insofar as could be discovered, no religious or semireligious beliefs or sanctions are associated with sun-dried pottery making among the Bedouin or the villagers. Most potters, however, assert that the small pieces of glass, shell, broken pottery and other material used from time to time as inserts in the completed pot serve to "avert the evil eye" in addition to providing decoration.

As can be seen from the description of vessels and their uses, given below, mud pottery is of a decided importance to the household economy, comfort and prestige. It is important to stress that the basic forms appear in the homes of the wealthiest sheikhs as well as in those of the poorest villagers.

The *manqala* (plural, *manaqil*), a shallow mud dish often with three attached legs, but sometimes without legs of any kind, is a portable hearth. It can be used outside in any convenient place for cooking, heating water or keeping tea and coffee warm, and it can be moved from place to place to take advantage of strong winds or the heat of the sun. Since tea is drunk in the villages on even the hottest days, when the temperature can climb above 120 degrees Fahrenheit in the shade, a sheltered place to prepare the beverage

A manqala being used for cooking and boiling water for tea.

A village woman pouring rice-bread dough on a hot tabag. In the background are visible two of the three supports which held the tabag over the fire while it was heated and another tabag standing on edge.

is particularly desirable. During the winter, the manqala is used inside both for cooking and as a portable brazier. Fishermen in the marshes usually have one in their boat and use it to make tea, cook fish and warm themselves in the winter after wading through the water to put out their nets or spear fish.

A fire of dried dung patties is made in the dish outside the mud house or reed hut, and it is allowed to burn until only the hot coals remain. Sometimes dried camel or sheep dung is used for longer-lasting coals. The manqala is then brought inside where it produces a great deal of heat but little smoke. A manqala is an absolute necessity at feasts or festivals at any time of the year. After the food has been cleared away and the guests have washed their hands and mouths, they reassemble in the dining area where a manqala is set before them with tea or coffee pots on the burning coals. The host, who never dines with his guests, now joins them to pour and serve the beverage. In the large *mudhifs* or reed houses which serve as reception rooms and guest houses for the sheikhs, a central hearth is used for the preparation of tea or coffee. The manqala, however, is still used in the sheikhs' private quarters.

Metal braziers obtained in the larger cities are not a satisfactory replacement for village manaqil of sun-dried mud. Village houses are small and contain little furniture, usually only a bed and a chest. In place of wooden furniture, a profusion of rugs, carpets and carpet-encased pillows cover the floor during a feast. A metal manqala might scorch the rugs, whereas a mud one can be placed directly on rugs or reed mats without harming them. Manaqil can also be used in wooden boats without danger of fire. Usually a three-legged manqala or a plain manqala supported on pieces of broken mud bricks or on three specially made wedge-shaped, dried-mud legs is used on a carpeted surface. Sometimes, however, a plain manqala is set directly on the carpet and does not seem to cause the slightest damage.

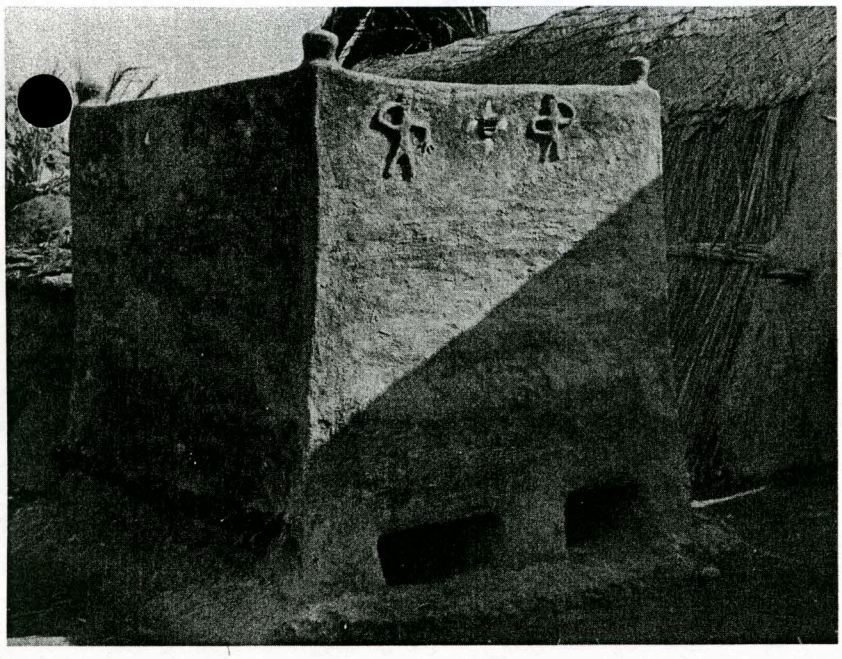
The tabag (plural, *atbag*) is a heavy disk of sun-dried mud used primarily for cooking and baking. One side, which is wet-smoothed and slightly concave, is used for cooking; the other, which is sometimes used for other purposes, is flat. Occasionally the tabag is used for baking ordinary wheat bread, but a tanur is preferred for this purpose. The tabag is always used for the baking of rice bread, which consists of ground rice mixed with water and salt and which has a fairly liquid consistency.

For making bread, the tabag lies with its cooking surface down on three wedge-shaped, dried-mud legs over a hot fire of dung patties. When the cooking surface is thoroughly heated, the tabag is removed with a folded rag serving as a pot holder and placed on the ground with the hot surface up. Liquid rice dough is then poured over the surface and evenly spread with the fingers. The hot, glowing dung patties which were used to heat the surface are then placed on top of the dough with two sticks used as tongs; they are left there until the bread is thoroughly baked. From time to time the baker lifts a patty or two in order to judge when the bread is finished.

Two disks and a set of three dried-mud supports can be used to construct an even more effective oven. This oven is used to make certain meat and fish dishes as well as to bake small cakes or cookies. The cooking surface of each tabag is prepared by the method described above. One tabag is then laid on the ground with its hot surface up, the food to be baked is placed on top of it, and the second tabag, with hot surface down, is set over the first on supports. The red-hot remains of the dung patties used to heat the two surfaces are heaped against the outer edges, effectively sealing the opening between the two atbag. A certain amount of variation can be obtained in the intensity of the oven's heat by varying the distance between the atbag or by augmenting the fire around the oven's edges with additional dung patties.

Disks of the same size and shape as the tabag are used as covers for dried-mud storage jars; sometimes, during the winter, they are placed over the opening of a tanur or oven to protect the interior from rainwater. The flat side of the mud disk is often used, especially when the ground is damp, for kneading straw with dung and flattening the mixture into dung patties. Often one side of the same disk serves for baking, the other for making dung patties, while the disk itself is used at times as a cover. Such variety of use indicates the danger of assigning function to ancient artifacts on the basis of limited evidence.

As mentioned above, the Bedouin in this area carry with them a single iron tabag, used primarily for baking bread. The advantages of a nonbreakable tabag during their yearly migrations are obvious. They usually make a mud tabag when they settle in one place for a period of time. According to informants, the primary reason for this is the "fresher taste" of the bread baked on the mud tabag.



A large sidana, or storage vessel with stand, decorated with clay appliqué human figures and porcelain sherd inserts.

A mafkhara or incense burner without handle.

The tanur (plural, *tananeer)* is a large conical oven which varies in size, but is usually from 80 to 100 centimeters high with an opening of 30 to 40 centimeters at the top. It is heated by a fire of dung patties and reeds. The reeds burn quickly and hotly, thoroughly igniting the dung patties and quickly raising the inside temperature. Hot coals from the dung patties will then maintain the heat for a considerable length of time.

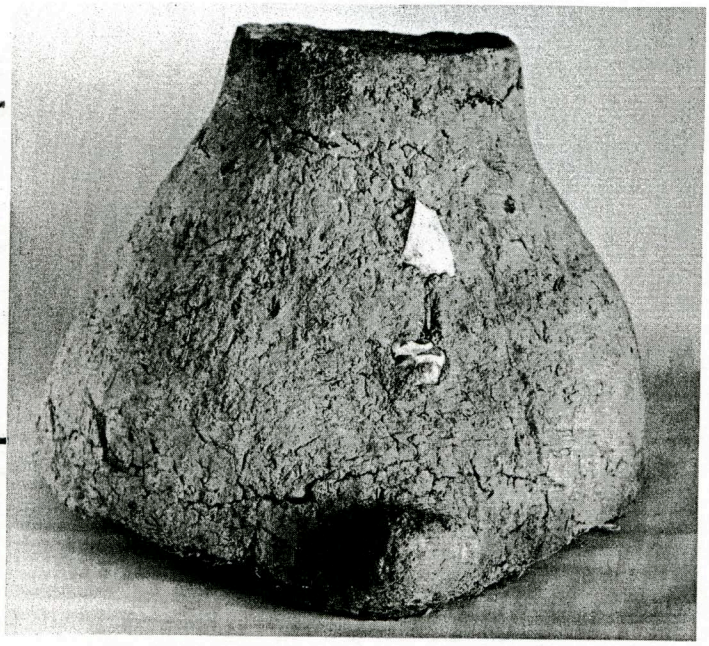
Although the tanur is sometimes used for cooking meat and fish, it is used primarily for the baking of wheat bread, the dietary staple of the area. Dough is patted into thin, flat disks resembling those used in the preparation of pizza. These are then moistened with water and flattened against the inside of the tanur above the level of the hot coals. When the disk is thoroughly done, the baker pulls it free, sets it to one side to cool, and flattens another disk of dough in the same place. The ordinary tanur can accommodate up to four disks of dough simultaneously, and its inner surface can be used again and again, as long as the coals from the original fire maintain a proper level of heat. The tanur is obviously much better adapted to the making of a quantity of bread than is the mud tabag which requires reheating after the baking of one or two loaves. Bread is usually served plain, but as a special treat it is spread with oil and sugar while still warm.

Meat and fish also can be cooked in a tanur. Ground and partly cooked, they are kneaded into wheat dough and baked as ordinary bread. Chunks are skewered on a metal spit which is placed vertically in the tanur, and whole chickens and fish or large hunks of meat are suspended inside with metal wire. The food is cooked by heat from the embers below and from the tanur walls, thus assuring a fairly uniform temperature on all sides.

Sometimes tananeer are augmented with dried-mud platforms on one or two sides which serve as counter space, giving the cook a place to put her dough on one side and baked bread on the other. For protection during the rainy season, a family will occasionally build a conical, dried-mud structure around the tanur and roof it with reeds. This protective structure looks like a gigantic tanur and is made in exactly the same way.

In addition to these objects, we may briefly describe a number of others that are also common. The *tiniya* (plural, *tiniayat)* is a portable container with no stand, which is used for dry storage of rice, barley, wheat, dried fish, salt, sugar, spices, herbs, packaged coffee and tea. Ranging in size from 30 to over 150 centimeters in height, it is usually conical in shape, but sometimes square or some other form. Although it also is usually covered with a tabag or a flat dried-mud disk, it can be sealed with reed mats daubed with mud.

The *sidana* (plural, *sidain)* is a stationary container, much like a tiniya, but with a stand which



A michfaya or cover used to protect food from courtyard animals.

raises it above ground level for protection against pests and water damage. The stand is made of mud; the sidana itself is often built around a framework of reeds. It stores foodstuffs, clothing, bedding, fleece awaiting market and so forth. (Both tiniayat and sidain are important indices of prosperity, and one can often judge the relative economic position of a household by the size and number of storage vessels it maintains.) The *sahan* (plural, *sohor*), a shallow flat-bottomed dish, serves a variety of purposes. It can be used for cooking or warming food in place of a manqala, for feeding or watering domestic fowl, for storing small quantities of dried food, tobacco, pins and needles and so forth. The *michfaya* (*plural, michfayat*) is a large heavy cover used to protect food left out of doors from prowling animals; it is usually placed over a sahan which contains a smaller dish made of china or metal.

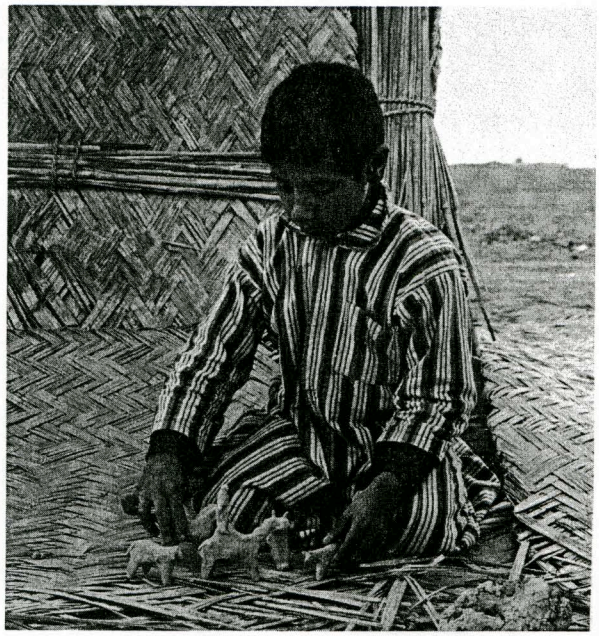
There are several other items that deserve mention: the tinga (plural, *tinagat*) or incense burner, which is used only in the evening and invariably on festive occasions (the tinga is very popular, and its frequent use in the household denotes social status); the *mafkhara* (plural, *mafakhir)* a simpler incense burner, which lacks the tinga's handle; and finally the mogad (plural, *managid*) a shallow dish with interior lugs or fingers for holding objects and giving them upright stability (glass kerosene containers, etc.). A kettle resting on its fingers can be kept warm if coals are placed within the dish.

Let us now turn to the manner in which these clay objects are made. The potter is responsible for collecting her own clay, although infrequently another member of the family will help her. The best clay comes from one of two locations—the edge of the marsh by the water, or the mouths of the subcanals and gullies where they enter the main canals. The source closest to home is usually preferred. The potter always collects mud from the very edge of the water line or just below, where the clay is already thoroughly moist. She digs it out with her hands and carries it home in a sack. The clay is not cured, but used as soon as it has been gathered.

As temper she uses straw and chaff from the threshing floor, the place where she usually models her pots. This same threshing area is used to make the dung patties that fuel the household fires, and it is not infrequent that the clay for a new pot will pick up various bits of bitumen, metal scrap, grass and manure. These extras are tolerated, not added on purpose. The potter generally mixes temper and clay in about equal parts; she kneads the two thoroughly together before she begins to shape the clay. Then she fashions the basic form, the sahan or flat-based dish, from which the others are outgrowths. Sometimes using a gunny sack or a reed mat to work on, she flattens out a cake of clay and gives it a circular shape; then from a pan of water near at hand, she moistens the rim of this disk in order to begin building the walls. She builds the side walls in segments, one at a time, pressing her thumb into the seam to weld the segment to the disk or to the wall segments underneath it. She continues in this manner, building the wall to the height she desires by stacking the segments vertically on top of one another and then, as necessary, adding mud patches to thin spots and scraping away the excess.

Once she has shaped the container to her satisfaction, she sprinkles water over its entire surface and wet-smoothes it for greater evenness. She keeps a flat piece of reed on hand to use as a smoothing tool. This implement may come in handy at other stages of the process. The vessel is allowed to sit in a warm, shady place for about 24 hours. When its outer surface has attained a leathery consistency, it is moved directly into the sun; the full drying process may take from one to three days depending on the time of year, the amount of moisture in the air and the intensity of the sun.

Sun-dried mud grain grinder.



A village boy making and playing with his own toys.

This is the basic method; it is necessarily altered depending on which kind of object the potter wishes to make. When, for example, she is building a large item, especially a tanur or oven, or a large storage vessel, either a sidana or a tiniya, she will make the wall segments thicker at the bottom than at the top, and she will let one layer of wall segments dry to a leathery consistency before she adds the next one. Otherwise her construction will run the risk of collapsing. She may also choose, when her oven or storage vessel is almost finished, to flatten out the rim in order to form a thin ledge. This lip has a number of uses and often varies widely in breadth from one artifact to the next.

Some sorts of mud constructions are rather more complex, like the michfaya or lid. It is a heavy protective cover and often has a handle. To give this heavy object the requisite strength, the potter presses reed sticks into the still wet clay and seals them in with more clay. The handle is attached after the rest is partially dry; it is made from a large wedge-shaped lump of clay fastened to the body and rim of the cover with outspreading strokes of the potter's thumb. The legs of the manqala also are wedge-shaped; these too are attached when the vessel is leather-dry. The potter makes small unattached triangular legs for use with both the tabag and the legless manqala.

The most massive building ventures that the potter undertakes are the construction of large storage bins—the tiniya and the sidana. These round, square or conical receptacles are most often constructed directly on the ground, but they can also be built on solid mud stands, or, for better drainage, on stands made of parallel low mud ribs topped with reeds set crosswise. The structures themselves may be free-standing or built up free-form to fit a corner of a courtyard. The free-standing variety may be made of poured mud, a technique requiring the potter first to build a form, one of reed mats bound into two concentric circles; this form is then filled repeatedly with liquid mud until the walls are built up.

More complex than this, even, is the large rectangular storage bin which is made of mud applied to a framework of bundled reeds and reed mats. The reed bundles are set upright in a trench which is dug to suit the dimensions of the bin, and then filled in around the foot of the bundles. Subsequently the bundles are chinked and plastered with mud, and the lid to the bin is fashioned of mud-plastered mats. The bundles at the corners of such a construction are usually thicker than the interior ones, and they have a knob-like appearance when the entire construction is finished.

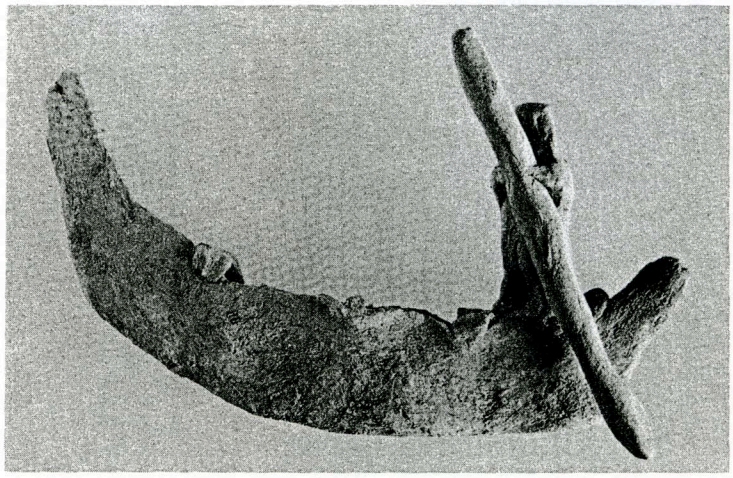
For the most part, the decoration on such mud objects is minimal. Ornamental vertical holes are sometimes drilled into the rims of the tinagat, the mafakhir and the managid, and an occasional finger design is impressed into the baking surface of the atbag and sohor. Otherwise there is not much more than molded bands or knobs, figurative representations and geometric patterns, all of which are made of clay and are largely confined to storage chests and jars. In addition, particles of other materials—glass, shell, bone, pottery and china—may be inserted into the clay; these are thought to afford protection against the evil eye.

The ingenuity of these people is vividly expressed through the versatility of their domestic use of clay. In addition to the items which have been described above, archaeologists are particularly interested in their manufacture of grain grinders and mortars. To build a grinder of mud, the potter forms a flat disk, measuring from 10 to 20 centimeters in thickness, around an upright reed stick. She then makes a second disk of the same diameter, but often twice as thick; it has a large circular opening in the center. Two pairs of reed sticks are inserted in the opening at right angles to one other to form a socket for the upright stick in the first disk. Another fairly long and thick stick is imbedded in the top of the second disk so that it projects at an oblique angle to act as a handle. When both disks are thoroughly dry, the potter applies a thick coat of bitumen to the bearing areas and sometimes all over both disks. After the bitumen has cooled and hardened, the second disk is placed on top of the first so that the upright stick in the bottom disk fits into the socket of the top disk. The grinder is now ready for use. Grain is fed through the opening which surrounds the socket. The top is turned by means of the handle projecting from its upper surface.

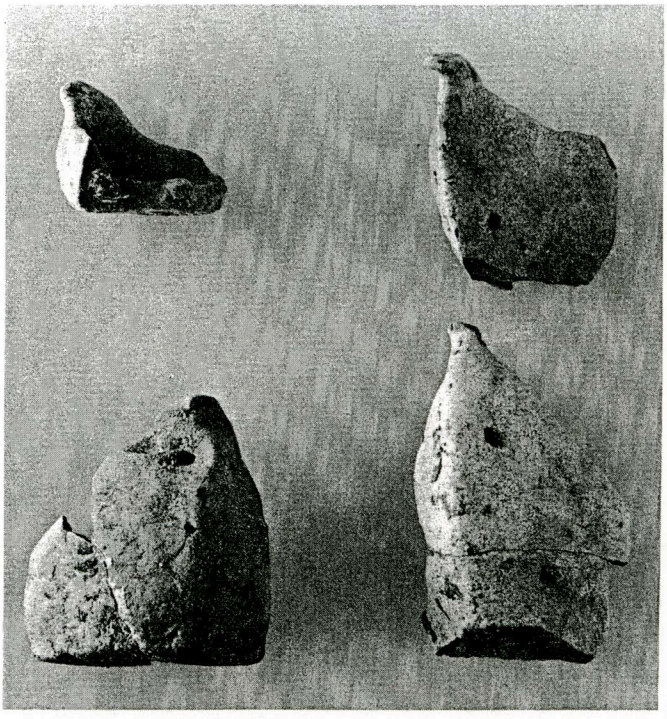
We found grinders of this type in every household we visited except for three families who had stone grinders. This distribution raises some interesting speculations about the use of mud grinders in Early Dynastic times. No stone grinders have been found at al-Hiba, but several fragments of mud objects with bitumen adhering to their flat surfaces have been excavated. Unfortunately they have been too fragmentary to indicate the kinds of artifacts from which they came. If mud grinders were in fact used in antiquity, the absence of any evidence for them can be explained by re-use of the bitumen. Today modern villagers remove all the bitumen from broken objects, reheat it and use it again when making a replacement.

The villagers also make mortars of various forms from sun-dried mud and coat them with bitumen. Pestles consist of bitumen knobs formed around reed sticks of the appropriate length. Only the wealthier villagers have wooden or metal mortars, a situation which suggests that mud mortars, of which we have lost all trace, may have been used in antiquity.

Clay is also used for toys, which are made by the children for their own entertainment. The range of such items is truly impressive and seems limited only by the breadth of a child's worldly experience or imagination. The repertoire includes a host of well-known local animals and some not so well known, like the lion, which is a great favorite. The features on lion figurines are rendered very freely and often with strange results. In addition to the animals, including dogs, wild boar, sheep, goats, fennecs, horses, camels and the like, one finds toy soldiers, stylized men and women, houses, wagons, boats and even an occasional tractor. The toy houses are interestingly accurate as imitations of real ones; they always consist of one of three types; mud, reed, or mud brick.



Mud toys. A modern *tarada* or boat poled through the marshes by a man with a "realistic face."

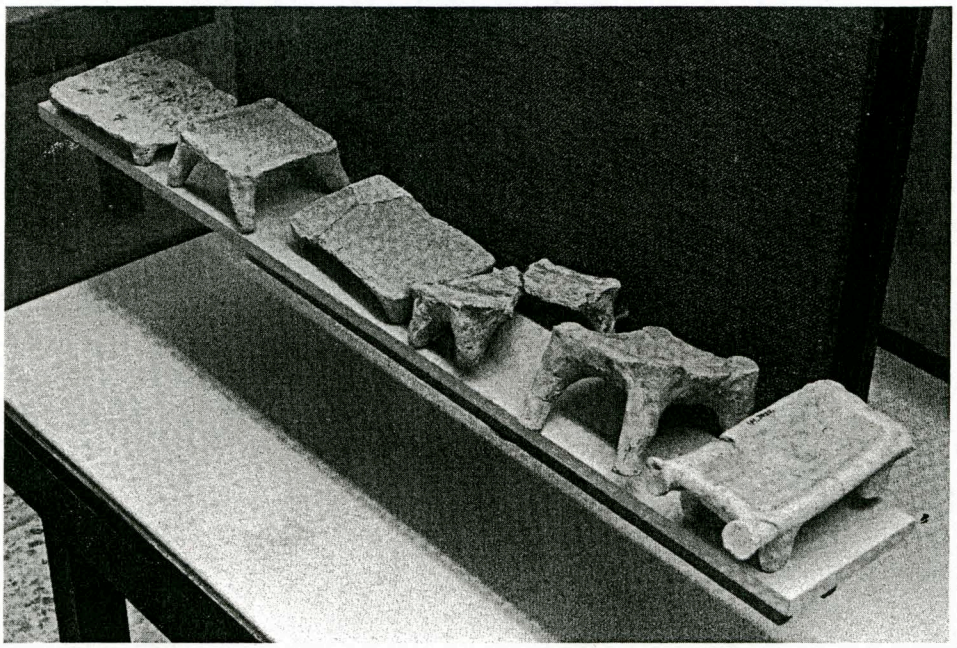


Fragments of ancient *taradas* from the excavations at al-Hiba.

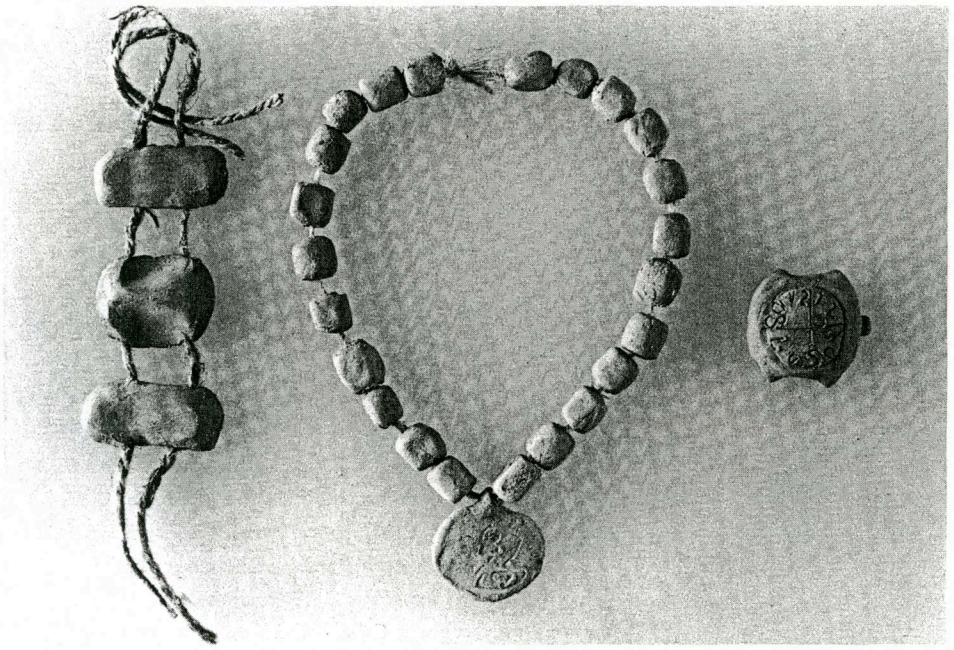
An outside bed with reed floor in place. To the left stands a tiniya covered with a tabag.

Indeed, this is hardly surprising since the children learn by emulation, and emulation is one of the factors that will sustain a tradition for thousands of years. Not only do the children copy the habits of the adults around them, but they also learn from watching the members of their peer group, especially those children who are several years older and to whose superior products they may compare their own for improvement. One of the unfortunate consequences of modern-day technology is that it is rapidly impairing the native inventiveness of these children, who now have available to them, in the town and village markets, a wide array of ready-made toys, many of them plastic and naturally more life-like than any homemade toy. This same principle holds true for the sun-dried mud technology of the adults in these communities: the old traditions can hardly compete with the convenience of modern store-bought wares.

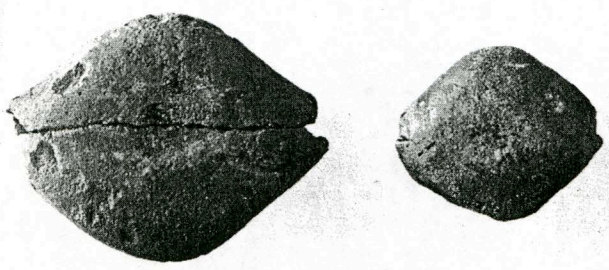
But while modern life is curtailing severely the practice of such traditional arts, it has not yet erased them, and in the Tell al-Hiba region every aspect of life from infancy to adulthood, and from poverty to wealth, reflects the continuing utility of the most available resource. So far, we have dwelt principally on the small and medium-size domestic mud objects, and there are others that deserve to be mentioned. Among these we may list mud-lump walls, large watering-troughs for livestock, bed platforms, baby rattles and musical instruments. Within this last category we find mud drums, which are covered with leather, and a versatile three-toned whistle, one fragmentary remain of which has been recovered from an ED IIIB context at al-Hiba. And finally, there is a special category of dried mud object: jewelry made for the dead. It is considered bad luck to make this jewelry except when a person has died, and because of this belief we had no opportunity to see its manufacture. So strong was the avoidance of this subject, in fact, that we found only one person willing to describe its nature and use. Apparently the jewelry is invariably made by the closest female relative of the deceased, and it is made to resemble as closely as possible the actual jewelry the person wore when alive. The real jewelry, being precious, is not interred with the dead, but retained by the family.



Ancient terracotta models of beds in the Baghdad Museum.



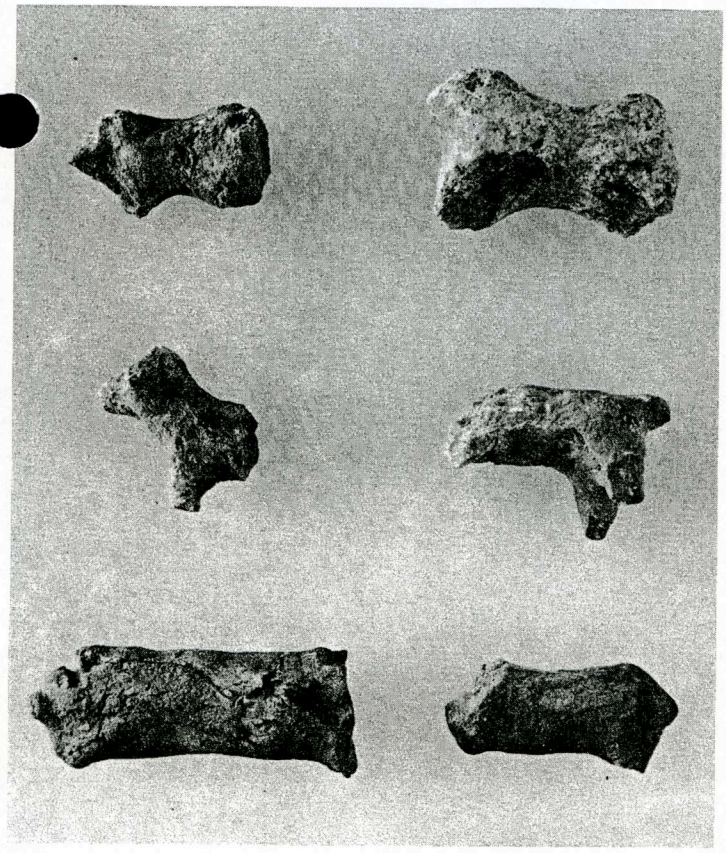
Modern mud jewelry.



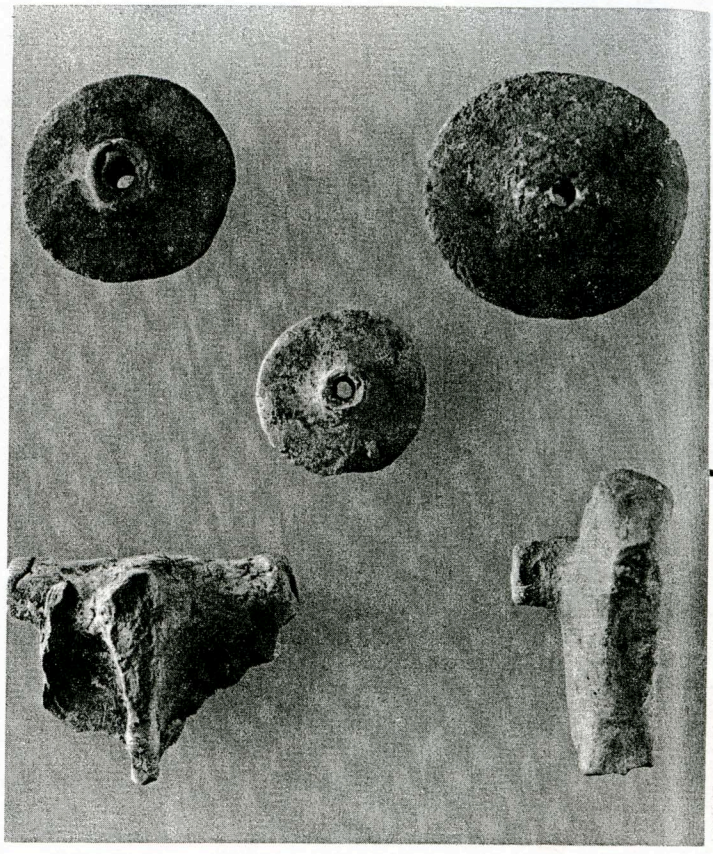
Early Dynastic mud beads from al-Hiba.

Of the ten types of dried-mud containers which are made in the al-Hiba area today, the manqala, tabag, tanur, mafkhara, sahan and tiniya have been definitely identified in ED IIIB strata. This certainly does not preclude the existence of other forms in Early Dynastic times, for of the numerous fragments found, only 33 could be identified beyond reasonable doubt. Fragments without particular identifying features could come from almost any kind of sun-dried container.

On the other hand, numerous fragments of



Animal and human figurine fragments from the excavations at al-Hiba.



Fragments of vehicles and wheels from the excavations at al-Hiba.

mud and baked pottery figurines of animals, human beings and vehicles have been recovered in ED IIIB contexts, and while some of these objects may have served votive functions, they may also be remnants of toys. The usual classification and analysis of such objects seem to be of little use.

While it must certainly be kept in mind that the study of modern artifacts cannot be applied uncritically to similar objects from antiquity, it appears that a study such as the one described here might enormously enrich our understanding of the past. The principal benefit of such an undertaking is that it suggests new interpretations of the functions of ancient objects. The survey of the modern mud-technology at al-Hiba has shown us that this technology is far more versatile and variable than we had previously thought. To project the present into the past is always to hypothesize—but hypothesis is the only way we have of knowing antiquity. Armed with encouraging parallels and new ways of seeing, we can continue the long task of understanding man's history as it unfolded in southern Iraq.

FOR FURTHER READING: Gavin Maxwell, *People of the Reeds* (New York 1957); Wilfred Thesiger, *The Marsh Arabs* (London 1964).

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