

POTTERY MANUFACTURE IN STING MOR AND BAN NONG SUA KIN MA, THAILAND

by

Wilhelm G. Solheim II

Sting Mor

Sting Mor is a hamlet on the shore of the inland sea in Southern Thailand. It can be reached by an hour's boat trip from Songkhla. Its economy is based on pottery manufacture with many of its families manufacturing pottery as independent economic units. It furnishes the majority of the pottery needed in the smaller hamlets around the inland sea. Chinese potteries of a considerably larger scale are present at Hadyai, about 40 kilometers to the south. The methods used by both groups of potters share many elements, the major noticeable difference being that in the Chinese potteries men do a considerable amount of the potting while in Sting Mor the women are the potters. Sting Mor was visited on the 12th of August 1963 on a trip arranged for by Miss Somboon, Headmistress of the Girls Teachers Training School in Songkhla. Mr. Plaek, retired from the Department of Education, was invaluable in gathering the data. Several different potters were visited in the gathering of the information.

The meaning of the name Sting Mor refers to its industry. *Sting* is a Cambodian word for stream and *Mor* is the local word for pot.

The one clay used by the potters comes from the mouth of the inland sea from privately owned clay beds. The owner of the clay may deliver it to the potters or it may be picked up by the men of the potting family. The clay owner charges one baht for a cylinder about 36 cm high and from 15 to 23 cm in diameter. A potting family buys from 30 to 50 baht worth at a time. The clay cylinders are formed into a cube about 120 cm on a side to keep the clay moist. The clay is removed from this block as needed. The block of clay is kept covered with damp burlap bags to help in retaining moisture.

In preparation for the potting, clay is removed from the large block by the woman potter and she kneads it with her fingers on a flat

board adding sand until the texture feels correct. They have no idea how much sand this might be relative to the clay used. When the sand has been well kneaded into the clay, the clay is reformed into a cylinder of approximately the size in which it was originally purchased.

The first stage of manufacture is done on a wheel. The heavy wheel is set in the ground, with its surface slightly above ground level, in the shade under the house—the potters' houses in this hamlet all being built on piles. A woman sits on the floor facing the potter, on the opposite side of the wheel, and starts the wheel spinning. Sometimes a small boy supplies the power for the wheel. When the wheel slows down its speed is increased, as needed. The potter squats or kneels on the floor facing the wheel and places one of the tempered clay cylinders in the center of the wheel. She joins it to the wheel by pressing the base of the cylinder with her thumbs pushing some of its clay out onto the surface of the wheel. The wheel is started revolving and the potter, now up on her knees, throws a vessel from the top of the cylinder in the usual potting fashion, leaving the major mass of the cylinder as it was, still attached to the base of the newly formed vessel. The vessel is separated from the clay cylinder below by passing a taut string, held between the hands of the assistant, through the clay at the base of the vessel. If the vessel is formed in its final shape on the wheel and is meant to have a flat bottom, such as a flower pot or small bowl for catching the latex from a tapped rubber tree, the string cuts through the cylinder so as to leave a thin, flat bottom on the vessel. To give the bottom the desired thickness the edge of a strip of tin from a tin can is used to scrape off the excess clay. If the vessel is not completed but must be further worked, such as a cooking pot or a steamer, it is cut off from the cylinder leaving an open bottom. On these vessels the rim is completely formed on the wheel while the body is nothing more than a slightly rounded open-ended cylinder. The potter removes the vessel from the top of the clay cylinder and sets it to the side on the ground or on a flat board or mat. The same procedure is then followed to make a second, third, and fourth vessel, repeating until the clay is used up. The wheel is scraped clean and a new cylinder of clay added, to begin again as before. In this way about 500 flower pots, 20 cm high by 15 cm

in maximum diameter, and requiring no further working before firing, can be made by one potter and her assistant in a full day's work.

The next step is a drying period. Those vessels that are now complete are set on boards on the ground, in the sun, to dry and are then ready for firing. Those vessels which are not yet completed are set on boards on the ground in the shade for half a day before starting on the next stage. If their manufacture cannot be continued as soon as they have reached the proper dryness they are covered with old mats to keep them from becoming too dry. The drying sets the relatively thin and completed rim but leaves the much thicker wall below the rim still plastic.

The bottom of the open-ended vessel is closed over in the next step. The potter sits on the ground with her legs crossed in front of her. Using a plain wooden paddle on the outside and a fired clay anvil on the inside she strikes the two together thinning and expanding the clay. Turning the vessel around in her lap, with repeated moderate strokes of the paddle against the anvil she closes over the bottom. If one portion of the bottom becomes too thin she takes a lump of clay from a small pile nearby, presses it over the hole with her fingers, and then beats it into the other clay with the paddle and anvil. She has a small basin of water in front of her from which she takes water on her fingers to wet the paddle and the anvil as needed to keep the clay from sticking to them. The potter closes over the bottoms of a number of vessels before she starts on the next stage.

The forming and finishing of the body is ordinarily done by paddle and anvil using a paddle which has one plain face and one carved face (Plate Ia). The paddles are carved by the men. One potter will have several paddles with different carved patterns on each (Plate IIc-o). Working as she did when she closed over the bottom of the vessel, the potter starts beating with the carved face of the paddle on the bottom of the vessel, thinning and expanding the walls as she turns it around in her lap working from the bottom, up the sides. She keeps the paddle and the anvil slightly wet. She gives the pots a wide belly and a flat bottom, without an angle between. Some pots are left with the pattern from one paddle all over the surface except for the neck and

rim (Plate Ib). Some have one pattern on the bottom and body and a different pattern in a band around the shoulder (Plate Ic and II l-m). Bowls usually have their bottom beaten over with a plain paddle, leaving a pattern on the side (Plate Id-e). Water storage jars are gone over with a plain paddle, smoothing over the relief pattern from the carved paddle. In some areas on bowls and pots that are plain the faint pattern from a carved paddle can still be seen. The plain water jars have a pattern impressed at intervals around their shoulders from a carved stamp (Plates If and IIp), the stamp being carved in wood or water buffalo horn (Plate Ig). Each potter has a different stamp and thus a potter's work can be identified by the stamp, where it is used. On some plain pots a smooth pebble is rubbed over the surface to smooth it and on some necks is done so as to make a zig-zag pattern in a band around the neck. Some jars have two to five concentric grooves around the jar on the shoulder above the pattern (Plate II n-g).

The bowls have a slightly everted rim while the pots have a high neck with an everted rim. Water jars have a high outward slanting rim (Plate If). Steamers (Plate IIa) are made in two parts and joined together. The grate for the steamer is made separately and fired separately and is placed loose in the steamer when used.

Lids are made on the wheel in two operations. First a shallow bowl is thrown and this cut off from the clay cylinder with the string. This bowl is allowed to dry until it is almost leather hard and then it is scraped on the outside with the edge of a strip of tin. It is then placed concave side down on the wheel, a small lump of clay is added in the center, the wheel started turning, and the handle then formed from this clay (Plate IIb).

Other forms of pottery are made besides those mentioned. Pottery stoves can be seen in the background in Plate IIIa. Fish net sinkers are made from clay but these were not seen.

Following the final forming and decoration the completed vessels are dried partly in the sun and partly in the shade. They are piled in layers on the ground or on a board until there are enough to be fired in a kiln.

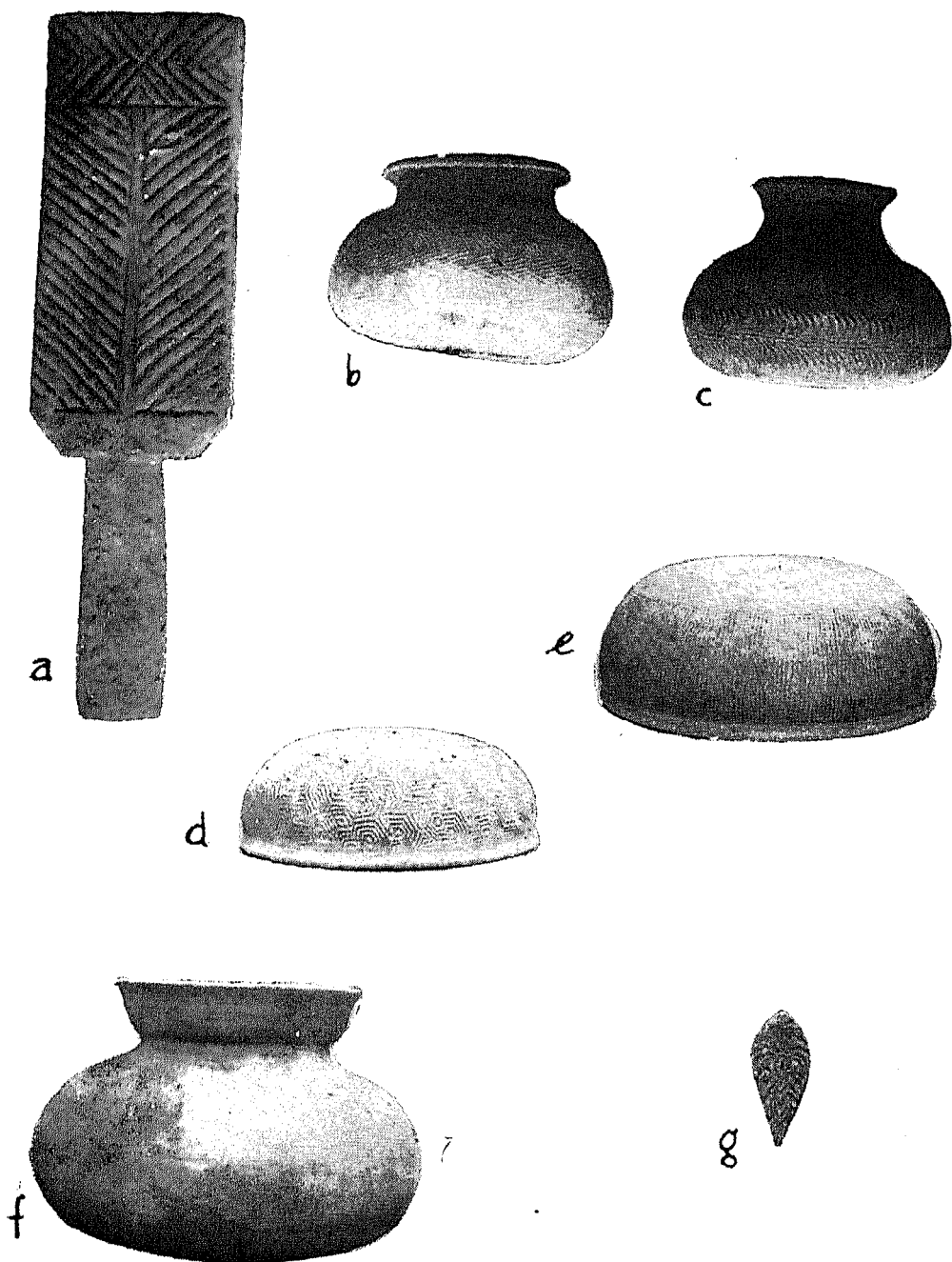


Plate I Sting Mor pottery and pottery tools: *a* paddle, with pattern carved on one face and the other face plain; *b* pot with carved paddle decoration covering side and bottom; *c* pot with one pattern on bottom and side and second pattern on the shoulder; *d-e* bowls with plain bottoms and patterned sides; *f* water storage jar with stamp impressions on shoulder; *g* carved stamp of water buffalo horn; pots to same scale, paddle and carved stamp at larger scale.

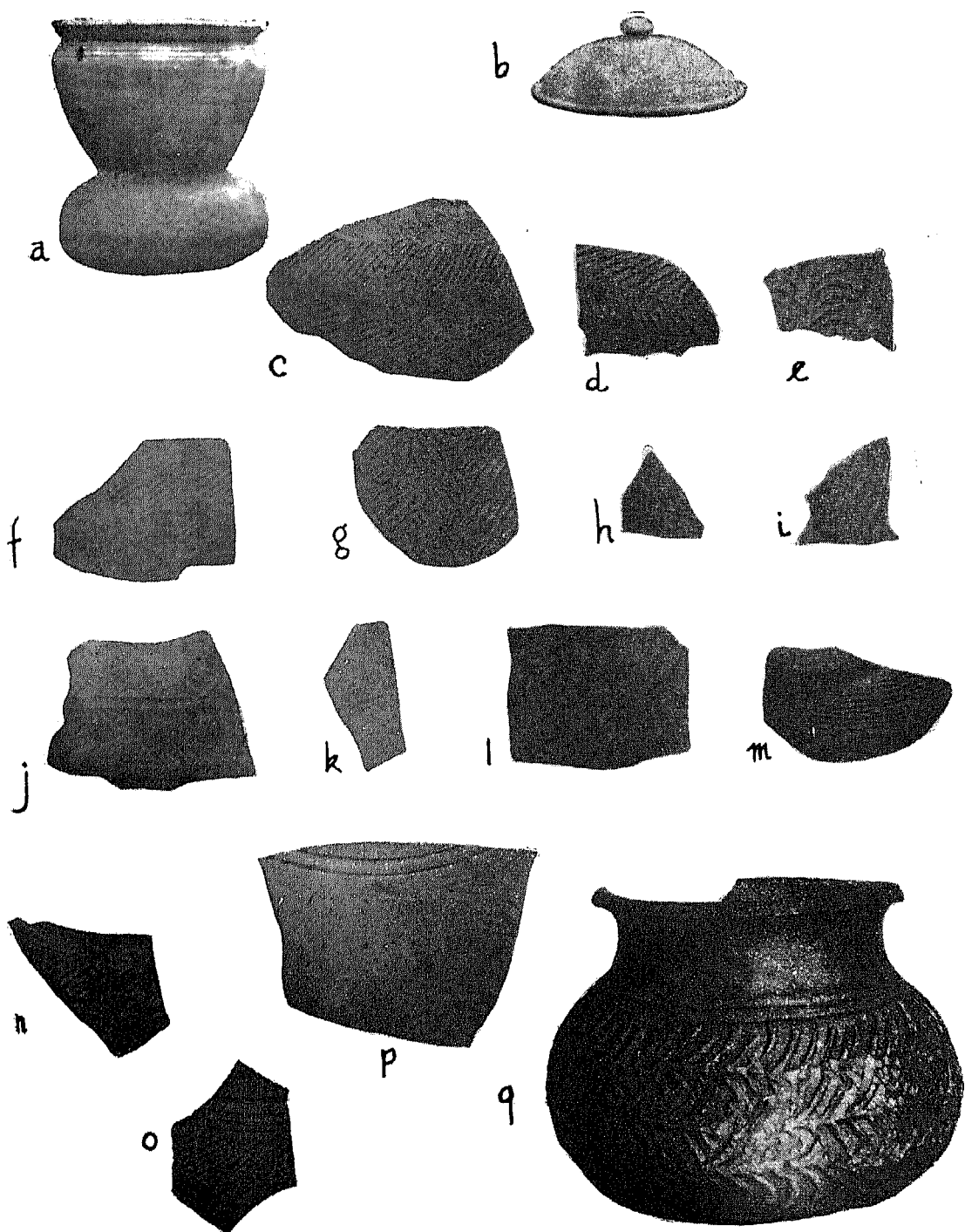


Plate II Sting Mor pottery: *a* rice steamer; *b* lid for water jar; *c-j* sherds with different carved paddle patterns; *n-o* patterned sherds with concentric grooves; *p* sherd with concentric grooves and stamp impressions; *q* overfired pot.

Two kinds of kilns are in use in Sting Mor: the vertical and the horizontal. The horizontal kiln has only come into use recently but it has rapidly taken over from the vertical. There are only one or two vertical kilns left in use. The vertical kiln is simply a heavy hollow clay cylinder about three meters in diameter with a heavy clay grill dividing it into approximately two halves, one above the other. The firewood is placed below and the dried vessels for firing piled above. Detailed information on the firing was not gathered.

The horizontal kilns would appear to have a considerably larger capacity than the vertical. There is some variation in size with from three to six side doors plus the end door at the end opposite the chimney (Plate IIIb). The big seven door kiln was said to take about a thousand pots at a firing but this would be dependent on the size of the pots. The women bring the dried pots to the kiln and pile them inside, one on top of the other, along the wall opposite the side doors. The filling and/or emptying of a kiln was not observed.

Men do the firing. The side doors are sealed and wood placed in the end door and started burning. When it has burned down the end door is sealed with clay and the side door closest to the end just fired is broken open and wood put in and burned. When this second fire has burned down that door is sealed and the same procedure followed one by one for the remaining doors up to the end nearest the chimney. When the last fire has burned down and the last door been sealed the kiln is allowed to cool for a day and a night. The doors are then broken open and after another day of cooling the fired pottery can be taken out. The total operation of firing and cooling takes about 72 hours.

Kilns are privately owned. If a family does not have its own kiln they may hire one for 40 baht. For this price they furnish their own wood and take care of the firing. If the firing has been good there is only about 1% breakage. Some of the breakage is considered to be the result of faulty manufacture. Some kilns are considered better than others. The combination of a poor kiln and unskilled firing may result in as much as 50% breakage. Overfired pottery is not sold or used. There appears to be little if any overfiring in the horizontal kilns, but near the one vertical kiln examined was a large pile of overfired vessels,

many of them unbroken, though often somewhat warped. The over-fired vessels are partly vitrified and have a metallic sheen (Plate II*g*). Those pots that are only slightly broken in firing are sold for flower pots or for rice containers, at a low price. After firing, the vessels are piled in layers until taken by the men to market (Plate III*a*).

Ban Nong Sua Kin Ma

Ban Nong is a hamlet of about a dozen houses approximately 55 kilometers northwest of Khon Kaen on the boundary between Udorn and Khon Kaen Provinces. The people living in this area came from Korat and Ubon about 20 years ago. Ban Nong was visited on the 4th of September 1963. Khun Charern Pholtachar and Khun Chin You-di, both of the Fine Arts Department, were of great help in gathering this information. Several different people, both men and women, served as informants.

The clay is gathered by both men and women from a pond about five minutes from the hamlet. Sufficient clay for one day's work is gathered in the evening of the day before it is to be used. It is carried back to the hamlet in baskets on a shoulder pole. The clay is sprinkled with water and left in the baskets for the next day's work. Only one kind of clay is used. The pond from which the clay is collected is public property and nothing is left at the pond in the way of exchange for the clay. There were no taboos or beliefs elicited concerning either the clay pits, the gathering of the clay, or any of the stages of pottery manufacture.

Temper for the pottery is manufactured. Clay is mixed with paddy husk and formed into balls about 15 cm in diameter. After drying for a time these balls are fired either by men or women. A framework of wood is made on the ground by placing two or more sticks parallel and 20 to 30 cm apart. On this base a number of other sticks of the same size (two to five cm in diameter and 60 to 90 cm long) are placed parallel to each other, diagonally across the base sticks and three to six cm apart. On top of this are placed the dry clay balls. Dry grass is placed over all and burned, giving a high flaming fire. Grass is added to keep it burning for about 14 hours and it is then allowed to



a



b

Plate III StingiMor fired pottery and kilns: *a* various types of vessels ready to go to market, piled behind kiln; *b* pottery kiln, firing at first door near front end.

cool slowly. The balls get red hot in the firing. When they are done they are brown on the outside and black in the center. The fired balls are placed in a pile on the ground and are available for temper as needed.

Preparing the clay for pottery manufacture is the men's job. Before mixing the clay with the temper the women must prepare the temper. They take one of the fired clay balls and place it in a wooden mortar. The mortar may have been especially made for this purpose or it may be an old rice mortar. The clay ball is broken into bits using a rice pestle. The clay fragments are then sieved using a fine basket sieve with a mesh of not more than three or four mm. That which passes through the sieve is ready for use while that which is too large is repounded. Clay is mixed with the temper on a large mat placed on the ground. The men work it with their feet, very dexterously kneading it, folding it in on itself much the same way as if done by hand. Temper is added until the plastic clay feels right. The informants could not express the amount used as a quantity. Sufficient clay for about 10 large jars is worked at a time requiring about two hours of kneading. The prepared clay is divided into amounts needed to make one pot and is then rolled into a cylinder ready for the women to begin.

Women only are the potters. The question was asked whether there were ever any transvestite potters. When the term transvestite was explained the whole crowd present (possibly 20 people) broke into laughter. The concept of a transvestite was apparently quite foreign to them.

The potter works on a mat on the ground in the shade, under a tree or under the house. The potter's wheel is not used. She takes the prepared clay cylinder and forms a hole in one end using her thumbs. If the vessel is to be small she hollows out the top portion of the cylinder with her thumbs leaving deep marks from her fingers around the central portion of the cylinder, and the bottom portion in its original solid form (Plate IV*a*). If the vessel is to be large she places a smooth stick, about three cm in diameter (Plate IV*k*) into the hole worked out with her thumbs and forces it all the way through the length of the cylinder. When it is through, with an equal length of stick at either end of the cylinder, she starts rolling it on the mat and this quickly enlarges and

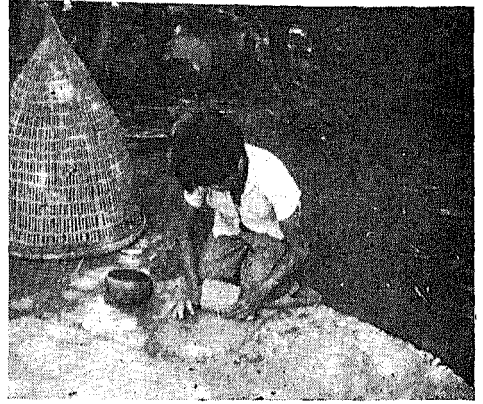
hollows it. This may be done using the fingers in place of the stick (Plate IV*b*). A group of vessels is brought to this stage before proceeding further.

For the forming of the rim the hollow, or solid based, cylinder is placed on top of a wooden post set in the ground and a bit of clay is added at the base to secure it to the post. The potter enlarges the upper portion of either kind of cylinder by beating on the outside with a rough surfaced wooden paddle (Plate IV*j*) against her hand as a counterpoise on the inside, but leaving the wall still thick. In the beating she walks either backward or forward around the post. With the paddle she then hits the top of the cylinder making it even, with a flat lip. She takes a wet leaf (Plate IV*i*) between her fingers and again walking around the jar forms the rim by finger pressure (Plate V*a*). The rim forming of one vessel, from first placing the cylinder on top of the post to the end, takes only about three minutes. All rims are turned out except for that of a water storage jar which has a straight rim made for a lid. The water storage jar is the only vessel for which a lid is made. With the rim formed, the vessel is placed on a cloth or mat in the sun to dry for about one hour (Plate V*b*) while the other vessels are brought to the same stage. About 12 to 14 pots are worked together as a group through each stage.

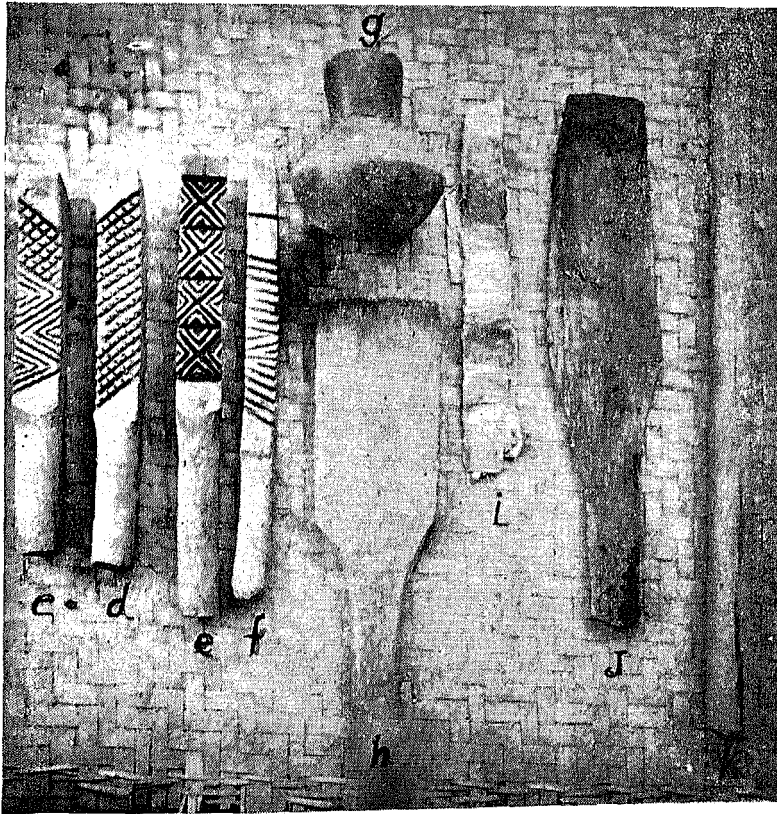
There follows two separate formings by paddle and anvil with a short period of drying in between while the other pots of the group receive their beating. The potter, seated on a mat in the shade, holds the pot in her crossed legs turning it around as she beats. She has a container of water in front of her for frequent wetting of the paddle. Using a smoother paddle than the first one, but of the same kind of wood (Plate IV*k*), she closes over the open bottom of the larger jars and enlarges the body (Plate VI*a-b* and VII*a-b*), first pinching off the extra clay which had held it to the post. With the smaller pots she hollows out the base of the pot from the solid clay base, enlarging the body as she works. For either size vessel the rim is left as it was done on the post. The enlarged pot is then put in the sun to dry. If she is making large jars the potter places the vessel in a broken jar placed on its rim so that the remaining shoulder supports the wall of the drying jar. If



a

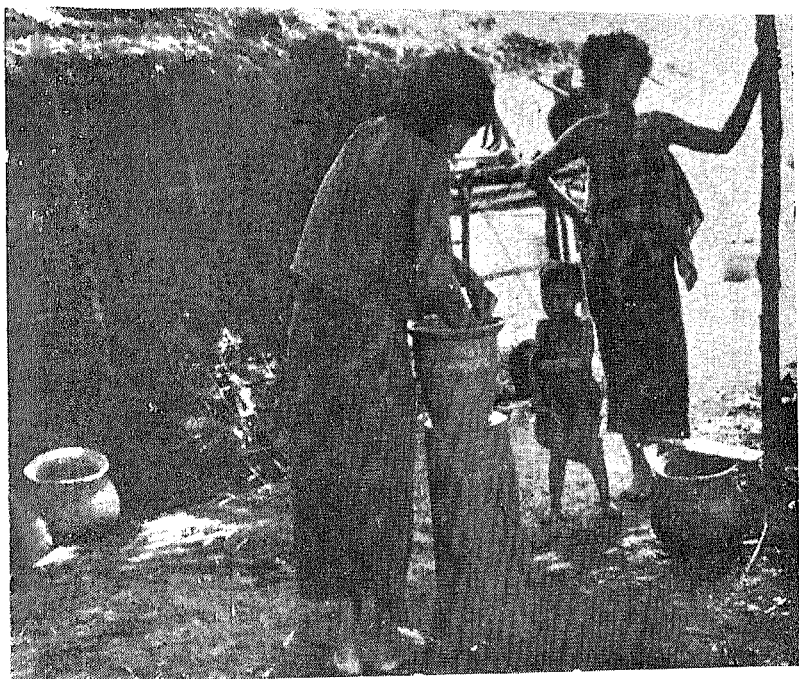


b



c - k

Plate IV Ban Nong pottery manufacture: a hollowing out top of clay cylinder for small pot; b hollowing clay cylinder by rolling; c-k tools for manufacture.



a



b

Plate V Ban Nong pottery manufacture: *a* forming the rim; *b* pots drying in the sun, in the foreground with rim completed but body not yet begun, in background completed jars.



a



b

Plate VI Ban Nong pottery manufacture: *a-b* closing the bottom of the hollow cylinder and expanding the body.

the jars waiting for their second beating are becoming too dry a blanket or mat is placed over them to conserve moisture in the paste. Several paddles of different thicknesses are near at hand as she works on the second paddling. The potter selects thinner and thinner paddles as she progresses. If a weak spot develops a lump of clay is added and beaten in. If a portion of the wall breaks away during the paddling that portion that broke away is simply placed over the gap, the side pinched in a bit at that spot, and beaten back into the pot. During the beating the anvil held inside the pot strikes the inner wall at the same time and place as the paddle strikes on the outside. The anvil is a heavy, apparently solid, somewhat mushroom shaped, piece of pottery (Plate IVg). After the final beating the large jars are placed upside down in the sun for four to five hours and then are turned right side up in the sun for two days. The smaller pots are also dried in the sun for two days. At night they are brought under the house for protection.

Final surface treatment of the pottery includes smoothing by paddle and decoration with a carved paddle. At the time of the final paddling a narrow carved paddle (Plate IVe-f) is used to impress a band of design around the shoulder of the larger jars. The carved paddle is used in the same way as the plain paddle. The pattern is put on neatly and quickly with one rotation of the jar in the potter's legs, producing an unclear pattern in the areas of overlap. There are several different patterns on the carved paddles. These patterns are shared by all potters in the hamlet, on their own carved paddles. Below the impressed pattern the light paddling evens and smooths the surface. No polishing or other form of smoothing is done. Jar lids are covered with wax, after firing. This is said to be in imitation of the waterproofing of the baskets done with wax. It is not done for decorative purposes.

Several different forms and varieties of vessels are made. The usual jars and pots have a rounded belly with a broad but not flat base (Plate VIIIa-b-c). Water jars are taller in proportion, as well as in size, and have a hole made, before firing, near the base into which a metal spigot is inserted after firing. A ring foot about five cm high is made and applied into and over a groove that is made by a finger in the base of the jar. Clay is added inside and outside of the ring to help cement

the two together. An hourglass shaped drum is made (Plate VIII*d*). After firing, but not until it is to be used, a drum head of cat or snake skin is fastened tightly on top. Moistened cloth may be used as a temporary head (Plate VII*b*). Lids are made for the water jars (Plate VIII*e*) in the same general way as a small pot is made. The handle is formed by pushing from inside with thumb and fingers to force out on the opposite side a slight knob and then by scraping and molding on the outside the final shape of the handle is arrived at. The handle is not applied nor is any clay added to help form it. Occasionally a completely foreign form is imitated, such as a canteen, a pot with large handles attached to the rim, and a flower vase (Plate VIII*f-g*). The canteen was waxed after firing to make it waterproof.

Firing is done by the men. The men of one family fire 200 to 300 vessels at a time, produced only by their family. Pottery manufacture is done by the women of the family every day that is not rainy or overcast. With an average of 12 to 14 pots per day for a potter, about 20 potter-days are fired at a time. With two potters in a family this would require a firing about every 10 days during dry weather. The firing is done in a flat dry area near the hamlet. Wood is placed on the ground in a way similar to that done for firing the balls of temper, only over a larger area. The pottery is piled on the wood in layers, the total not more than four layers high. Grass is piled over this and it is fired for three to five hours, with grass added as needed. There is much flame, with a generally oxidizing atmosphere. The surface fires a light brown, with fire clouds common. The paste is usually brown all the way through but in thicker portions there is often a black core remaining. Vessels are removed from the pile to cool individually after the fire has burned down. They are removed by inserting a stick inside or using two sticks like tweezers. There is no further treatment, except for the lids as mentioned above. Sometimes 10 to 20 vessels break in the firing, other times only a few. The breakage is considered the result of insufficient drying or sometimes because of the falling of a portion of the pile.

Each family works as an independent economic unit. The men of the family sell the pottery, taking it by cart load or in baskets carried



a



b

Plate VII Ban Nong pottery manufacture; *a* forming bottom of pot; *b* in foreground a girl playing a pottery drum with a moist cloth for drumhead; front foreground, broken jars used to support large jars while drying; background, pottery in different stages of manufacture, under house in back are dry jars ready for firing.

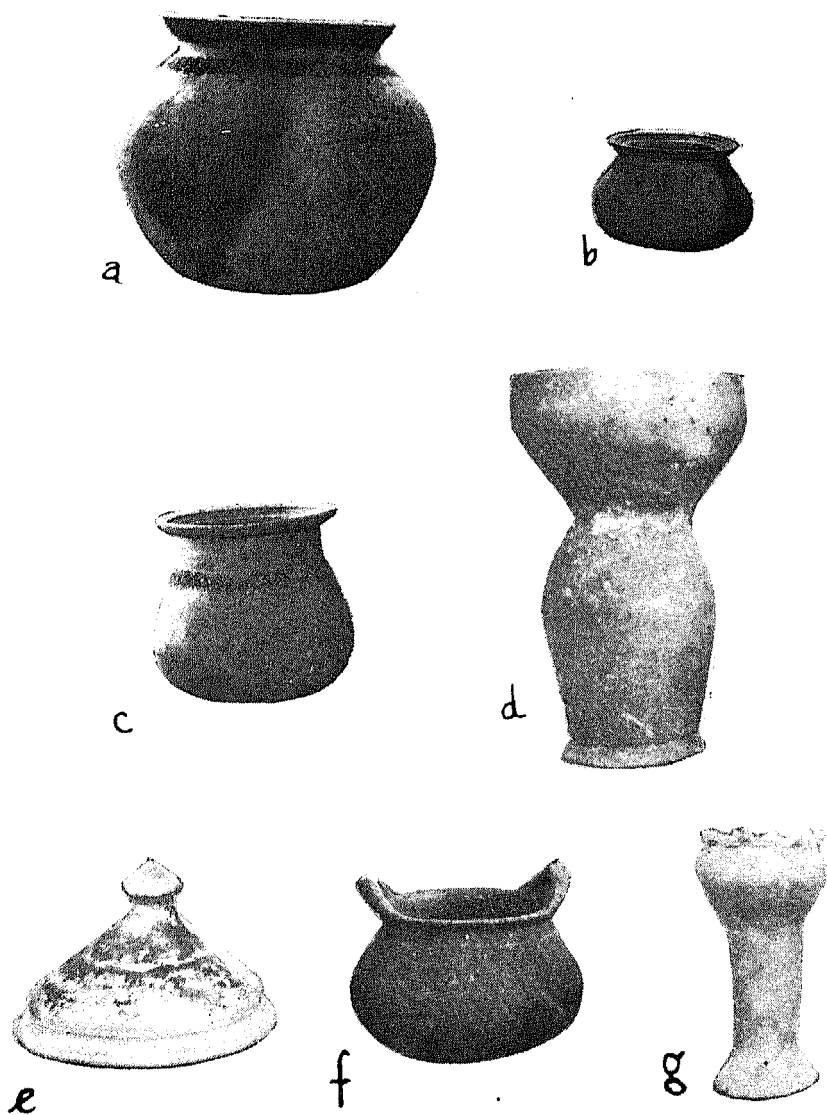


Plate VIII Ban Nong pottery forms.

on shoulder poles to shops or directly to the family buyers. Most of the people in the hamlet are related to each other. The girls learn to make pottery from their mothers or from other women in the hamlet. Endogamy is the tendency but if a girl marries in from outside she learns to make pottery from the others. There are other pottery making hamlets in the area, two of them being: Ban Nong Sua of Noan Sang Village, Noan Sang District, Udorn, and Ban Kut Chiengmee of Ban Dong Village, Nam Pong District, Khon Kaen. There is some intermarriage between these hamlets. If a girl from one of the potting hamlets marries outside, she may continue potting for a time but apparently she usually stops making pottery after a few years.

