

Further Relationships of the Sa-Huỳnh-Kalanay Pottery Tradition

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The hypotheses of the Sa-huỳnh-Kalanay Pottery Tradition, of its origin, and its spread, are based on scattered data the interpretation of which is in some cases controversial. This pottery tradition was first hypothesized in a paper read at the Golden Jubilee Congress of the University of Hong Kong in September 1961 (Solheim 1961*d*; Solheim 1962*a*: 8). It was suggested in April 1963 that the people who made pottery of the Sa-huỳnh-Kalanay Pottery Tradition were speakers of Malayo-Polynesian languages; and the origin and spread of this pottery tradition was reconstructed in correlation with the origin and spread of some of the Malayo-Polynesian speakers (Solheim 1964*a*). This has all come about so recently that new evidence is often found, some of it supports the original hypothesis and some requires its modification. This paper presents a re-interpretation of some previously presented data together with new data from scattered areas. It should be read in conjunction with the two preceding reports by Harrison (pp. 171-180) and Poulsen (pp. 184-195) which present new data, from Sabah and Tonga respectively, that are included in this discussion.

In my 1964 article 'Pottery and the Malayo-Polynesians', I was making use of pottery to hypothesize movements of people. In this paper I am concerned with the time and space relationships of the Sa-huỳnh-Kalanay Pottery Tradition and less with the movement of peoples. The Pottery Tradition is the problem, and whether its spread was closely correlated with the spread of a people or a culture, or is the result of some other form of diffusion, is not here a direct concern.

PHILIPPINES

A major correction must be made to the classification of archæological sites presented in *The Archæology of Central Philippines* (Solheim 1964*b*). Site C67, on Lagen Island, Bacuit Bay, Palawan, was previously classified with the Bau Pottery Complex sites. It should be re-classified with the Kalanay Pottery Complex sites. This is of much more importance to the hypothesis of the Bau complex than to that of the Kalanay complex as this was the only definite 'early' site classified as having Bau complex pottery (*ibid.* 150).

This pottery was classified in 1956. At that time it was believed that carved paddle decoration was found only with pottery of the Bau complex. As two of the vessels from Site C67 had carved or bound paddle impressions (Solheim 1964*b*: pl. 35*d-e*) the site was classified with the Bau complex sites, though it was noted that there was definite non-Bau pottery present and that there were indications of contact with the Kalanay pottery complex (*ibid.* 149). Examination of the closely related pottery

from Niah Cave in Sarawak showed that carved and bound paddle decoration is found associated with the other elements of Kalanay-complex pottery (Solheim, Harrison, and Wall 1961: 168-69). Given this information, there is no longer any reason to classify C67 as a Bau complex site; everything points towards its pottery belonging to the Kalanay Pottery Complex.

The artifacts associated with pottery in C67 are all shell; no metal was present so this could well be a neolithic site (*ibid.* 147). The shell beads and convex shell bracelet present are found in early Kalanay complex sites (*ibid.* 119). The convex form of shell bracelet is found in other Kalanay complex sites (*ibid.* 190), but the only Bau site where this is found besides C67 is C5 in Suragao, Mindanao (*ibid.* 139). This site (C5) had mixed with it pottery from Site C13, a Kalanay complex site (*ibid.* 135). C5 was also the only Bau site to have the rectangular type of shell bracelet (*ibid.* 150), so it is probable that these two types of bracelet (convex and rectangular) previously thought to come from C5, actually came from the Kalanay Site C13, with the pottery.

By changing Site C67 from the Bau group of sites to the Kalanay group, we remove the only early site from the Bau group. Major revision of the hypothesis presented is therefore required to explain the time and distribution of the Bau Pottery Complex in the Philippines. I will not attempt this here.

The change is less important to the hypothesized Kalanay Pottery Complex but it does give us more information about the early Kalanay sites. The absence of metal suggests that this could well be the earliest Kalanay site of those presented in *The Archaeology of Central Philippines*. It adds *impressed: carved paddle* and possibly *impressed: bound paddle* to the inventory of early Kalanay pottery. The method of applying bound paddle impressions was not recognized when this report was written; but from the illustrations (*ibid.* pl. 35*d-e*) the impressed pattern could have resulted from the use of a bound paddle instead of a carved paddle.

Pottery from a number of the sites covered in the above report was not considered distinctive enough to classify. These sites were presented as 'Miscellaneous Sites' (*ibid.* 177-86). Nine of them were thought to show possible Kalanay relationship (*ibid.* 180-83). I would remove none from this group except to upgrade Sites C34 and C35 to definite Kalanay complex sites. The vessel from Site C34 (*ibid.* pl. 43*b*) was not given full Kalanay classification at the time because of carved paddle impressions on the body. This is no longer a deterrent factor. The two vessels from Site C35 (*ibid.* pl. 43*e-f*) were not considered sufficiently distinctive to be classified definitely. Since the writing of that report my views have changed. The form of the thick small pot illustrated in plate 43*e* is similar to that of a number of pots from Site B23 (*ibid.* pl. 14*f-g*), a Kalanay complex site; its incising would place it with the Kalanay complex rather than the Bau complex. The form of the other vessel (*ibid.* pl. 43*f*) is generally similar to a vessel from the Kalanay Cave site (*ibid.* fig. 17*a*). The vertical notches on the flange, and the flange itself (*ibid.* 180) are typical elements of Kalanay Complex Pottery (*ibid.* 13; and Solheim 1961*a*: 183).

Several other sites reported in the Philippines show some relationship to Kalanay complex sites. Two are burial jar sites. Elsewhere in the Philippines (Fox and Evangelista 1957: 63; Evangelista 1964: 55) and at Sa-huỳnh in Annam (Janse 1961) the Sa-huỳnh-Kalanay pottery has been found associated with burial jars.

The first of these is the Makabog burial-jar site in Masbate (Solheim 1954). Subjectively, this site does not seem to me to be a typical Kalanay, yet there are a number of elements of decoration and form that are typical of Kalanay Complex Pottery. These elements include: angle jars, perforated ring bases, horizontal fluting, and considerable variation in rim form (*ibid.* pls. 2-10). Incised decoration was present on several vessels and sherds. The design in plate 5 no. 10 is similar to Kalanay design Ia (Solheim 1964b: 14); in plate 6 no. 11 and plate 10 upper vessel, it is a modification of the 'one' series of Kalanay patterns; in plate 6 no. 9a and plate 9 no. 4 there is a combination of Kalanay patterns I f, and other 'one' series patterns. Only one pattern and method of decoration from this site is not known as Kalanay Complex Pottery; this is the use of appliqué vertical ribs above the angle of the jar seen in plate 3 no. 7.

Appliqué decoration has not previously been found on pottery definitely associated with that of the Kalanay Complex or the Sa-huỳnh-Kalanay Tradition, with two minor exceptions. Three unusual vessels from South Sumatra that included numerous elements of Sa-huỳnh-Kalanay incised decoration also had an appliqué decoration (Solheim 1961a: 184-85 and pls 2 and 3). Several sherds from Samrong Sen in Cambodia appear to have an appliqué decoration (Mansuy 1902: pl. IV). Unfortunately the artifacts from this site are not known to be closely associated and may represent more than one culture. It was not proposed that the method of decoration was a part of Sa-huỳnh-Kalanay pottery decoration. Appliqué decoration should perhaps be included as a Sa-huỳnh-Kalanay method of decoration, but there is not sufficient evidence as yet to say so.

The appliqué style found on the vessel from the Makabog burial-jar site is not unique in the Philippines. Numerous vessels and sherds with this style of decoration are found in Philippine collections from the Visayan Islands, but none of this material has been published. In general it appears that the other pottery with this decoration belongs to a slightly later period than that of the distinctive Kalanay complex.

The second site is at San Narciso, Tayabas (Solheim 1951; Solheim 1961a: 131-135). This is a burial-jar site (actually two neighbouring sites) which have not been fully reported, and will probably remain so until further excavation is undertaken. There is less direct evidence relating the pottery here to Kalanay pottery than there was at the Makabog site. Forms vary considerably, and include perforated ring stands and angle jars (Solheim 1961a: pl. 9). Several jars (including one of the large burial jars) were red slipped, some were polished, and some incising was noted (Solheim 1961a: 134-35). The incised patterns were not of the distinctive Kalanay patterns but they would not be out of place with Kalanay Complex Pottery (Solheim 1961a: 134 and pl. 9e; Solheim 1951: fig. 7). One sherd includes a portion of a triangular cut-out (Solheim 1951: fig. 7). The one element of pottery form found here and not previously associated with Kalanay complex pottery is a spout (Solheim 1961a: 134-35 and pl. 9a). For the moment there is no reason to add this to the complex.

These two burial-jar sites may or may not be closely related to those with the Kalanay Complex Pottery. One is in, and the other very close to, the known area of distribution of Kalanay sites and appears to be contemporaneous with them. The relationships of these two sites had best be left undecided until further work has been done in the area.

A group of sites with pottery definitely related to the Kalanay complex is in Batungan, Masbate (Solheim 1961*b*: 159-62 and pl. I). Reports on them should be available soon. In the meantime, it is of value to include some discussion about them since one of them has the only C-14 date from a Philippine neolithic site.

Most of the sherds from the sites (Solheim 1961*b*: pl. I) are easily identifiable as belonging to the Kalanay Pottery Complex. There is one, however, that does not look so familiar. This has small impressed circles included in a somewhat complex pattern (*ibid.* pl. I*b*). Several sherds are known with impressed circles, from this and other published Kalanay sites (*ibid.* pls I*c* and *m*, II*d*, III*k-l*; and Solheim 1964*b*: 55 and pl. 26*p*). Small impressed circles are present on some of the Kalanay pottery now being recovered from the Palawan caves. A red-slipped bowl with ring stand from one of these caves is on display in the National Museum in Manila (Pl. I*a*). It has impressed circles on both the bowl and foot rim; the pattern in which the circles are used is very similar to that inside one of the rims from Batungan (Solheim 1961*b*: pl. I*i*). Another rim from Batungan with a variant pattern is similar in form to the decorated Palawan rims, where the decoration is on the outer surface, as on the Palawan bowl (Solheim 1961*b*: pl. I*h*). Impressed circles are also commonly found with Sa-huỳnh-Kalanay pottery in Sarawak (Solheim, Harriison, and Wall 1961: fig. 2*a* and *f*, fig. 3*b*, fig. 4*b* and *d*, pl. IV*b-c* and *e*, pl. VI*c*, and pl. VII*b-c*) and Celebes (Solheim 1961*a*: pl. I*j*). The pattern on the sherd in question, where the impressed circles are used in a complex curvilinear design, is somewhat similar to the pattern on one of the sherds illustrated from Marinduque (Solheim 1961*b*: pl. III*l*) but it is even more like a sherd illustrated from Phu-C'u, Quang-ngai, Annam (Janse 1961: pl. IV*c*). Although we know of only two or three sherds showing this use of impressed circles, their association with other pottery of the Sa-huỳnh-Kalanay tradition makes it logical to consider this as a decorative form belonging to the tradition.

Before leaving the Philippines further mention should be made of the pottery coming from the excavations in Palawan. The National Museum is running intensive excavation of many caves in the area of Lipuun Point on the west coast of Palawan (Evangelista 1964). Dr Robert Fox, Head of the Department of Anthropology of the National Museum, is in charge of the excavation. Cord-marking is common, sometimes covering the total surface of spherical pots, sometimes decorating the lower part of a bowl with an angle between the side and the bottom. Many burial jars have angular tops, generally similar to lids on burial jars at Sa-huỳnh (Janse 1961: fig. 1 and pl. 11*a*). Pottery boxes like those from Marinduque (Solheim 1961*b*: pl. V*b*) have been found. Several of the distinct Kalanay-complex incised patterns are present. A unique pottery lid was found in 1964 with a painted decoration in red, outlined by incised lines, of several curvilinear elements looking like an open P (P). On the top of the lid are two seated human figures in a small boat, one in front with arms crossed over the chest, the other in the rear holding a paddle near the end with both hands, as if steering the boat. The red-slipped bowl with ring stand mentioned above is from Ngipet Duldug Cave on Lipuun Point. Associated with it were a small stepped adze, a scoop made from the *Melo* shell, small green-stone beads, and a few beads made of the common *Nassarius* shell. According to the sign on the Museum case the assemblage has been ' . . .

tentatively assigned to the Late Neolithic, the earliest appearance of the jar-burial complex in Palawan'.

THAILAND

Final reports have not yet arrived from the Thai-Danish Prehistoric Expedition of 1961-62 but many preliminary reports have appeared (Horr 1963: 12-15 and 7-9). I have suggested that the neolithic pottery excavated in Kanchanaburi by the expedition belongs to the Sa-huỳnh-Kalanay Pottery Tradition and Per Soerensen has questioned this (Solheim 1964*a*; and Soerensen 1964). It will not be possible to decide this question until the final reports are published, and even then there may not be sufficient evidence, for the neolithic pottery of Kanchanaburi may be 1,000 years older than the oldest dated pottery of the Sa-huỳnh-Kalanay tradition. Obviously, this gap must be filled before we can be sure that the Kanchanaburi pottery belongs in the Sa-huỳnh-Kalanay tradition.

Before leaving the Kanchanaburi pottery, I would like to remark on its decoration. Other than the common cord-marking, decoration is apparently extremely rare. Descriptions of only two incised vessels have been published, one from Sai Yok (Boeles 1963: photo 15) and the other from Ban Kao (Solheim; n.d. *a*). The pattern on both of these vessels is the same as that of Kalanay pottery decoration IVc (Solheim 1964*b*: 14 fig. 2).

In February 1964 I noticed nine interesting earthenware vessels on display in the National Museum in Bangkok. Little information was available about them. They were received as a gift probably shortly before 1936, and came from a cave at Ko² Din, Ko² Samui, Suratthani Province. This is on the island of Samui in the Gulf of Siam, about 75 kilometres east-north-east of the town of Suratthani. No associated material is known.

There is some variation in the paste of these vessels but, on visual analysis, they seem to be all of the same clay. Parts of their surfaces were treated with a black substance which effectively conceals most of the breaks in the paste. Surface and body colour varies from tan to black with some fire clouds on the surface, and in at least one case a tan surface shaded to black in the centre of the wall. Some vessels show fine sand in the paste; in others there are numerous very small holes, indicating the presence of organic material in the clay before firing.

Eight of the vessels were decorated and one was plain. This was a small bowl with a rim diameter of 10.9 cm, maximum diameter 14.5 cm, and height 7.0 cm (Pl. 1*b*).

Two of the vessels were angle pots, one slightly smaller than the other, with very similar decoration on both. The larger had a rim diameter of 15.0 cm, a maximum diameter of 19.1 cm, and height of 11.4 cm, while the smaller one was 14.9 cm, 16.7 cm and 9.5 cm for the same measurements. The larger one (Fig. 1*a*) has a variant of Kalanay pattern I*a* in a band below the neck, and pattern XI*b* (Solheim 1964*b*: fig. 2) at the angle on Kalanay vessel form IIIc (Solheim 1964*b*: fig. 3). The incising was done with a two-pronged tool. The diagonals were probably made by holding the pot sideways, sticking the prongs into the clay at the bottom, then drawing them up and to the left. Usually, two punctations are evident at the bottom of each pair of lines, which are not as deep as the punctations. Some of the diagonals

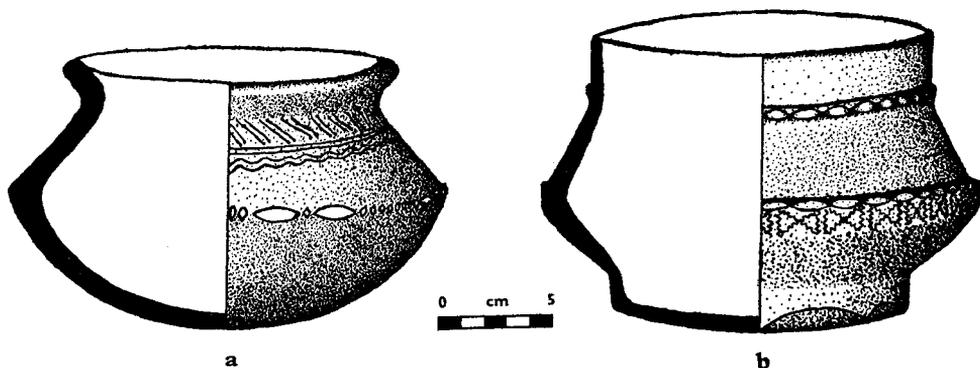


FIG. 1. Two angle vessels from Samui Island, Suratthani Province, Thailand.

run into the angle of the neck. Below them is a pair of parallel straight lines, then a pair of parallel wavy lines. Around the angle are lenticular surfaces in pairs with a notch cut between the two, and 12 to 15 notches between pairs. The surface of the pot was well smoothed but not polished. The second pot differs in that there is a pair of straight lines above the diagonals, just below the neck, as well as below; and just below the pair of wavy lines are vertical pairs of punctations or dashes as in Kalanay pattern 1*b* (Solheim 1964*b*: fig. 2). At the angle in one area there are seven lenticular cut surfaces in a row, with eight vertical, simple tool impressions between them and the next set of lenticular surfaces. Most of the decoration on the angle has weathered off.

The vessel in Figure 1*b* has a slightly rounded base. It has lenticular cut surfaces around the vessel at the angle between the base and the wall, at the upper edge of the flange, and on the narrow flange at the angle between the neck and side. On the vertical flat surface of the flange, at the angle, is an impressed decoration similar to Kalanay Complex Pattern 5 but made with the crenelate edge of a bivalve similar to Kalanay pattern 10 (Solheim 1964*b*: fig. 2).

The fifth vessel is a shallow bowl (Kalanay form 5*b*, Solheim 1964*b*: fig. 3) with incised, impressed, and carved decoration (Fig. 2*a*). At the angle between side and bottom are four sets of three and one set of four lenticular cut surfaces with from seven to twelve vertical simple tool impressions between sets. Two pairs of parallel incised lines border two bands of crenelate impressions.

The smallest vessel is an angle jar with a high neck. It is carved, incised, and painted (Fig. 2*b*). There are lenticular cut surfaces at the angle and at the edge of the small flat base. The incised decoration on the shoulder outlines the painted pattern, which is similar to Kalanay decoration 3*a* (Solheim 1964*b*: fig. 2). The original surface of the jar is a grey-brown. Two colours were apparently used to bring out the rectangular scroll design. One is a very faint reddish-brown. The other colour is completely gone, but the residue has a texture different from both those of the reddish-brown surface and of the original surface.

There are two quite similar shallow bowls with ring stand, of Kalanay form 7*c* (Solheim 1964*b*: fig. 3). In both cases the stand was applied to the bottom of the shallow bowl. Both are carved and impressed in variants of Kalanay pattern 10

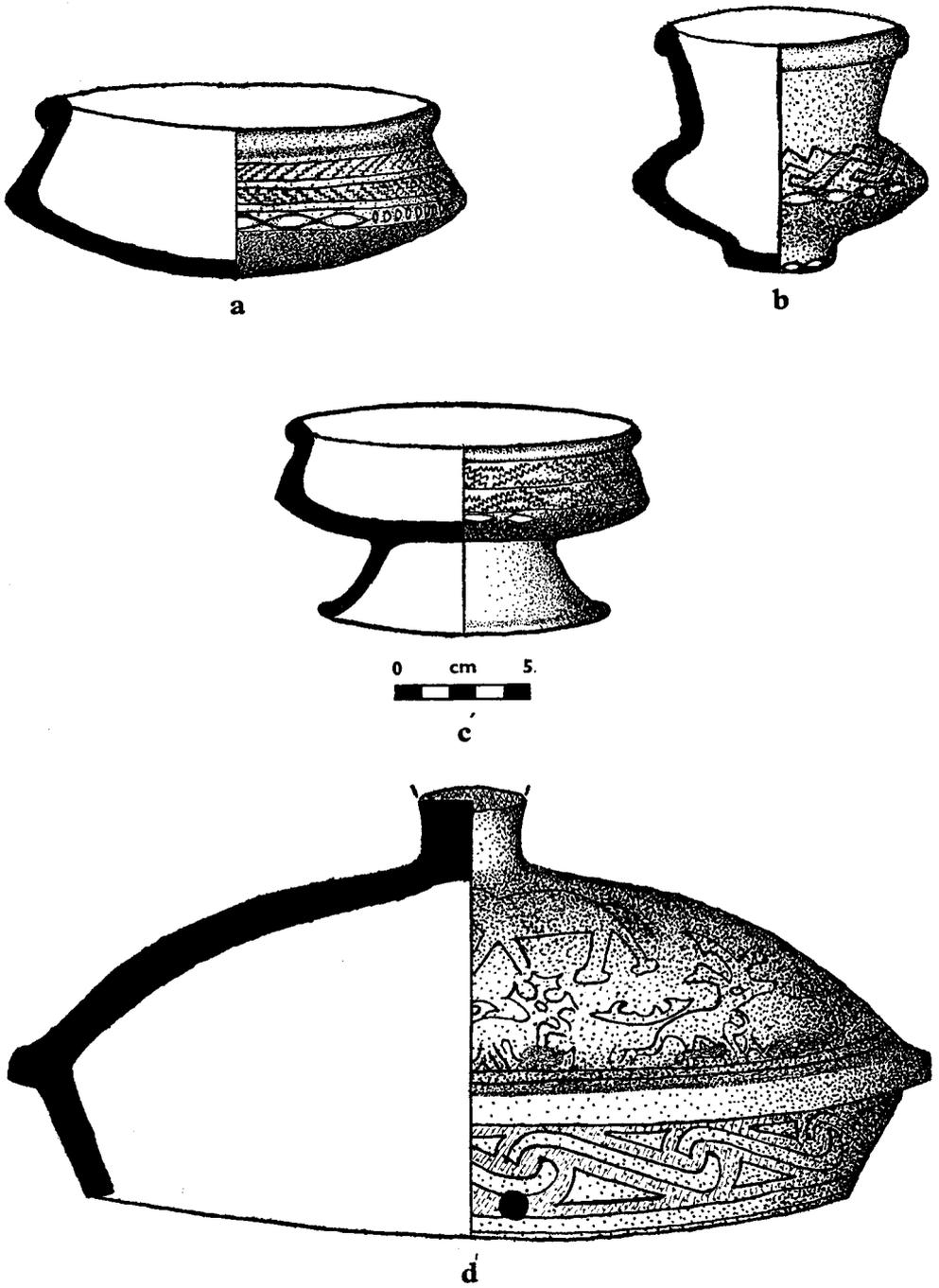


FIG. 2. Four earthenware vessels from Samui Island, Thailand. See Plate Ic

(Solheim 1964*b*: fig. 2). The smaller bowl (Pl. I*c* and Fig. 2*c*) has lenticular cut surfaces at the angle. These were smoothed possibly with a finger. Between pairs of these surfaces are simple diagonal tool impressions, made with the side of a cylindrical tool, as were the simple tool impressions on other vessels of this group. A shallow impressed line roughly divides the side of the bowl above the angle into two horizontal halves, in each of which was impressed a crenelate design. A line was then impressed just above the decoration, at the angle. The surface was well smoothed but there are no indications of polishing. The larger bowl (Pl. II*a*) is more than half again as large as the smaller one. Their dimensions are: bowl rim diameter 23·2 and 13·0 cm, base rim diameter 17·2 and 10·6 cm, and total height 9·6 and 6·7 cm. The decoration at the angle is exactly the same as on the smaller bowl, but the side above the angle is divided into three horizontal panels by three shallow impressed lines. The side of the bowl is badly weathered, but traces of the crenelate impressed pattern in each band seem the same as on the smaller bowl. Rectangular holes were cut on opposite sides of the base, one is 13 by 10 mm and the other 14 by 10 mm. These were 13 to 15 mm above the base rim. On this bowl the ring foot had been applied slightly off-centre.

The most striking piece is a large lid of Kalanay form 7*a* (Solheim 1964*b*: fig. 3), with the addition of a handle the top of which was broken off (Pl. II*b*). There is an indistinct incised decoration on top of the lid, and incised decoration on the outside of the rim below the flange looks like Kalanay pattern 2 and 2*a* (Solheim 1964*b*: fig. 2), with interlocking scroll and triangles (Pl. II*c* and Fig. 2*d*). A faint red paint, probably clay slip, emphasizes the scrolls, and possibly the triangles. Three holes, cutting three equal arcs in the circumference of the rim, were drilled through the rim after firing. They are 6 to 10 mm in diameter. On the inside of the lid, opposite the handle, there is a slight depression and a small crack. This suggests that while the clay was still plastic a finger or stick was pushed through, or well into, the lid from the inside, forming a nubbin on the outside. Either clay was added to this for the handle, or a formed handle was applied. More clay was then added inside to fill the hole. The incising on the top is very faint and, to add to the difficulty, parts of the surface have exfoliated. Someone had rubbed chalk over the surface in an attempt to bring out the decoration, but this only confused the traces. I made a rubbing of one of the figures, using soft pencil and paper, but this negative pattern was even more obscure. Then I carefully outlined the faint white pattern, referring to the lid where I could not make it out, and finally the figures emerged. The whole top of the lid was deciphered in this way, and the figures then reproduced as seen in Figure 3. The elephants on the inner circle are fairly obvious but the figures in the outer circle are not what a person meets everyday. Nothing like this has previously been connected with Sa-huỳnh-Kalanay pottery. Without attempting to document the relationship of these figures, I may mention their obvious connection with some present day tribes in Borneo. I hope that Tom Harrisson will follow up this question in a future issue of *Asian Perspectives*.

The vessels from this site in Suratthani Province could easily have come directly from the type site of the Kalanay Complex Pottery. Except for the incised figures on the top of the lid, all the decoration and most of the forms can be almost exactly duplicated in the pottery from Kalanay Cave. Even the workmanship is very much

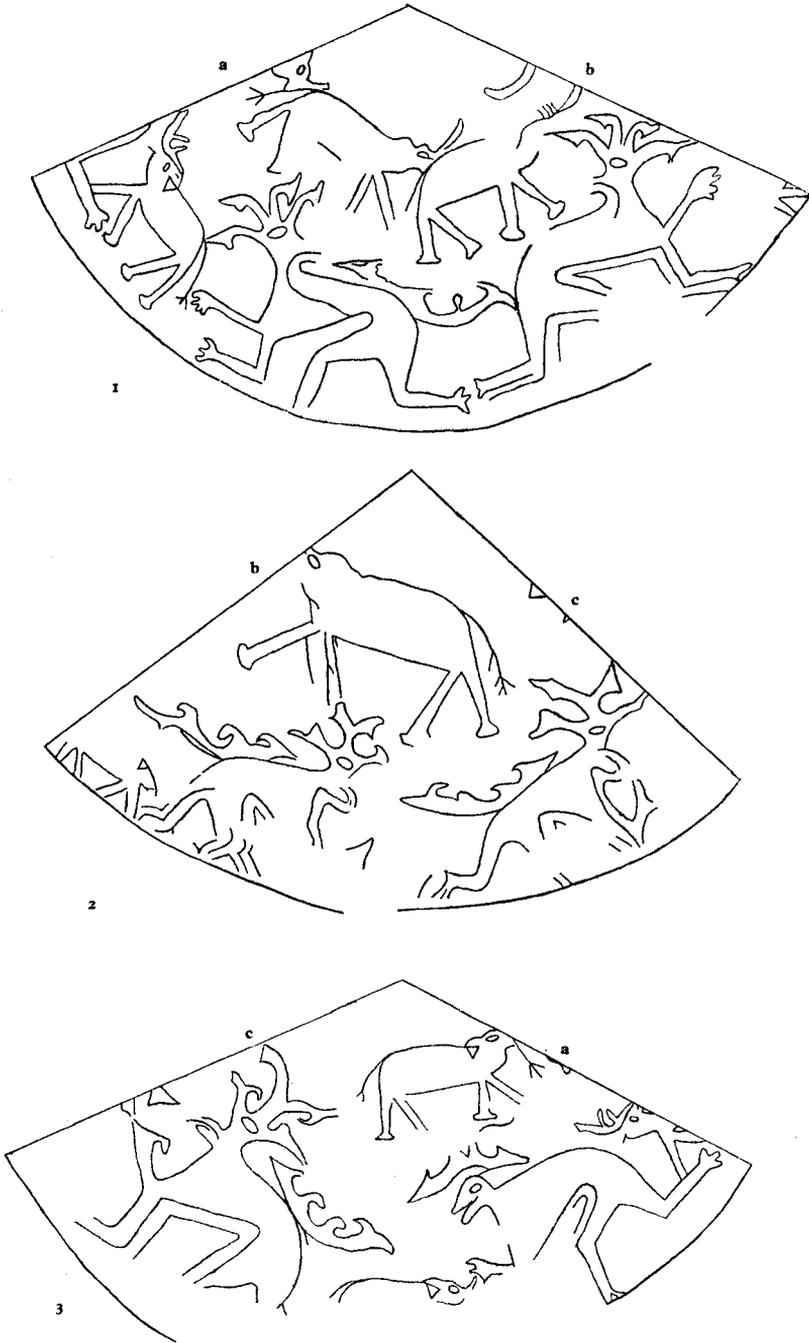


FIG. 3. Incised figures from top of lid found on Samui Island, Thailand.

the same. There is no question that the pottery from this cave is closely related to the pottery from the Kalanay Cave site, but what of the incised figures on the lid? We must postpone a study of their possible connections until their relationships have been documented.

INDONESIA

Sa-huỳnh-Kalanay relationships with pottery from scattered areas in Indonesia have been reported before this (Solheim 1961a: 182-86). Archæologically, they include the site at Galumpang in Celebes, the Buni site in West Java, and others at Tjekik and Gilamanuk in West Bali (Soejono 1963: 35-36 and 40-41). Possible relationship has been suggested with burial-jar sites in Sumatra and East Sumba (Solheim 1961a: 186). One further burial-jar site should be added to this list; the one at Anjar, Java (van Heekeren 1956).

Published illustrations of pottery from the Anjar burial-jar site show a much closer relationship to Sa-huỳnh-Kalanay than is so far indicated for the other two sites mentioned above. Only three vessels from this site are illustrated (van Heekeren 1956: *a-c* facing p. 200). One (*c*) is a shallow bowl with high ring stand having a simple incised pattern on the foot rim. The form is generally similar to bowls from Sa-huỳnh-Kalanay sites and the decoration, while not distinctive, is not out of place (see Callenfels 1951: pl. XIV). Vessel *b* is an angle pot with a typical Sa-huỳnh-Kalanay incised decoration around the pot at the angle (see Solheim, Harrisson, and Wall 1961: fig. 4g; Solheim 1961a: pl. 1i; and Callenfels 1951: pl. XVI top row centre). Vessel *a* is unique but combines typical elements of Sa-huỳnh-Kalanay form in its high narrow neck and conical body, which stands on a foot ring.

Potsherds from Galumpang in west central Celebes have been published in several articles (Callenfels 1951; Heekeren 1957: pl. 37-38; Solheim 1961a: pl. 1a-j). Others in the Royal Tropical Institute in Amsterdam have not previously been published. Two sherds from this small collection are somewhat different from those previously illustrated. One of these (Pl. IIIa) has the common half-circle impression (Callenfels 1951: pl. XV; Heekeren 1957: pl. 38; Solheim 1961a: pl. 1i) arranged to form a series of running scrolls. The second sherd (Pl. IIIb) has an incised pattern emphasized by punctations (see also Heekeren 1957: pl. 38; and Solheim 1961: pl. 1e and i).

Many Kalanay-complex patterns, or modifications of them, can be found in the decoration of present day pottery. Two such vessels from Makassar and four from Sumatra have already been illustrated (Solheim 1961a: pl. 1k-l and II-III). Other vessels that I have noted recently are as follows: from the Minangkabau District of Batang Hari in Sumatra, a pot with a variety of the series 'one' Kalanay pattern (Solheim 1964b: fig. 2) and the common notching on the rim (No. 12302 in the collections of the Djakarta Museum: pl. IIIc); from Gajoland in Sumatra, two angle pots, one (Pl. III d; No. 45/215) with a pattern similar to the series 'one' pattern and the other (Pl. III e; No. 45/219) with Kalanay pattern V done by the appliqué technique; from Lombok, a pot with variants of pattern IVf and notching on the rim (Pl. III f; No. 1330.251); from southern Celebes two vessels, one with a series 'one' pattern (Pl. III g; No. 668/152) and the other with a combination of a series

'one' and IVf patterns (Pl. IIIh; No. 668/154); from Kai a pot with a variant of the series 'one' pattern plus the IVf pattern above and notching on the rim (Pl. IIIi; No. A1043); and from Geelvink Bay in West Irian a bowl with deep incising in a band around the rim making a pattern similar to IVc (Pl. IIIj; No. 2003-159). The vessels in Plate III*d-i* are all from the Royal Tropical Institute in Amsterdam. Thanks are due to Dr J. van Baal who arranged for me to see the pottery and take these pictures.

I do not suggest that the presence of these Kalanay pottery patterns means that the people who used them are directly descended from prehistoric makers of Sa-huỳnh-Kalanay pottery, or that the pottery is directly related to the Sa-huỳnh-Kalanay Pottery Tradition. What I do suggest is that the scattering of these patterns through the length and breadth of Indonesia indicates that in prehistoric times the Sa-huỳnh-Kalanay pottery tradition also was scattered through the same total area, and that future archæological exploration and excavation will discover this pottery on all the major islands of Indonesia.

There will no doubt be more than one pottery complex distinguishable in this wide area. Two distinct ones may already be showing up in Malaysian Borneo. The Niah Complex is known in Sarawak (Solheim, Harrisson, and Wall 1961) and now it appears that a different complex may be found in Sabah (see Tom Harrisson's article on Sabah, pp. 171-180). As Harrisson suggests, when we have a more detailed picture of the prehistory of Southeast Asia we will find that the broad smooth movements of people assumed from the early, very scattered data are neither smooth nor running in one direction. Detail will show movements in all directions, thus confusing the picture over wide areas.

NEW GUINEA

It has been suggested that the Sa-huỳnh-Kalanay pottery tradition spread into eastern Indonesia and from there along either or both coasts into Melanesia (Solheim 1964*a*). A study of pottery manufacture, the results of which were presented in the same paper, suggests that this tradition spread into Melanesia along the south coast of New Guinea.

Pottery found in an archæological context from sites on the south shore of MacCluer Gulf in western New Guinea has previously been discussed. The close relationship of the decoration and, possibly to a lesser extent, form of this pottery with Kalanay-complex pottery in the Philippines was pointed out (Solheim 1962*b*).

Virtually no other archæological work has been published for New Guinea. As in Indonesia, the other clue to the possible spread of the Sa-huỳnh-Kalanay pottery tradition is present-day pottery. In the Indonesia section above, an incised bowl from Geelvink Bay, West New Guinea was included (Pl. IIIj). Decoration in two other areas shows many resemblances to that of Sa-huỳnh-Kalanay pottery.

Finsch presents a figure showing numerous designs (1903, Abh. 1, p. 330) used on pottery made near Port Moresby on the south coast of New Guinea. Patterns from this figure which are similar to Kalanay patterns (Solheim 1964*b*, fig. 2) are as follows: *g* similar to pattern IVe; *h* to pattern VIIIa; *r* to series 'one'; *m*, *q*, *u*, and *y* bear similarities to the rectangular meander pattern; *s* is a combination of

patterns 'one' and IVf; *x* is pattern IVc. Seven of the other patterns presented by Finsch are variations of triangles, the most common pattern on Kalanay pottery (Solheim 1961b: 159). Another Port Moresby pattern (*f*), small impressed circles, has been discussed above in the section on the Philippines.

In the island of Mailu, east along the south coast from Port Moresby, pottery manufacture was a major industry (Saville 1926: 143). The incised decoration on this pottery is strongly reminiscent of Sa-huỳnh-Kalanay decoration. The Australian Museum in Sydney has a number of pots from there. The following plates were taken by C. V. Turner of the Australian Museum. Similarities between the Mailu examples and Sa-huỳnh-Kalanay decoration are as follows: Plate IVa: series 'one' Kalanay pattern (Solheim 1964b: fig. 2); IVb: pattern IVc (*ibid.* fig. 2); IVc: pattern IVa (*ibid.* fig. 2); Va-d: variants of series 'two' patterns (*ibid.* fig. 2); VIa: nothing exactly the same but generally similar to pattern IIb (*ibid.* fig. 2), to the sherd on the left in the middle line of Plate V from Samrong Sen (Mansuy 1902), and to the curvilinear elements on the unique lid from the Palawan caves mentioned in the Philippine portion of this report; VIb: similar to VIa, to the right and centre sherds in the middle row of Plate V from Samrong Sen (*ibid.*), and *h* in Plate IV from Niah Cave (Solheim, Harisson, and Wall 1961); VIc: nothing quite like this but the general impression is much like the alternating triangles of figure 1j from Sa-huỳnh (Solheim 1961c: 104), and the alternating rectangles from Samrong Sen (Malleret 1961: pl. Xa); VI d: somewhat similar to VIc and to Figure 2o from Sa-huỳnh (*ibid.* 105); VIe: similar to the two sherds on the right in the middle row of Plate VII from Samrong Sen (Mansuy 1902), and to the sherd in the upper left hand corner of plate XVIII from Galumpang (Callenfels 1951); VI f, VIIa: similar to figure 1k and figure 2d from Sa-huỳnh (Solheim 1961c, 104-05); VIIb: nothing like this except in its use of triangular elements to make up the pattern; VIIc: variation of pattern VIIIb (Solheim 1964b: fig. 2); VIId: variation of VIIc; VIIe: variation of pattern VIIIa (*ibid.* fig. 2); VIIf: variation of pattern VIIIc (*ibid.* fig. 2). Similar decoration is presented by Saville (1926: 145-51). All of these designs are in a horizontal band around the neck or rim of a globular pot. They are all bordered in ways similar to those of the Kalanay pattern 'one' series (Solheim 1964b: fig. 2). It is interesting to note that the Mailu potters have meanings for the patterns they use, based in most cases on resemblance in form with some natural object (Saville 1926: 145-51).

The resemblance of the Mailu and Port Moresby patterns to those of the Sa-huỳnh-Kalanay pottery tradition suggest that the tradition spread along this coast. Pottery of the north coast of New Guinea not having been examined, nothing can be said about its possible movement there. The forms of the Mailu pottery are all apparently the same as that in Plate IVa, and they do not suggest a relationship to the Sa-huỳnh-Kalanay tradition. While the patterns of decoration are shared, the style in which they are used differs considerably. There is a relative rigidity in the Mailu application but none with the Sa-huỳnh-Kalanay. One would infer that either these patterns have reached the Mailu people by diffusion, or that if their ancestors made pottery in the Sa-huỳnh-Kalanay tradition there has been a considerable change in their culture through time. Without reasonably close resemblance in form, decoration, and style in combination, it cannot be claimed that this

present-day pottery is related to a specific prehistoric pottery tradition. I do believe, however, that present-day pottery decoration of Port Moresby and Mailu indicate some form of contact, direct or indirect, between its makers and potters belonging to the Sa-huỳnh-Kalanay tradition. Archæological excavation along the south coast will reveal whether this tradition was brought by this route.

MELANESIA

Poulsen, reporting on Tongan pottery (pp. 184-195), mentions its relationship with pottery from Site 21 in Fiji, the Ile des Pins, Site 13 in New Caledonia, and Vuatom, New Britain. A quick look at the decoration from the southern islands of this group (Tonga—Poulsen; Fiji—Gifford 1951: pl. 19, three sherds upper right hand corner; Ile des Pins—Golson 1960: 4; New Caledonia—Gifford and Shutler 1956: pls 16, 22 and 23) shows their close resemblance. There are many general similarities in decoration between this and Sa-huỳnh-Kalanay pottery but little specific similarity. Gifford and Shutler (1956: 94) in pointing out foreign cultural relationships of Site 13, compare its pottery to that of Galumpang. All resemblances in form and decoration between the pottery of these two sites apply as well to the general Sa-huỳnh-Kalanay. The primary reservation is that there is no roulette marking on the Galumpang pottery, while that of Site 13, of Tonga and of Site 20 in Fiji is much decorated with the roulette technique. Neither Gifford (1951) nor Gifford and Shutler (1956) indicate specifically how they know that the decoration was actually done with a roulette. Poulsen in his Tongan report (p. 185) specifically states that the decoration is done with a dentate tool and not a roulette, though he does not mention how he distinguishes, on the pottery, between the two. Assuming that Poulsen is correct, this method of decoration no longer creates a distinction between southern Melanesian and Sa-huỳnh-Kalanay pottery, as the dentate stamp was used for decoration in Malaya (Malleret 1961: pl. Xb) and in Annam (possibly roulette; Malleret 1957, fig. 1). The rocker stamping from Site 13 in New Caledonia, not mentioned by Gifford and Shutler (Gifford and Shutler 1956: pl. 22 *t-v* and pl. 23 *w, aj*, and *am*) is no problem either, as rocker stamping was used at Mlu Prei, Cambodia (Lévy 1943: pls XXXVI 15-19, XXXIII 14-16, and XXXIV 1). Still, there is no strong feeling of close resemblance between Sa-huỳnh-Kalanay Tradition and these specific sites in southern Melanesia.

The pottery decoration of the Vuatom site (Meyer 1909) bridges the differences between southern Melanesia and Southeast Asia. Southern Melanesian decorative elements not familiar to Sa-huỳnh-Kalanay decoration, such as the use of arcs in Tonga (Poulsen: p. 186, Figs. 1-5, etc.) and New Caledonia (Gifford and Shutler 1956: pls 16, 22-23) appear at Vuatom (Meyer 1909: 251 fig. *b* and 1093-94: fig. 4-5) in a context quite familiar for Sa-huỳnh-Kalanay pottery. Some of the close similarities of Vuatom and Sa-huỳnh-Kalanay decoration may be seen in: figures 3 and 11 from Vuatom (*ibid.* 1093 and 1095) and pl IVh from Niah (Solheim, Harrison, and Wall 1961); *a* from Vuatom (Meyer 1909: 251) and Kalanay pattern 3a (Solheim 1964b: fig. 2); figure 8 from Vuatom (Meyer 1909: 1095) and Kalanay patterns V and VIIe (Solheim 1964b, fig. 2); and figure 4 from Vuatom (Meyer 1909: 1093) and plate 19b from the Philippines (Solheim 1964b). It is to be hoped that

this or similar sites are still in existence. Excavations should be made on Vuatom as soon as possible.

CONCLUSIONS

It is still too early to make definite conclusions about the hypothesized Sa-huỳnh-Kalanay pottery tradition and its possible movements. The increasing amount of evidence available, so far, supports at least the hypothesis of a pottery tradition containing most of the elements of the Sa-huỳnh-Kalanay. The major questions at present are: whether the neolithic pottery of Kanchanaburi and Gua Cha are within this tradition; if so, what is its dating; how far does the tradition extend; and how did it reach its area of total extension?

There is some conflicting evidence that must be resolved before some of the above questions can be answered. In the dating, the early C-14 date for Site C13 in New Caledonia does not fit. Our slight knowledge of the date of the decoration which relates southern Melanesian to Sa-huỳnh-Kalanay pottery does not place it early enough to fit the New Caledonia date. Many of the elements of this decoration are similar to those on Dongson bronzes and so probably came from the same source (Solheim 1961a: 187). Heine-Geldern (1951) has suggested that these elements reached Southeast Asia sometime in the 8th, 9th or possibly the 10th centuries B.C. Even if they were present in northern Indochina by 900 B.C. they would not have had time to reach New Caledonia by 846 B.C. (Gifford and Shutler 1956: table 46), and after considerable evolution in content. To accommodate this early New Caledonia date I have previously thought it probable that this pottery originated in Japan and was probably not related to the Sa-huỳnh-Kalanay Pottery Tradition (Solheim 1964a). But with the Vuatom pottery so nicely bridging the gap it seems that southern Melanesian pottery must be at least primarily related to the Sa-huỳnh-Kalanay pottery tradition, hence that this date is too early. The two dates for Site C13 were reversed, with the $2,800 \pm 350$ date at 24-30 inches and the $2,435 \pm 400$ date at 30-36 inches (Gifford and Shutler 1956: 89). Thus there is good reason to believe that this early date is an error. As mentioned by Crane, the inversion is within the standard deviation of the two dates so there is no difficulty; it just indicates that the probable date is closer to the later than to the earlier (Gifford and Shutler 1956: 89).

The few Vuatom sherds illustrated show such striking similarity to Sa-huỳnh-Kalanay that it may be that Vuatom pottery belongs with that tradition. Southern Melanesian pottery cannot for the moment be said to belong, though further excavation may change this. There seems to be no question of the relationship between southern Melanesian pottery and the Sa-huỳnh-Kalanay pottery tradition. The questions are whether the tradition concept is tenable and if so, how far it should be stretched. There must be an end somewhere.

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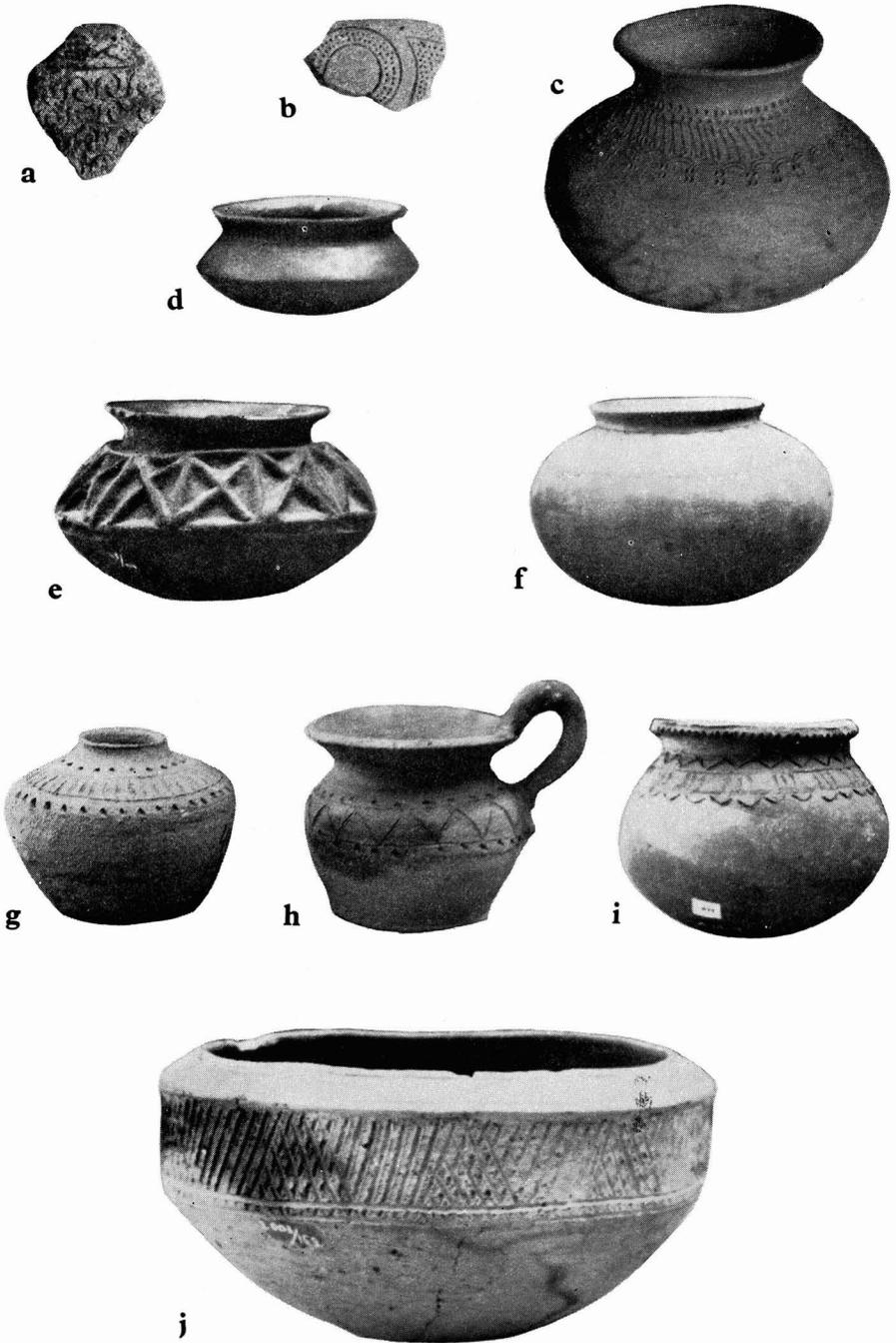
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**a****b****c**

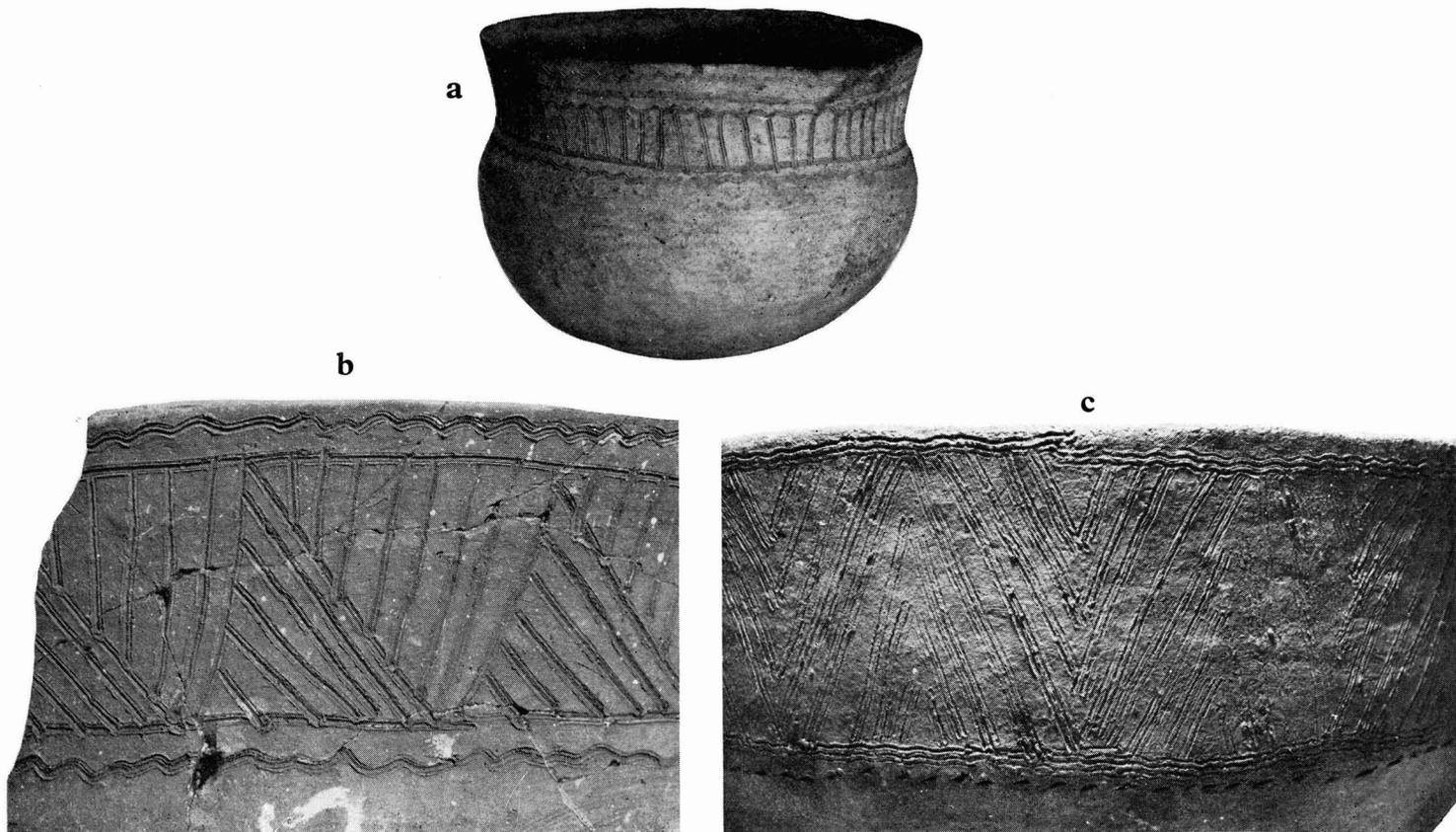
Sa-huỳnh-Kalanay pottery from the Philippines and Thailand: *a.* red-slipped, impressed bowl with ring stand from Lipuun Point, Palawan, Philippines; *b.* plain shallow bowl, see p. 200; and *c.* carved and impressed bowl with ring stand from Samui Island (Fig. 2c and p. 203), Suratthani Province, Thailand.



Sa-huynh-Kalanay pottery from Samui Island, Suratthani Province, Thailand: *a.* carved and impressed bowl with ring stand; *b.-c.* incised and painted lid with handle. See p. 203



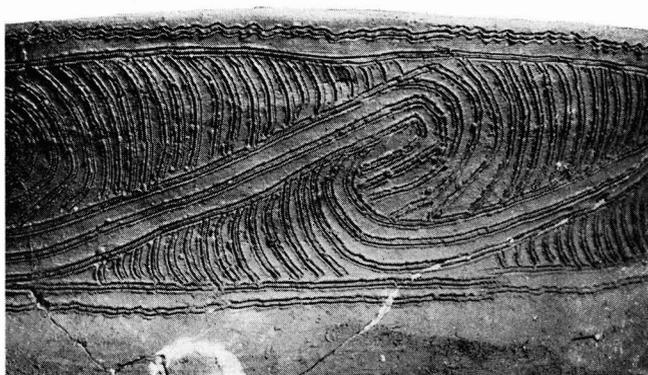
Potsherds and earthenware pottery from Indonesia: *a.-b.* sherds from Galumpang, west central Celebes; *c.* pot from Minangkabau District, Sumatra; *d.-e.* vessels from Gajoland, Sumatra; *f.* pot from Lombok; *g.-h.* vessels from southern Celebes; *i.* pot from Kai; *j.* bowl from Geelvink Bay, West Irian. See pages 205-6



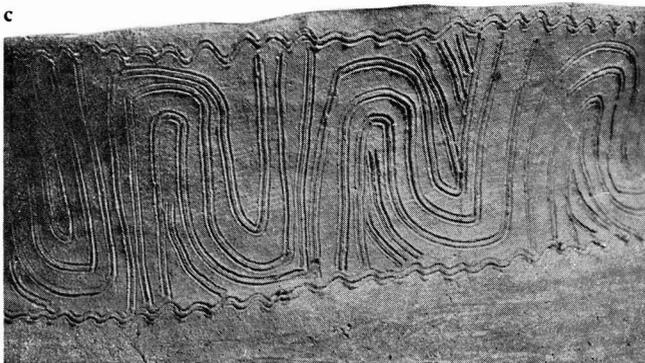
Pot and incised patterns on outer surface of rims from Mailu, southeastern New Guinea. See pp. 206–207
Photographs by courtesy of The Trustees of the Australian Museum, Sydney



a



b



c



d

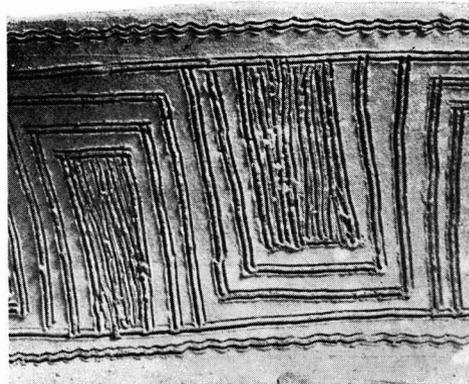
Incised patterns on outer surface of rims from Mailu, New Guinea
Photographs by courtesy of The Trustees of the Australian Museum, Sydney



a



b



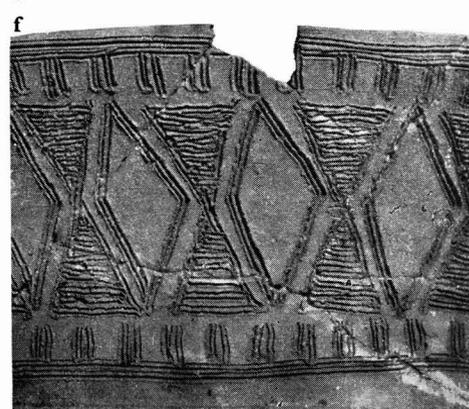
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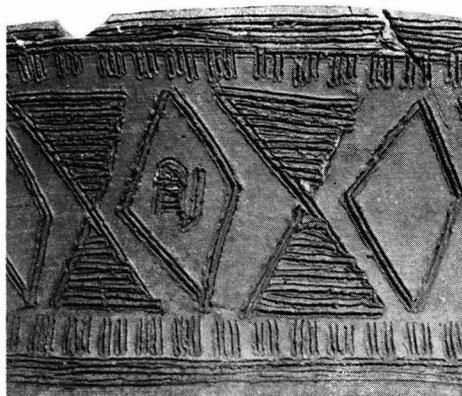


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f

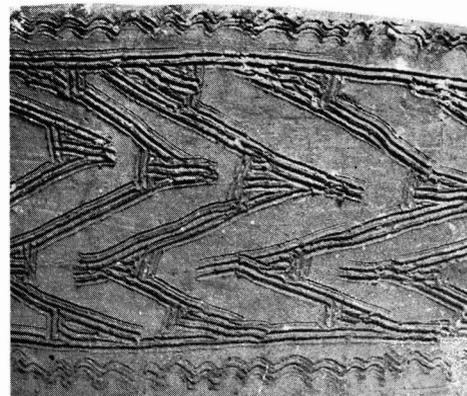
Incised patterns on outer surface of rims from Mailu, New Guinea See pp. 206-7
Photographs by courtesy of The Trustees of the Australian Museum, Sydney



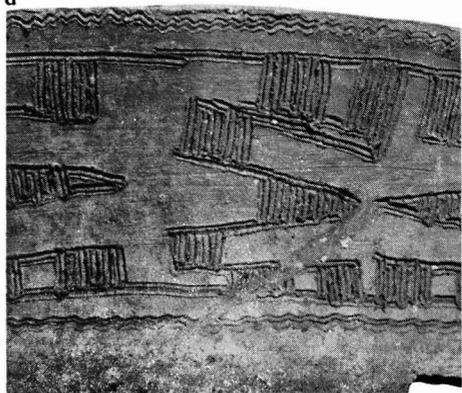
a
d



b
e



c
f



Incised patterns on outer surface of rims from Mailu, New Guinea
Photographs by courtesy of The Trustees of the Australian Museum, Sydney

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