POTTERY-MAKING AT BEIT SHEBAB, LEBANON

VRONWY HANKEY

Beit Shebab ('Sh' has taken the place of 'Ch' in the latest transliteration of road signs in Lebanon) is a village of over 3,000 inhabitants above the Nahr el-Kelb, or Dog river, 30 km north-east from Beirut, and some 2,500 ft above the sea. The village is built on a series of spurs rising from the valley, surrounded by terraced fields producing vines, olives, citrus fruits and small grain crops, and protected by pine woods and scrub from the main road to Baskinta at the head of the valley. It has long been a centre of craftsmen, cotton-weavers, bell-founders, and potters who work in a rare technique which combines throwing and coil construction in the same pot.

The potters make very large storage jars for wine, arak, oil, olives, rice and conserves, bowls for domestic and market use, bottles, and a few shapes specially ordered. The technique has been handed down for generations, and in Lebanon appears to be known only at Beit Shebab. Here the work is done by family groups whose pride and delight in their work made visits to Beit Shebab an exceptionally rewarding experience. I am very grateful for the patience and kind hospitality of the owners and potters of the two establishments I visited.[1] The potters at present active at Beit Shebab include young boys learning the art, and there seems to be no danger of the technique dying out so long as there is a need for a specialized container, and it can maintain its prestige in the face of competition from plastic, the great destroyer of crafts. There are no women working in the potteries, but they are thoroughly knowledgeable about the technique.

The clay is dug in the terraced slopes below the potteries at the west end of the village, and is also brought in from Shiewe, 2 km away. For digging the clay heavy rubber boots are considered essential, since the clay is dug and placed in the settling beds during the wet, cold winter months. Small ditches like irrigation channels feed water from a stream to the settling beds, which are built in series of threes at stepped levels with wooden barriers between. The same system is used elsewhere in the Mediterranean.[2] Levigation takes from four to five

[1] George, son of Hanna Yusef al Fakhouri (Joseph the potter), explained the process in his father's workroom, Nasri, Abboud and Yusef demonstrated preparation of the clay and loading their kiln. Thanks for help and advice go to Pauline Gosling, Henry Hankey, who made the drawing for Fig. 1, Gerald Harding, Jeremy Leach, Charlotte Waterlow, and particularly to Olga Tufnell, who suggested the article and read it through, and arranged for the drawing to be made for Fig. 2 by students of the Institute of Archaeology, University of London, where the *muzannar* is included in the technical collection.

[2] On modern pottery methods in the Mediterranean see P. Lisse, A. Louis, *Les Potiers de Nabeul, Etude de Sociologie Tunisienne* (1956), referred to as *Lisse and Louis*; *A. Γ. ΠΙΕΡΙΔΟΥ, 'ΚΥΠΡΙΑΚΗ ΛΑ·Ι·ΚΗ ΑΓΓΕΙΟΠΛΑΣΤΙΚΗ', ΚΥΠΡΙΑΚΑΙ ΣΠΟΥΔΑΙ,* **24** (1960), 153 ff., referred to as *Pierides*; R. Hampe, A. Winter, *Bei Töpfern und Töpferinnen in Kreta, Messenien und Zypern* (1962), referred to as *Hampe and Winter* (1); R. Hampe, A. Winter, *Bei Töpfern und Zieglern in Suditalien, Sizilien und Griechenland* (1965), referred to as *Hampe and Winter* (2). The use of 'paddle and anvil' in the pottery industry of Aden was noted by Olga Tufnell, see *Annual of Leeds University Oriental Society*, **2** (1961), pp. 28, 35. A. Shepard, *Ceramics for the Archaeologist* (1965), has many observations relevant to this article, but since most of her examples are taken from the Americas, thrown pottery is not included. For ancient ceramic methods in the Mediterranean and the Middle East see J. L. Kelso and J. P. Thorley, 'The Potter's Technique at Tell Beit Mersim, particularly in Stratum A', *AASOR* **21–22** (1943), pp. 86ff., referred to as *Kelso and Thorley*; *A History of Technology* I (1954), pp. 194ff., 381ff., referred to as *HT* I; A. Lucas, *Ancient Egyptian Materials and Industries*, fourth edition, revised by J. R. Harris (1962), 367ff.

months and the clay is removed as ready, to coincide with the manufacturing season from May to late September. It is stored in a dark, damp cellar adjoining the workroom, behind a door covered with sacking to keep out the dry summer air. The clay is deep yellow, fine in texture, and nothing is added to it. The main workroom has a bench along one side and a clean sanded floor with here and there blocks and stone mushrooms of various heights, on which pots are placed while coils are added and the shape is beaten out.

The potters use a foot-wheel, a beater and a disk, also known as a paddle and anvil (Pl. VII A). The wheel, *dulab*,[3] is a heavy stone or wooden disk, revolving on a fixed pivot, with a vertical axle socketed to the underside of the round table on which the pot is thrown. The type is used today all over the Mediterranean, and is basically the same as the early stone foot-wheels found at Tell Halaf, Hama, Ugarit and several sites in Palestine.[4] This type is different from the wheel used in Egypt in the Eighteenth Dynasty, and still used in Crete.[5] The beater, *makhbat*, is like a thick bat for table-tennis with the grain parallel to the length. The grain marks are visible on the finished pot. The disk, *kaff*, is a thick wooden disk covered with cloth, and a strap to keep it in place on the left hand. The Arabic word means the palm of the hand, to cuff or strike with the open hand, or to sew a hem. It can also be used for an old or worn-out she-camel.

When the potters are ready a large pile of clay is dug from the store and wedged on the sanded floor. From this the potter cuts clay with a wire like a cheese-cutter and treads it into a wheel-shaped mass, moving rhythmically in a circle and pressing down heavily with his heels (Pl. VIIB). Clay is then taken to the bench, which is dusted with fine sand, and worked by hand into a tall cone about 20 cm in diameter at the base and about 50 cm high. The cone is placed on the wheel, and six or seven conical bowls are made from it in a method known in Egypt in the Twelfth Dynasty, Tell Beit Mersim in the Iron age, and still used by some potters at Nabeul in Tunisia, in Crete and at Camarota in Italy (Pl. VIII).[6] The potter stands as he works, kicks the wheel counter-clockwise and cuts each bowl off with a string. He has no stool or support for his body. Jeremy Leach, a professional potter, found the Beit Shebab wheel very heavy to use. These bowls are used for the bases of the largest jars, bases and necks of medium jars and bottles (Pl. IXA). When leather-hard each bowl is dipped in liquid clay and made, with beater and disk, into a rounded bowl with a thin upper edge. The only trace of its thrown origin is now the string-mark on the base. The bowls are then left to dry (Pl. IXB).

The next stage is building up the walls of the jar. Ropes of clay about 75 cm long and 4 cm thick are made by hand-rolling (Pl. XA). The base is then placed on a stone stand, and the potter, walking backwards round his work, applies the coil in a diminishing spiral with his right hand while his left hand supports the wall from the outside (Pl. XB). Extra clay is pressed on inside and out to make sure there are no weak points and the jar is left to dry (Pls. IXA, XIA). Drying time depends on the weather; at this stage the pots are kept indoors. They are sometimes dried in the sun immediately before firing when they have lost much of their moisture and are in no danger of cracking.

Shaping the pot is done in two stages. First, the jar is beaten to raise its height, and then re-beaten to give the final shape as far as the join with the neck (Pl. XIB). As before, the potter

[3] *Pierides* 160. At Varosia in Cyprus the same type of wheel is known by the Arabic word, τὸ δουλάππιν, *dhoulappin*.

[4] *Lisse and Louis* 37, Fig. 16; *Pierides* Pl. 67, 2; *HT* I, 201, fig. 124, references on 214, 388.

[5] *HT* I, 389, fig. 234; *Hampe and Winter* (1) 17, fig. 13.

[6] *Kelso and Thorley* 97; *Hampe and Winter* (2) 7, Pl. 6, 1–4; *Lisse and Louis* 39, Fig. 17, 1–8.

[7] Burnishing by hand or on the wheel reduces the porosity of a vessel. See *Kelso and Thorley* 106. *Pierides* 153, 154, 159–60, says that in Cyprus large storage jars for wine, while still hot from firing, are coated inside with resin to make them impermeable, a practice which could account for the retsina wine of Greece. A coating of cement is sometimes used instead of resin.

moves backwards round his work, and his diagonal strokes give the surface of the jar the appearance of diagonal burnishing (Pl. XIIA). The potters say that jars made in this way are as impermeable to liquids as if they had been glazed.[7] The unfinished jars are left to dry until enough have been prepared for the next stage, putting on the neck or 'hatting', as it is called at Beit Shebab.[8]

The jar is centred on the wheel on a cushion of clay and rag to steady it, and a conical bowl, now called the hat or *tarboosh*, is dipped in liquid clay and inverted onto the shoulder of the jar (Pl. XIIB). The potter puts his thumb through the base of the bowl and converts the bowl into a wheel-made neck firmly attached to the shoulder in two minutes flat. Pronounced wheel-marks are visible and the rim is finished off by rolling the upper edge outwards and down like a hem, a strengthening detail which may often be seen on ancient pottery of all periods using the wheel (Pl. XIIIA). Bottles have the conical bowl drawn up to a narrow opening. Handles are prepared in the same way as the coils and are attached with liquid clay without any previous roughening of the surface (Pl. XIIIB).

The finished jars are then stored indoors or under cover until there are enough to fill the kiln. This takes several weeks, and by then the exposed parts of the pots are white dry (Pl. XIVA). Firing is usually done three times a season.

As elsewhere in the Mediterranean, the Beit Shebab potters fire as many different shapes and sizes as can be stacked in the kiln. A mixed load avoids the boredom of working in mass-production, saves fuel in the kiln, as no space is wasted and gives maximum variety for sale. 1,500 pots are fired at a time. The load includes forty very large jars, *khabia*, each holding ten *tanakas* or 200 litres, eighty large jars, *ruba'ih*, 200 medium jars, *kharij*, 300 large two-handled jars, *muzannar*, each holding a *tanaka* and a half or 30 litres, 900 small jars, *tletdinan*. The rest consists of large and small bowls, bottles and special orders like flower pots, pot stands and bells or rattles for children.

Before describing the Beit Shebab kiln it is useful to emphasize the difference between the two types of kiln known in ancient times and still used today. The vertical kiln, basically an open cylinder or cylinder covered with a pierced dome, seems to be the older type and was developed from the open hearth method of firing. It was well established in Egypt by the Fifth Dynasty, and at Tell Far'ah by the end of Phase I of the Early Bronze Age.[9] Its disadvantage lies in the difficulty of controlling temperature in an upward draught. The horizontal kiln, basically a horizontal cylinder ending in a vertical chimney, is known from remains dating between 2000 and 1000 B.C. found along the west coast of Europe from the Mediterranean as far as the Hebrides. A few have been found with vertical kilns at Romano-British sites, and in China the horizontal kiln has been used continuously since about A.D. 100.[10] So far as I know, there is no evidence to show that the horizontal kiln originated in the

[8] It is practical to make a large jar with spherical or piriform body, pronounced shoulder and narrow vertical neck, in two pieces, since the in-curving shoulder cannot support the weight of the neck until the process of drying has given it some rigidity. This applies equally well to thrown jars as to those made by hand or by a combination of throwing and coil method. The following are examples of this practice in ancient pottery: *HT* I, 387, Fig. 230, from Jericho (Neolithic B); *CAH* revised edition, fasc. 46, 20–21, from Tell el Far'ah (EB, end of Phase I); O. Tufnell, *Lachish* IV, pp. 166–7, from Lachish (EB), 171, 173, from Lachish (EB–MB); O. Tufnell and W. A. Ward, 'Relations between Byblos, Egypt and Mesopotamia at the end of the third millennium B.C.' in *Syria*, XLIII (1966), 169 ff. See also K. M. Kenyon, *Archaeology in the Holy Land*, second edition (1965), 123, 136. The same method was used by Minoan and Mycenaean potters. Many Palace Style jars and jugs have an intrusive ridge on the inside at the join between neck and shoulder, and a raised band on the outside, often described as a feature copied from metalwork. While the feature may be metallic in appearance, it is also functional from a potter's point of view, in that it strengthens a weak place on a large pot. See A. Furumark, *The Mycenaean Pottery*, 86–87.

[9] *HT* I, p. 394, Fig. 243; Kenyon, op. cit. in n. 8, Pl. 22 A; *CAH*, *loc. cit.* in n. 8.

[10] *HT* I, 393.

Middle East or was widely used before Roman times. The horizontal kiln is more efficient than the vertical since the horizontal flue spreads the heat and gases more evenly through the kiln and the draught is easier to control.

The Beit Shebab kiln stands out from the current Mediterranean type. It is basically a horizontal kiln although it does not have the constructed vertical chimney used in modernized pottery kilns in Lebanon. Its construction exploits a step cut out of the hillside to give a flow of heat in a horizontal and then a vertical direction. Bricks of potter's clay are used to make a building over the stepped area, about 3 by 5 m and about 5 m high from roof to lower level. The roof is a barrel vault bulging in the middle. A shallow barrel vault divides upper from lower level and is left open where it meets the step. The upper level extends beyond the step towards the hill and is entered by an arched doorway about 1 m by 1.50 m. This is the main loading door and when firing takes place it also serves as a chimney. A second smaller door is built in the lower level, opposite the upper door and above the lower floor level. This door is used for loading smaller pots into the firing area and is the firing door. The kiln is thickly plastered inside and out with clay, and painted white outside. The roof is covered with sheets of corrugated iron to protect it from the weather, and an awning of corrugated iron is set up over the loading door while the kiln is being filled (Fig. 1 and Pl. XVB). The kilns at Beit Shebab are built free-standing or at the end of a complex of buildings, according to the ground available.

The upper level takes most of the load. Pots are stacked as closely as possible, mostly upside down, largest round the edge, medium towards the middle, with bowls and small pots and fired clay wedges fitted to prevent movement during firing (Pls. XIVB, XVA). A passage is left for the smoke and heat to flow freely from the lower level. The upper door is then closed up with firebricks as far as the spring of the arch, grass and paper are wedged into the cracks and a stack of wood is piled on the outside (Fig. 1 and Pl. XVB). The lower level is then filled through the firing door to about one-third capacity, and a large space is left clear for firing and the passage of smoke and heat upwards. In order to ensure a favourable draught the kiln is sited with its firing door facing SW, the direction of the prevailing summer wind in Lebanon. A small cross in clay over the loading door and the words 'God be with you' written over the firing door (Pl. XVI) are the final precautions against the hazards of firing.

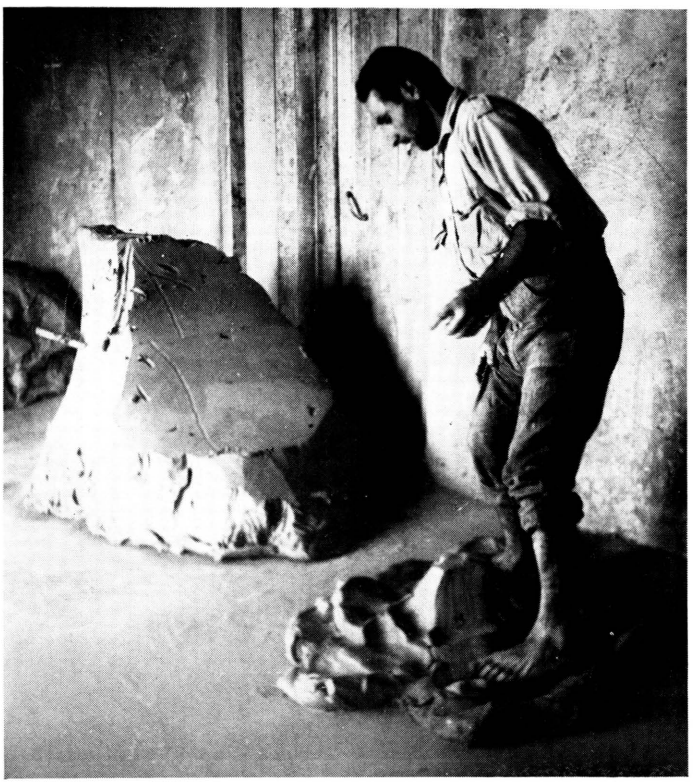
Any available wood is used, banana, lemon, orange, mulberry, walnut, pine, and builder's debris, to make up the 7,000 kilos needed for one firing. It seems likely that the pottery industry as well as ship-building played a part in deforesting the coastal areas of the Mediterranean. The fire has to be fed day and night, and in a Christian district like Beit Shebab a good deal of wine is consumed to help the work along. A piece of limestone is put inside the kiln as a tell-tale and the potters judge by eye when the tell-tale registers the right maximum temperature. Jeremy Leach estimated this to be about 800°C.[11] Firing takes eight days, then the kiln is left for twenty-four hours, when a few pots are cool enough to be handled. It takes five days to empty the kiln completely (Pl. XVII, Fig. 2). About fifty pots may be spoiled in a firing, and these are sold cheaply if the fault is small or thrown outside the kiln if beyond use.

The technique described may not be unique, but so far as I know has no parallel among the potters of Tunisia, Italy, Sicily, Greece, Crete and Cyprus, who, although they combine throwing and coil method in the same vessel, do not appear to use the beater and disk, but beat out the coils with their hands. The Beit Shebab method produces very large pots with harder and thinner walls than most hand-made pottery in the Mediterranean today.

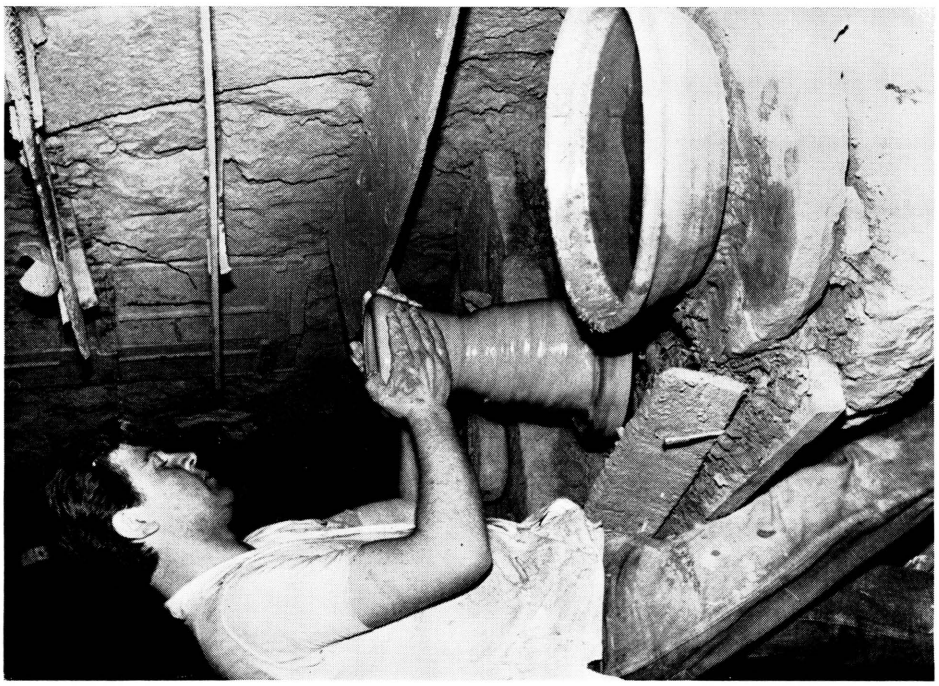
In the Mediterranean and the Middle East new ideas and techniques are often found side

[11] *Kelso and Thorley* 105. The temperature of the kiln has an effect on burnishing. The sheen on a burnished pot (which is faint but present on Beit Shebab pottery) disappears if the kiln is heated to 970°C.

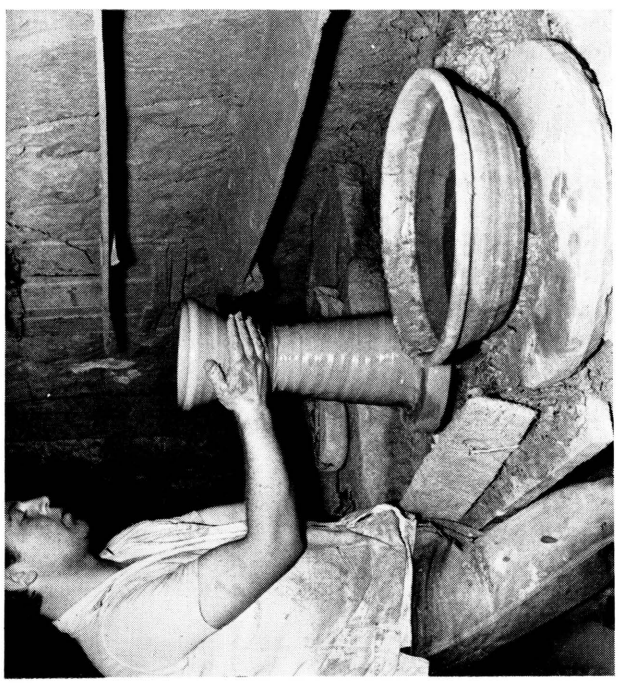
A. The work bench with disks, beaters and potter's wheel.



B. Working the clay.

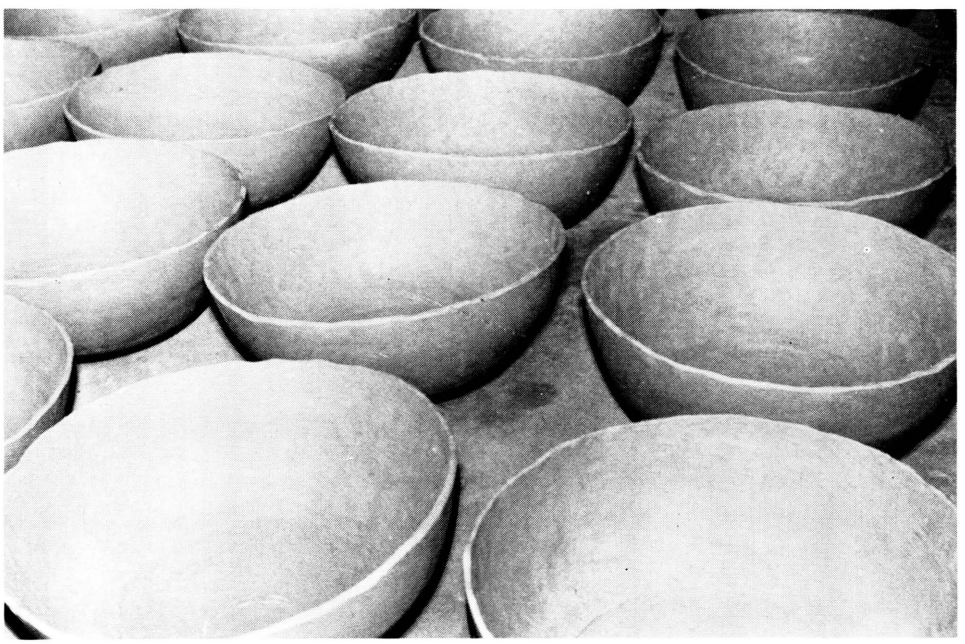


B. Throwing bases.

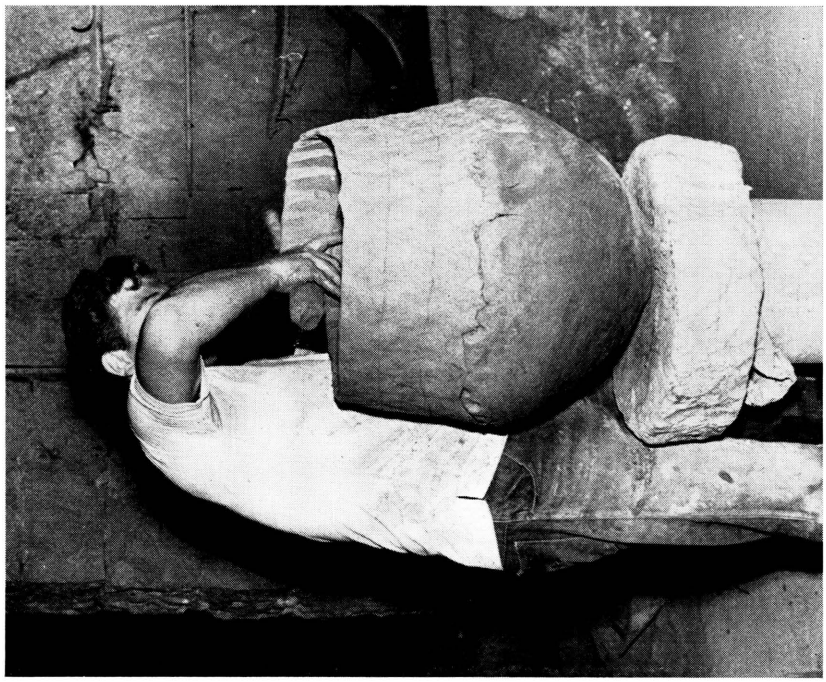


A. Throwing bases.

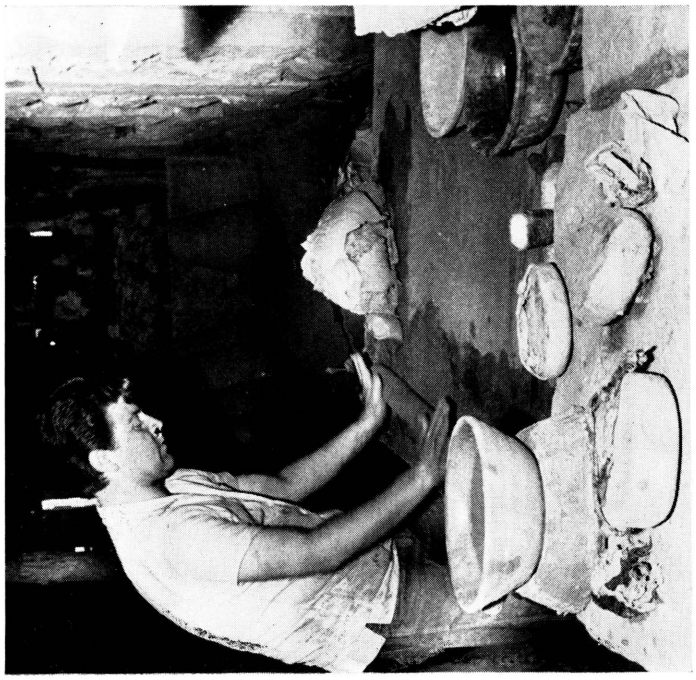
A. The drying process. Thrown bases and coil-made bodies.



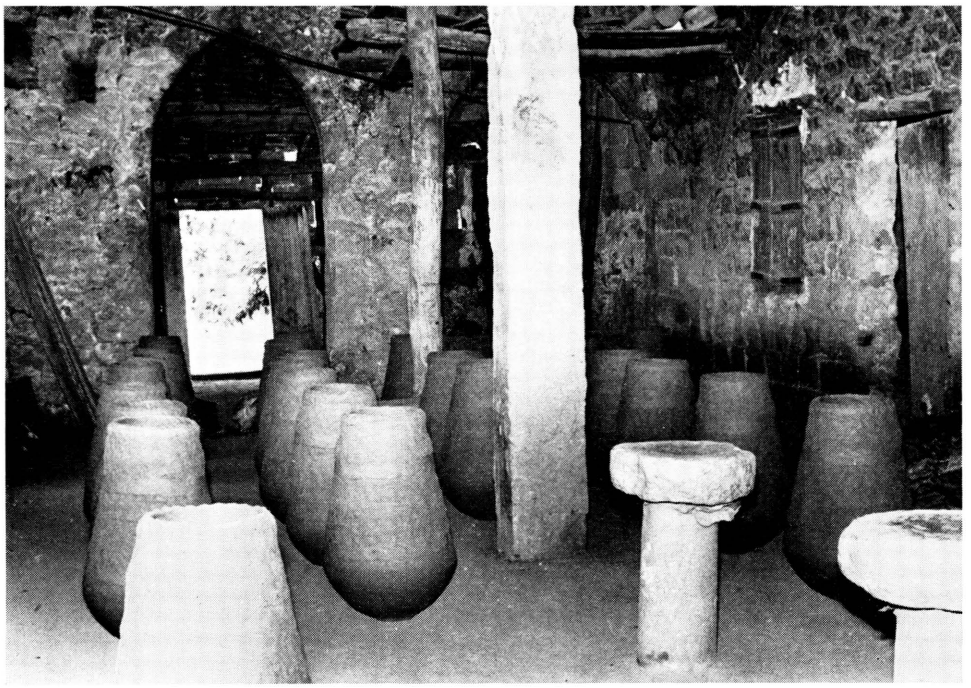
B. Thrown bases after beating.



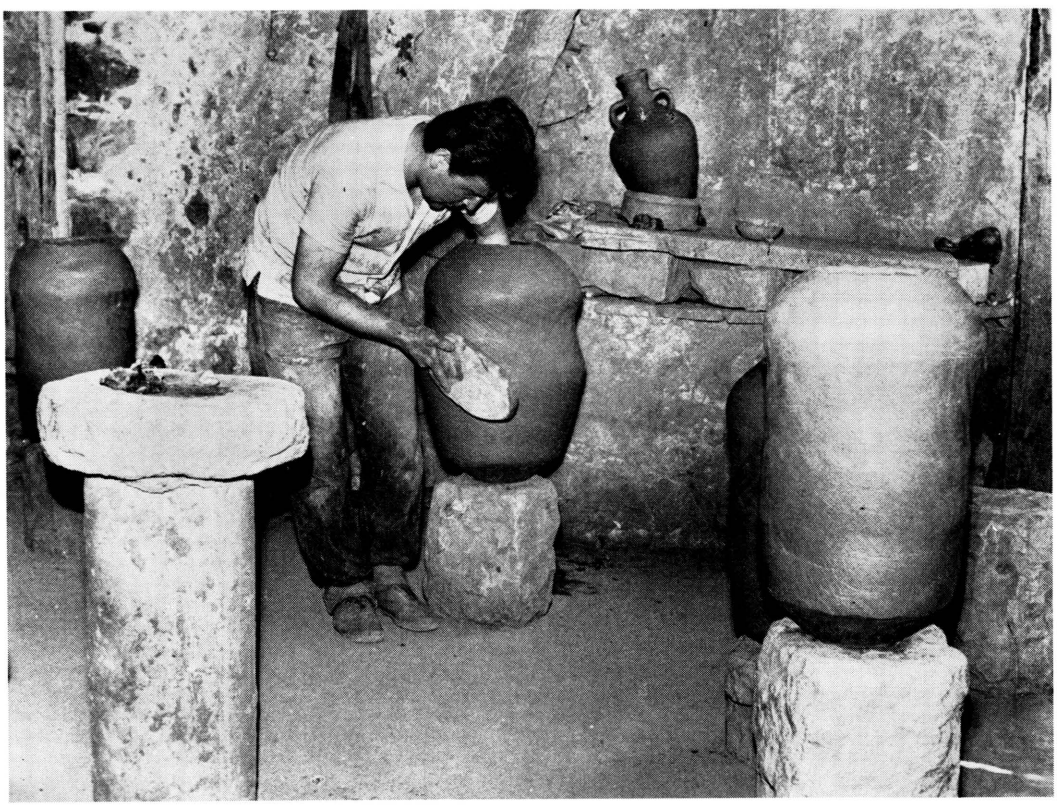
B. Applying the coils.



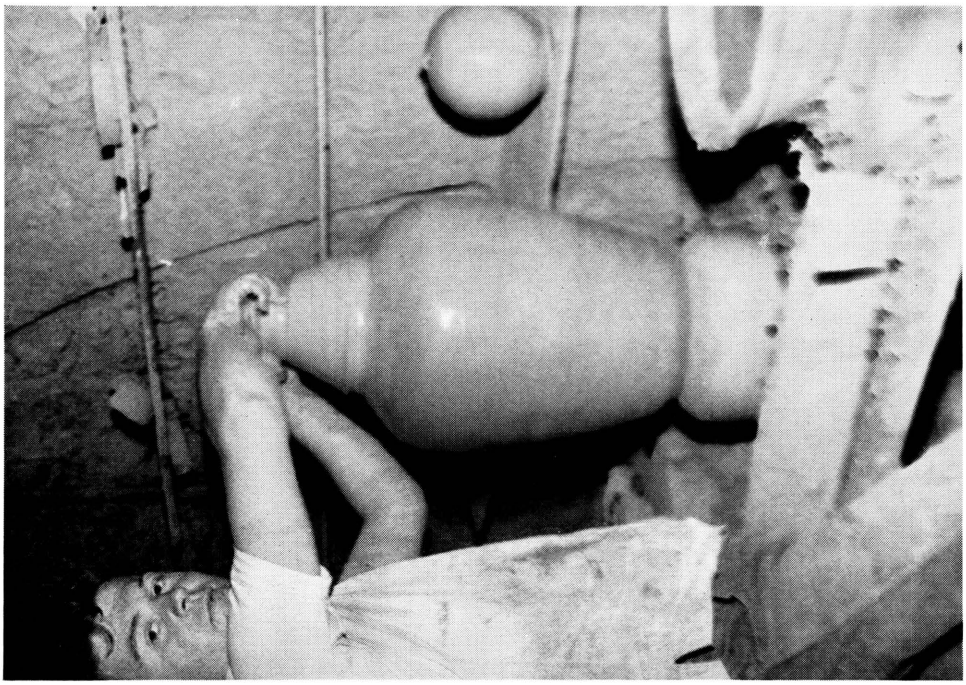
A. Rolling out clay for coils.



A. The drying process.

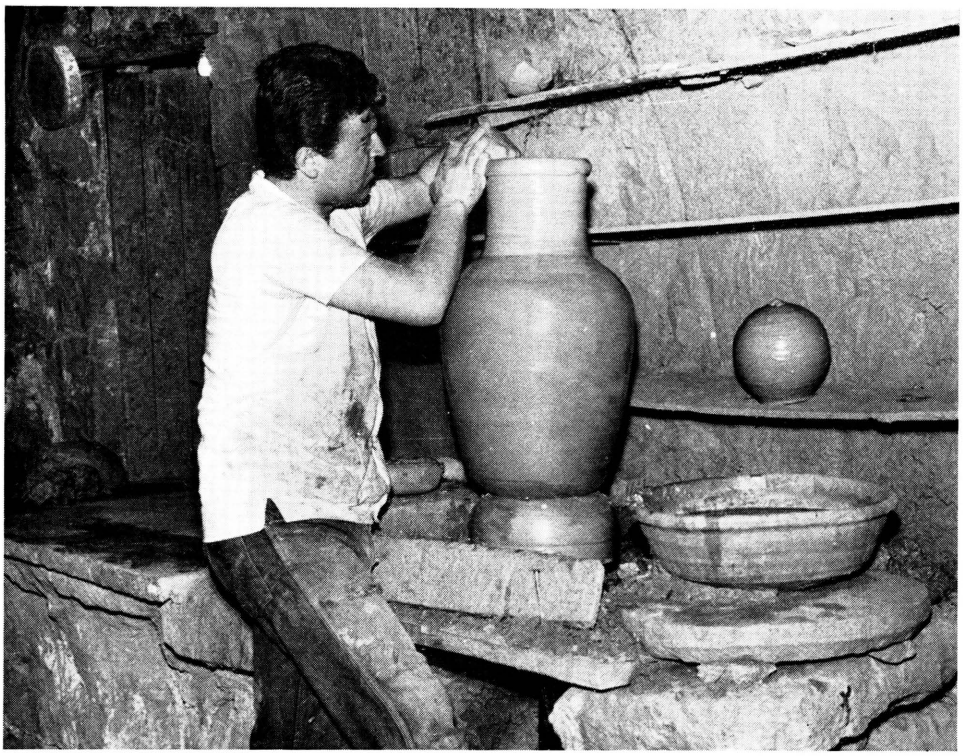


B. Shaping the body.

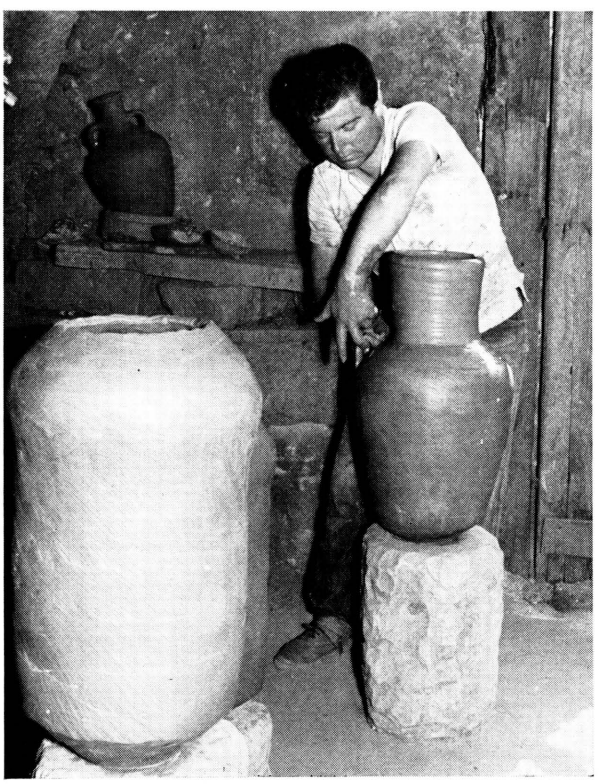


B. Applying the neck.

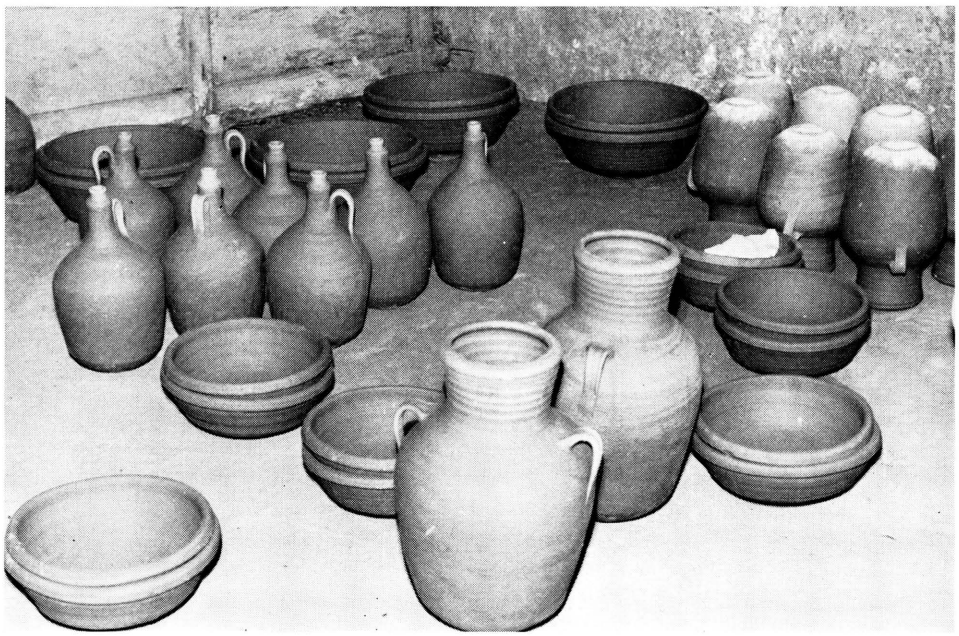
A. Shaping the body.



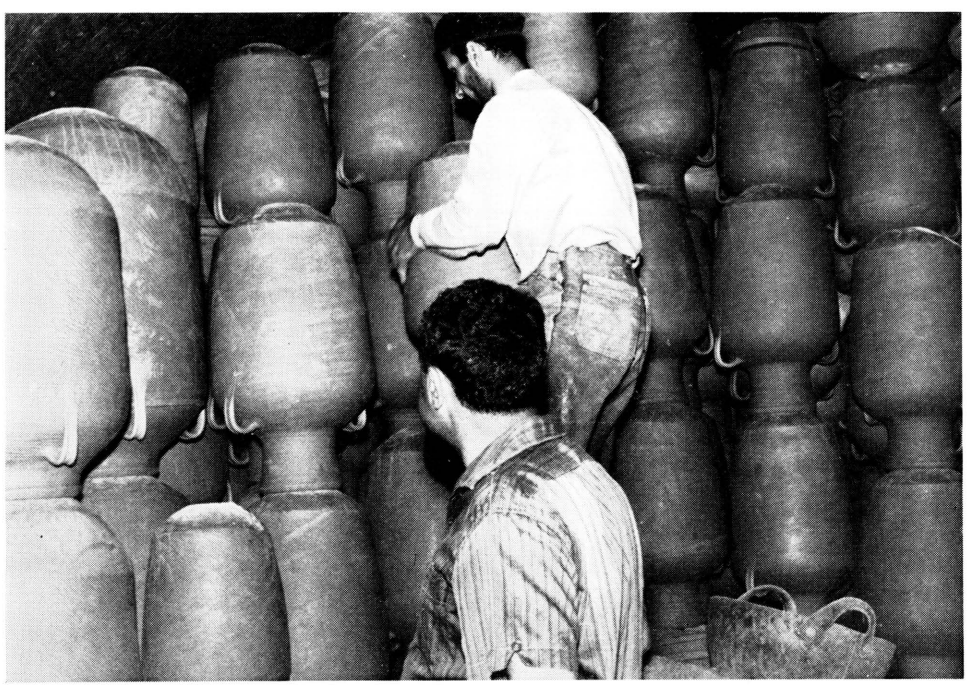
A. Finishing off the rim.



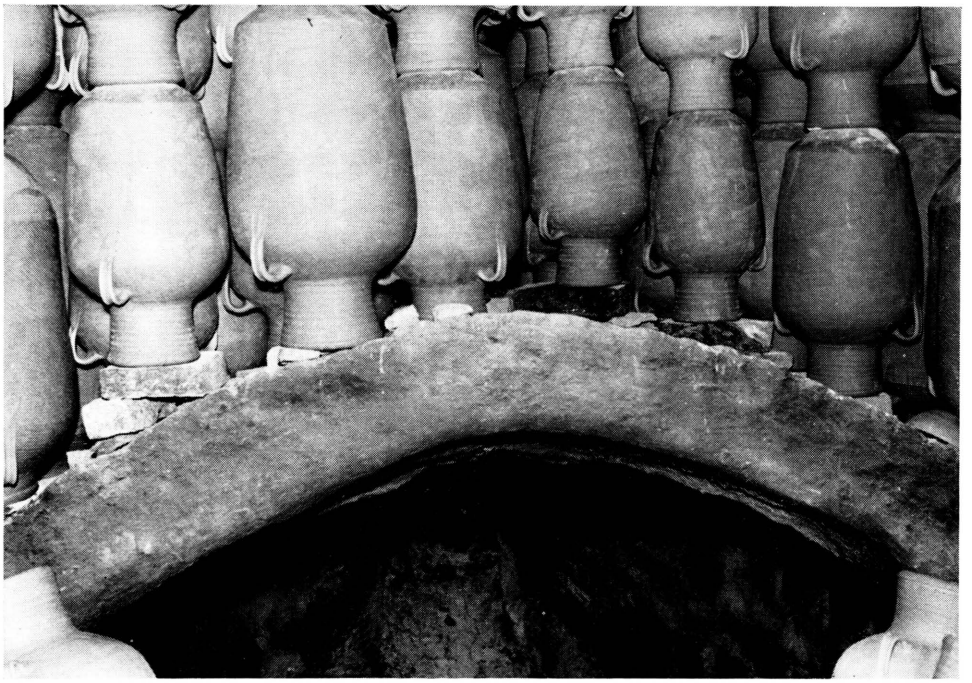
B. Applying handles.



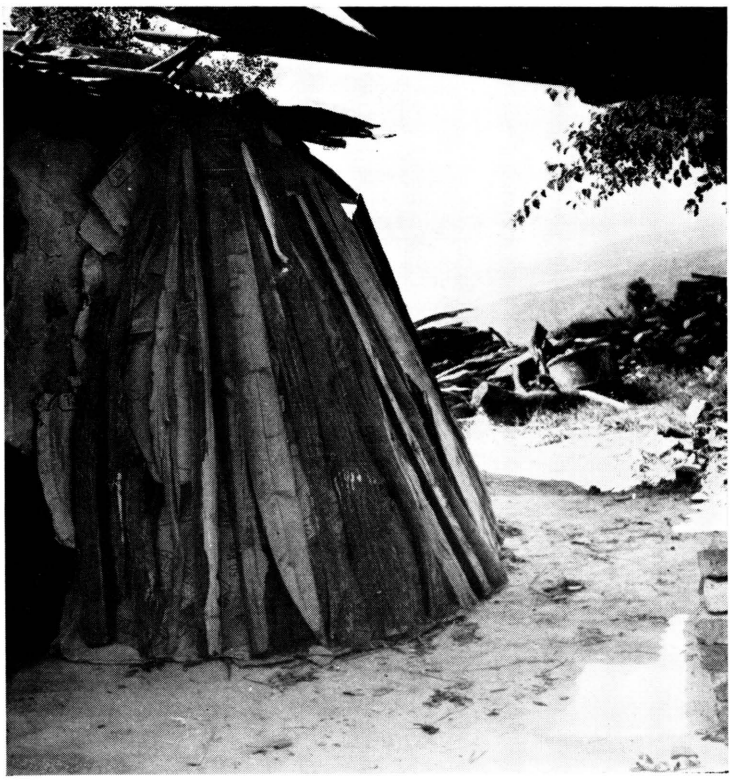
A. Bottles, bowls and jars ready for firing.



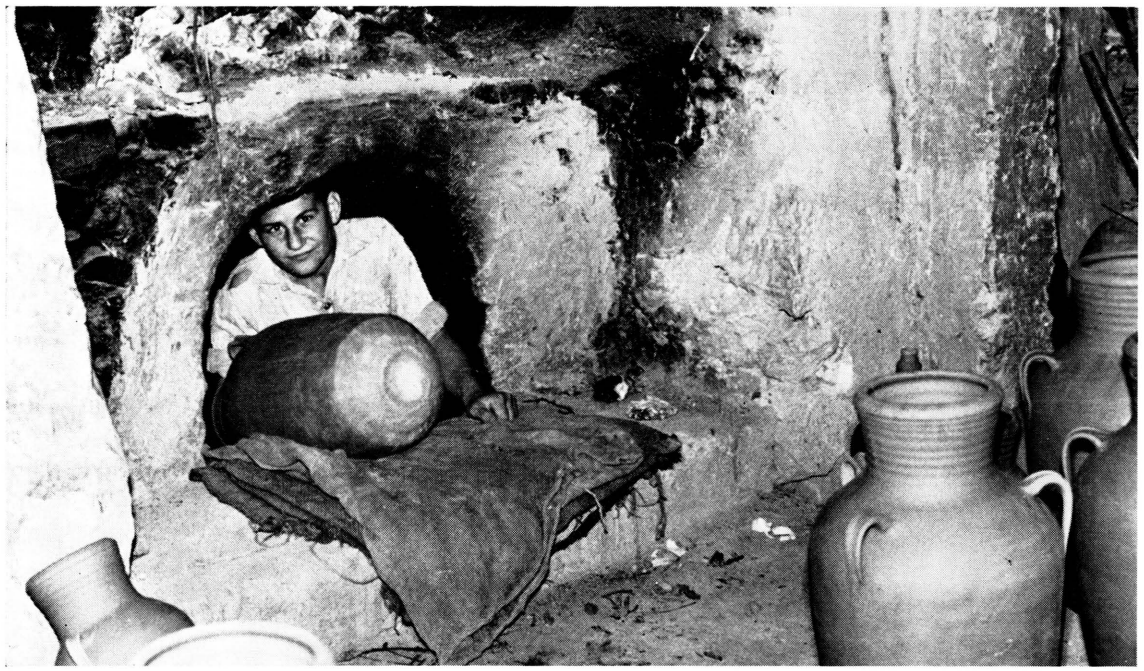
B. Loading the upper level of the kiln.



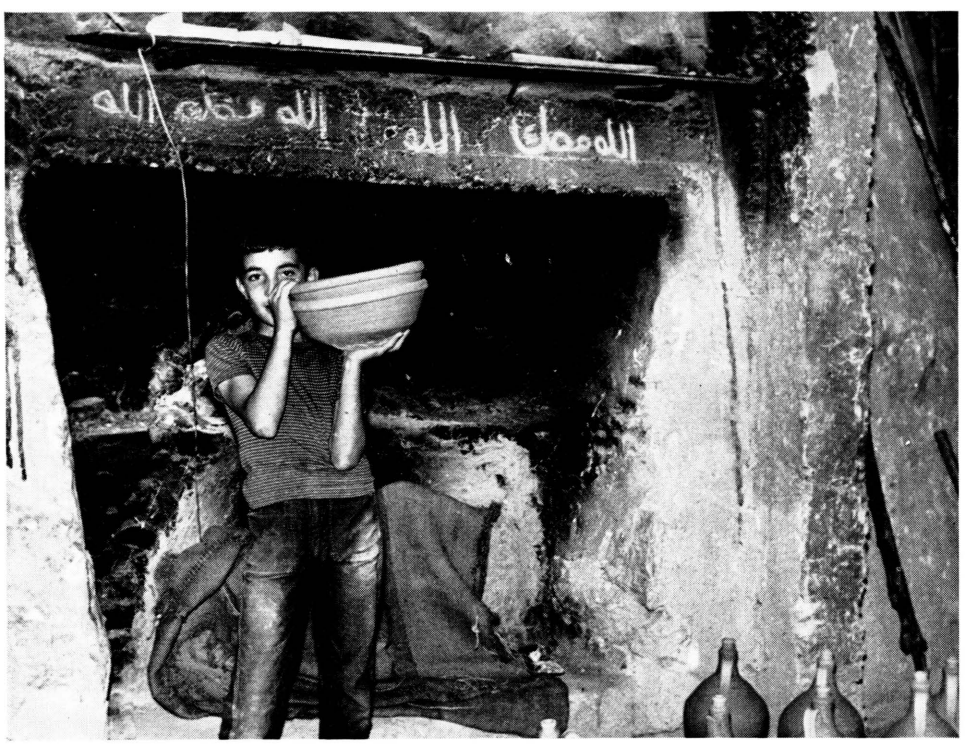
A. Upper level of the kiln, seen from the main loading door.



B. Main loading door blocked for firing.

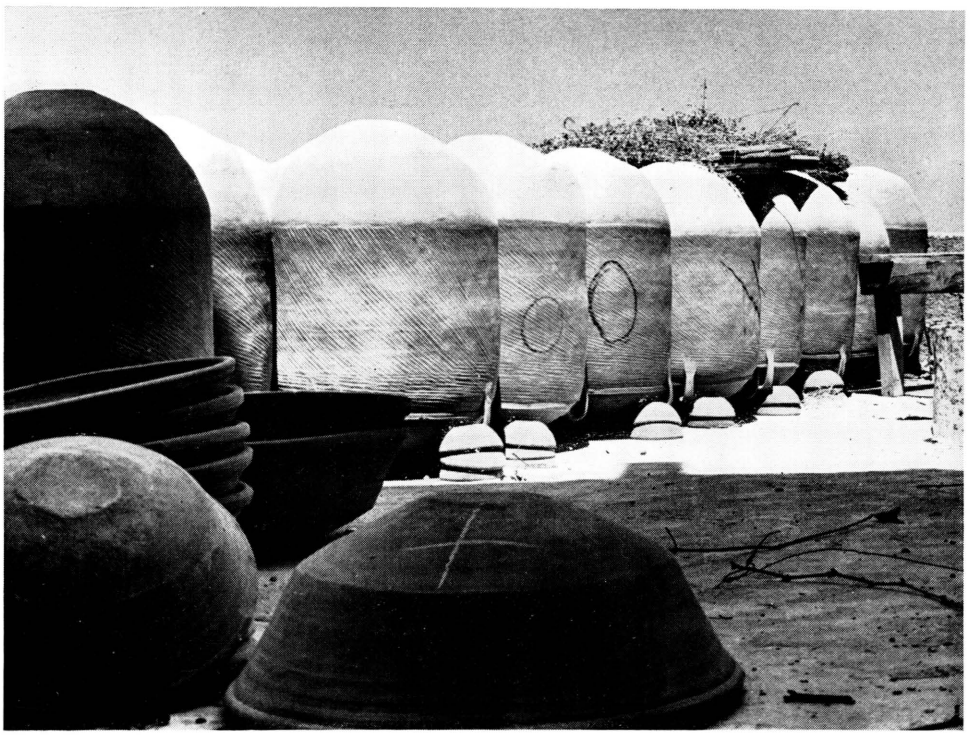


A. Loading through the firing door.



B. Loading through the firing door.

A. The last pots out of the kiln.



B. Finished pots.

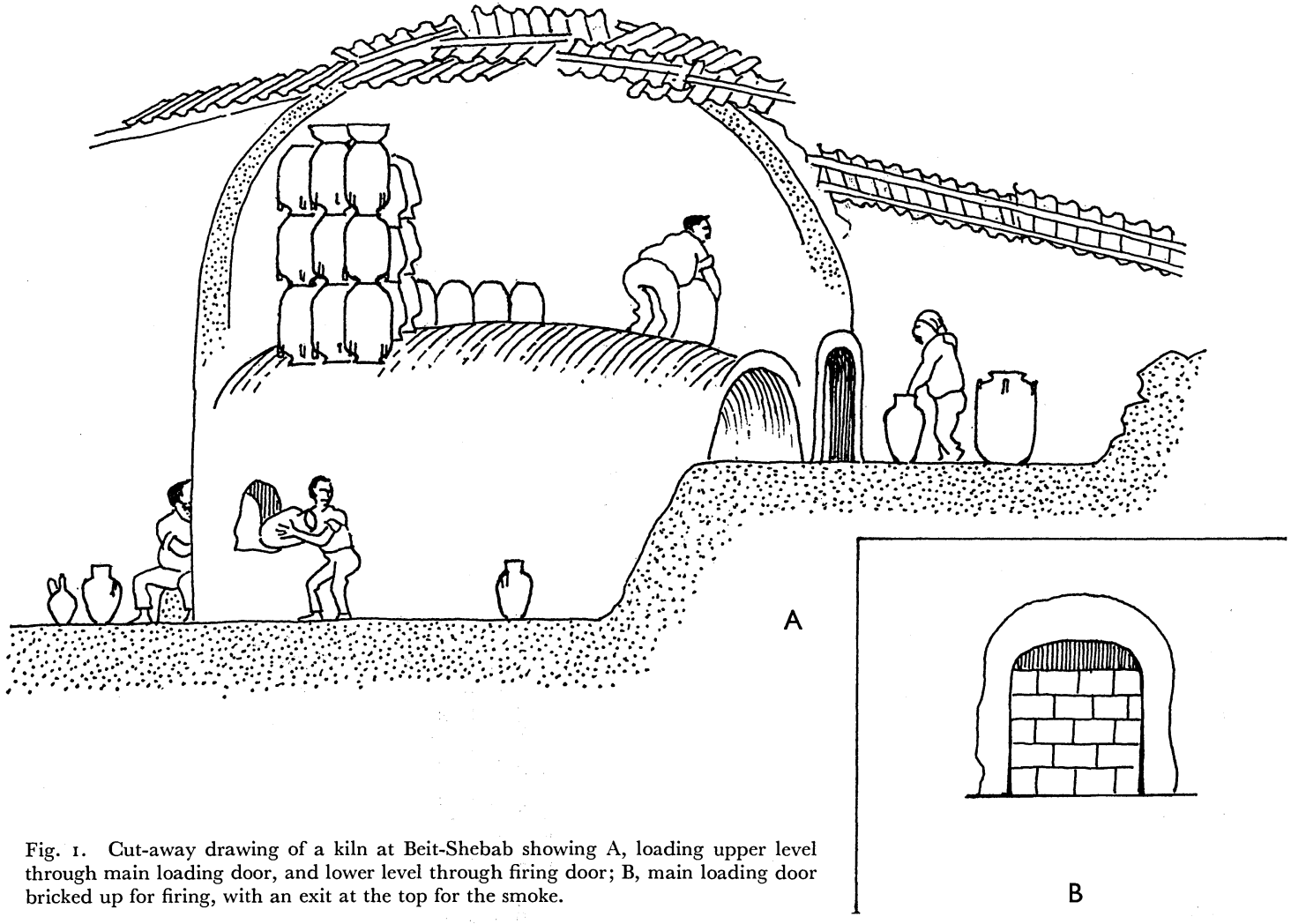


Fig. 1. Cut-away drawing of a kiln at Beit-Shebab showing A, loading upper level through main loading door, and lower level through firing door; B, main loading door bricked up for firing, with an exit at the top for the smoke.

by side with traditional methods successfully carried on by hereditary family groups whose functional skill has not been challenged by innovation and economic change. Traditional skills have been known to resist invasion and ethnic movements. The technique used at Beit Shebab

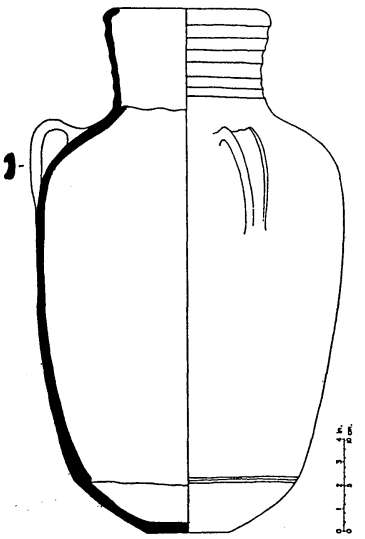


Fig. 2. A *muzannar*.

today seems to be similar to the method brought to Lebanon and Palestine about 2000 B.C., though there is no proof of it being identical. It may therefore be a continued survival made possible by the isolating nature of the Lebanese mountains behind the narrow coastal strip which itself has two formidable blocks to easy communications in the headlands at the Dog river and Ras Sheqqa.