

## NOTES ON SANTA CRUZ VOYAGING

chest part of a coconut leaf with knots tied in it as a charm to prevent the Bishop's soul from coming back to haunt them. A woman named Niual pushed the canoe out over the reef towards where the *Southern Cross* was waiting. Behind her men with bows let fly with arrows at the dinghy from the *Southern Cross* as it came to receive the canoe with the Bishop's body. A Polynesian-speaking woman named Tutuka came ashore from the *Southern Cross* and set fire to houses in the village.<sup>(13)</sup>

Years later a man-o-war came to Nukapu and shelled it from the sea. Everyone but one man, Taikau, ran off to the north side of the island to take shelter. Taikau took cover behind some coral slabs, but one of the shells felled a coconut tree that toppled over and crushed him to death. Tetuli, the Bishop's assassin, was safe at Matema and lived to a ripe old age there.

Teniau of Nukapu fills in some more details in his version of the Patteson incident. Some time later two of the men taken by the "black-birders" returned to Nukapu. They had stolen a sailboat or a canoe (not remembered which) in Fiji, where they had been taken to work, and sailed it directly back to Nukapu. The first thing they did upon arriving was to burn the canoe and hide all its fittings. It was they who told how Tucina had been shot while trying to escape from the ship's hold; how one man had married a Fijian woman and settled in Fiji; and how they had lost track of the others. Shortly after these two survivors returned, the first epidemic of dysentery broke out on Nukapu and many people died. From Nukapu the epidemic spread to all the other Reef Islands. The man credited with engineering the successful escape from servitude in Fiji and piloting the stolen craft across nearly 1,000 miles of open seas to Nukapu was Bakapu.

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13. Dr. Samuel Elbert of the University of Hawaii has still two different versions of the Patteson killing that he obtained on Nukapu and Nihoa in May 1948. It seems clear from the variation among the versions and from such items as "shooting a gun from the *Southern Cross*" and the "woman named Tutuka came ashore" that this important event was embellished with other legendary material.

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## EASTERN POLYNESIAN BURIALS AT MAUPTI

Kenneth P. Emory and Yosihiko H. Sinoto

### INTRODUCTION

Since 1960 the Bishop Museum of Honolulu has been involved in excavations in the Society Islands.<sup>(1)</sup> It was not until 1962, on the island of Maupti, that artefacts were unearthed which differ significantly from those of the historic period and suggest an early cultural link between New Zealand and the Society Islands.

On the island of Maupti the Bishop Museum Tahitian Archaeological Expedition in June 1962 excavated a burial of an adult male with accompanying ornaments, adzes, and fishhooks. Because the forms of the artefacts differed from the historic Tahitian forms and were so nearly identical to those artefacts which the earliest settlers of New Zealand buried with their dead, they confirmed an East Polynesian derivation of the archaic Maori culture and identified this site as the earliest thus far excavated in the Tahitian area.

A return to this site for four weeks of intensive digging in May 1963 resulted in the discovery of fifteen more burials and a large number of

1. Emory 1962:117-129. The expeditions in 1960 and 1961 were financed by the Traditional Pacific Program sponsored by Bishop Museum, University of Hawaii, and Yale University, and by the McInerney Foundation of Honolulu and Mrs. Jon Wiig. In 1962, a three-year project was launched by Bishop Museum in co-operation with Auckland University, Canterbury Museum, and Otago University to carry out archaeological fieldwork in French Oceania, the Cook Islands, Samoa, and Pitcairn. Finances were obtained from the National Science Foundation, and for 1962 supplemented by funds from the Henry W. Oliver Foundation, the McInerney Foundation, and Mrs. Jon Wiig. The McInerney Foundation and Mrs. Wiig also continued aid in 1963.

artefacts belonging to this same remote period, all of which served to confirm the conclusion reached after the first excavation. Because of their bearing on the origins of Maori culture in New Zealand we have thought it desirable to make available now in the *Journal of the Polynesian Society* a detailed description of the first burial and the artefacts found in association with this and the other burials.

#### Description of the Site of *Maupiti*

*Maupiti* lies about 25 miles west of *Borabora* and is the most westerly inhabited island of the Society chain. It is a volcanic island about 2 miles in length and is surrounded by a fringing reef. On the northern part of this reef is *Motu Paeao* islet, located between two larger islets (*motu*), (Fig. 1). From the lagoon side of the islet rises a fairly flat sandy beach which ends in an elevation of a little over one metre to meet the general level of the islet. The elevation is greater on the ocean side where a high bank of broken coral grades rapidly down to an exposed, flat reef. Ancient earth ovens, marked by clusters of basalt stones and pieces of charcoal and held together by coconut rootlets, lie exposed on the lagoon beach and along the eroded banks of the sides of the islet, but not on the seaward front. The burial site referred to here is about 30 metres inland from the lagoon beach.

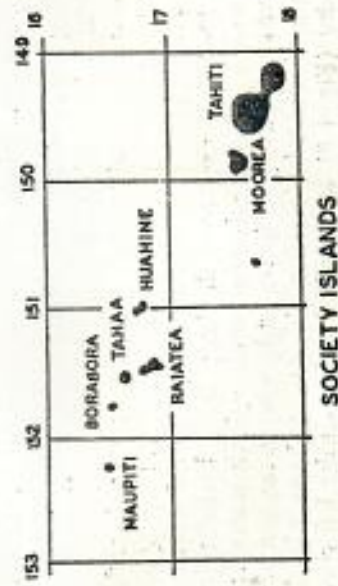
#### Discovery of the Site

In 1961 when *Pofatu*, a planter of *Maupiti*, was digging post holes for a fence to enclose his family's land on *Paeao* islet, he struck a skull. In removing the fragments, he found two whale-tooth pendants and an adze (Figs. 2; 3, a, b; 4, c). These he gave to the local medical practitioner, Bruno Schmidt. Schmidt, knowing of the Bishop Museum's interest from a visit to *Maupiti* by Emory and Sinoto in 1960, took the artefacts to *Tahiti* where they were seen by the latter pair in May 1962. The remarkable similarity of the pendants to those found in necklaces worn by *Moa*-hunters of New Zealand suggested that burial belonged to an early phase of Society Island culture. From June 15th to 17th, 1962, Sinoto visited *Maupiti* with *Aurora Natua*, conservatrice of the *Papeete* Museum, and persuaded *Pofatu* to take them to the spot of the discovery and to allow its excavation.

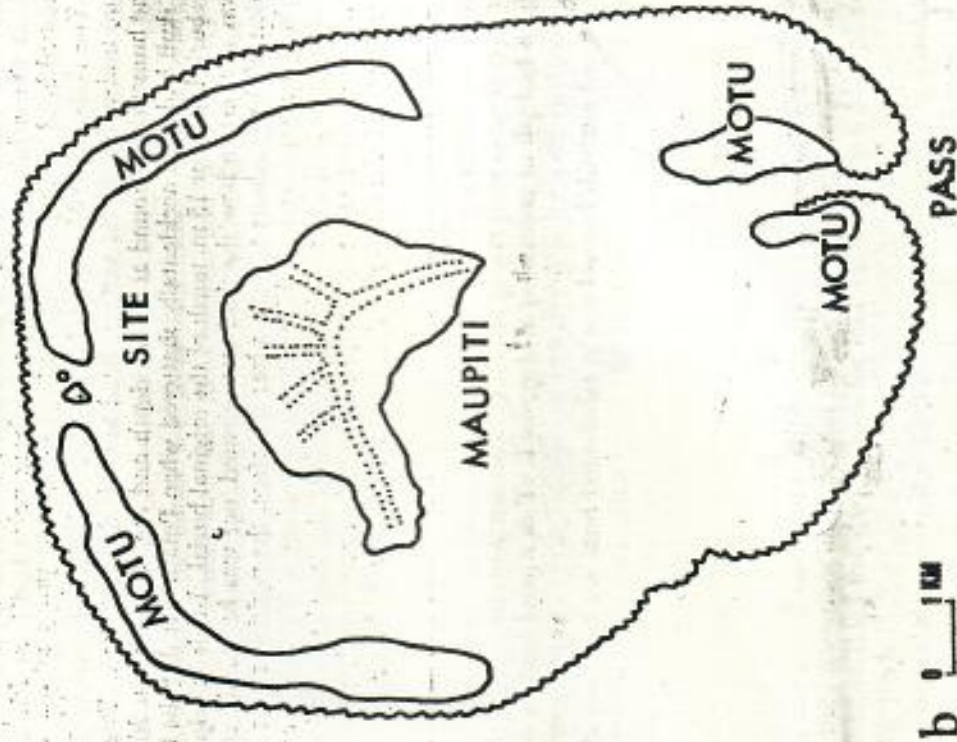
#### Excavation of the First Burial

The hole where *Pofatu* had found the skull and artefacts was expanded into an excavation area of 2 square metres. The first trolling-hook lure-shank and a fragment of the base of a lure-shank (Fig. 3 g, i) were found at a depth of 20 cm., in the position shown in Figure 2.

Soon after, two complete trolling-hook lure-shanks (Fig. 3 e, f) were found, face down, south-west of the original location of the skull, and 27 cm. below the surface. About one metre east of the skull position, there was a fragment of cut pearl-shell (Fig. 3 k), a human canine perforated through its root (Fig. 3 d), and a very small whale tooth, which had been split in half and perforated transversely (Fig. 3 c). Between the human tooth pendant and the cut pearl-shell, two adze chips



a



b

FIGURE 1

a. Map of Society Islands showing position of *Maupiti* Island. b. Map of *Maupiti* Island showing location of prehistoric burial site on islet of *Pae'ao*.

Just beyond the skull lay fragments of the femur of another skeleton, extending south-east and barely covered by sand. The rest of the bones had evidently disintegrated after being exposed by erosion.

The face of the excavated pit showed two distinguishable layers above the white sterile coral-sand layer. Stratification was not due to cultural deposits, but to differences in the amount of naturally formed humus. The top layer of dark humus, mixed with sand and coral pebbles, was about 25 cm. thick. The second layer appeared grey in colour, had much less humus mixed with sand and coral pebbles, and was about 18 cm. thick. The skeleton and all the artefacts were located in the lower part of the top layer and the upper part of the second layer. The only exception was the head of an unfinished troling-hook shank, which was found in the lower part of the second layer, 40 cm. below the surface. Although irregularly shaped, large coral-stones were found, two by the skull and two at each side of the feet and at the same level as the skeleton, there were no structures associated with the burial. Also, there were no traces of ash, charcoal, or food remains, such as shells or fish bones.

Excavation of a burial site sometimes causes strained relations between the excavators and the local people, and our case was no exception. Although Pofatu did not resist our taking artefacts from the site, he was extremely sensitive about removing any bones. It was felt wise, therefore, in the interest of maintaining good relations with the inhabitants, not to remove any of the bones at this time for study.

#### EXCAVATIONS OF BURIALS IN 1963

An opportunity to extend the 1962 excavation on Paeao islet came in May 1963. Trenches and test pits were put down over a large area to determine if this was a burial ground, and if so, the extent and nature of it. Altogether 46 cubic metres of sand and gravel were excavated on the division of land known as Te Tiare, where permission to dig had originally been given.

On checking the land boundaries it was learned that the first burial excavated in 1962 was actually on the land division known as Paeao, from which the islet derives its name. By the time the trenches and test pits were completed on Te Tiare land, although two burials were discovered, indications definitely pointed to the burial ground extending onto Paeao land. Most fortunately for all concerned, permission was obtained from the owners of Paeao to excavate there. At this site 38 cubic metres of sand and gravel were put through the sifting screens. During the 1963 season the excavations on both land divisions required the employment of seven men working five days a week for four weeks between May 22 and June 20, 1963.

The two skeletons on the Te Tiare land division were in extended positions on their backs, faces turned to the side, and oriented with heads toward the south-east as the first burial was. Beside one of these skeletons were four adzes, two whale-tooth ornaments, a troling-hook shank, and two "fetish" stones. Covering the pelvis were two polished pearl-shells. Nearby were found another troling-hook shank and a rat-chewed whale-

#### EASTERN POLYNESIAN BURIALS AT MAUPITI

appeared. Approximately one metre north of the skull position a pearl-shell troling-hook point with two holes (Fig. 3 j) was found. These artefacts were 20 cm. below the surface.

When the sand had been cleared away to a depth of 30 cm. part of the skeleton was visible and the slow work of uncovering the remainder began. On the right chest was an adze (Fig. 4 a). Base upward and cutting edge towards the centre of the body, it lay buried at an angle with its poll elevated. When the skeleton was completely uncovered, the length of the excavation was again increased by one metre, resulting in a final overall dimension of 2 by 3 metres. As soon as the next level was started, another adze (Fig. 4 b) appeared, this time on the left chest. The adze was face up and its cutting edge towards the shoulder. At the 40 cm. level, in the vicinity where the troling-hook point had been found, an unfinished head of a pearl-shell, troling-hook shank (Fig. 3 k) appeared.

The skeleton was found to lie extended on its back between 20 and 35 cm. under the present surface, head towards the south-east. The top of the humerus was found at 35 cm. depth and the ankle bone at 20 cm. The skull had been accidentally shattered when Pofatu first dug the hole. He reburied it about 15 m. north of the original burial. In his description, he was not certain how the skull was oriented, nor was he certain of the position of the pendants and the adze; therefore, the position of the skull and these three specimens in Figure 2 are approximate. The pelvic bones, vertebrae, most of the ribs, and the symphysis of the long bones had completely disintegrated, while the long bones were in a most fragile condition. Sinoto estimated the stature of the man to be not over 157 cm. (5' 2").

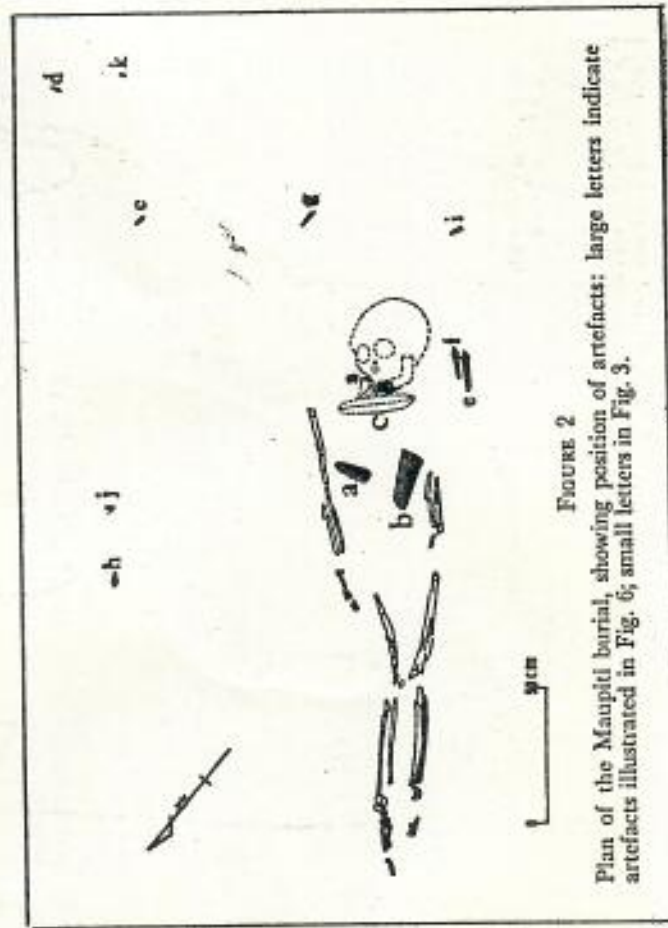


FIGURE 2  
Plan of the Maupiti burial, showing position of artefacts: large letters indicate artefacts illustrated in Fig. 6; small letters in Fig. 3.

tooth ornament. The whale-tooth ornaments and the trolling-hook shanks were similar in form to those of the first burial. The four adzes were of non-historic forms.

From the digging on the land of Pacao, eleven burials were located: three were on their backs, two on their sides, three in prone positions, two in squatting positions, and one was face down with legs in a flexed position. The extended burials lay with their skulls toward the east or south-east. One of the squatting burials faced the south-east, while the other was placed in the opposite direction. The bones of most of the skeletons were in a fair state of preservation, none of them as fragile as those of the first burial excavated, the condition correlating with the state of drainage over a particular skeleton.

From the excavations on Pacao were recovered fourteen whale-tooth pendants; two pearl-shell breast plates, a small pearl-shell disc perforated at the centre with two holes, eight adzes, one complete trolling-hook shank, several fragments of trolling-hook shanks, and a one-piece fishhook of pearl shell.

#### THE ARTEFACTS

##### *Whale-tooth Pendants*

The two whale-tooth pendants which were found by Pofatu, with the first burial, were pitted by weathering, giving an outer appearance of bone rather than ivory. Each tooth had been shaped to a point, the back of the upper part flattened, and the front of the tooth slightly convex in profile.

The larger tooth (Ma 1-4, Fig. 3 a) measures 81 mm. high, 23.5 mm. wide at the top, 29.5 mm. at its greatest diameter, and weighs 39 grams. The smaller pendant (Ma 1-5, Fig. 3 b) measures 64 mm. high, 19 mm. wide at the top, 25 mm. at its greatest diameter, and weighs 26 grams. A small hole pierces both sides of the top on each.

A third pendant (Ma 1-6, Fig. 3 c), found in our excavation of the first burial, is much smaller in size and of a different type. It is a split whale-tooth, 28 mm. high and 9.5 mm. in maximum width, with a small transverse hole just below the top edge for suspension.

Among the eighteen whale-tooth pendants (Pl. 1) from the 1963 digging, six have a lipped-rim at the top. Most of the pendants showed the markings of rat teeth and were found singly where they evidently had been carried by rats. Five of the smaller whale-tooth pendants were found placed around the base of a square basalt stone set approximately in the middle of the burial ground. A pair was found at each of three of the burials, indicating that not more than two were placed with a skeleton. One of the pendants (Ma 3E11-3, Plate 1, d), found just under the surface, was an unshaped tooth except for the base having been ground flat and the sides perforated at the top.

The Maupiti pendants, the first of their kind reported from the Society Islands, vary only slightly in form from those described by Duff.<sup>2</sup> Some of the Maupiti pendants have the lipped-rim at the top, so characteristic of Moa-hunter pendants (see Figure 5). The Maupiti

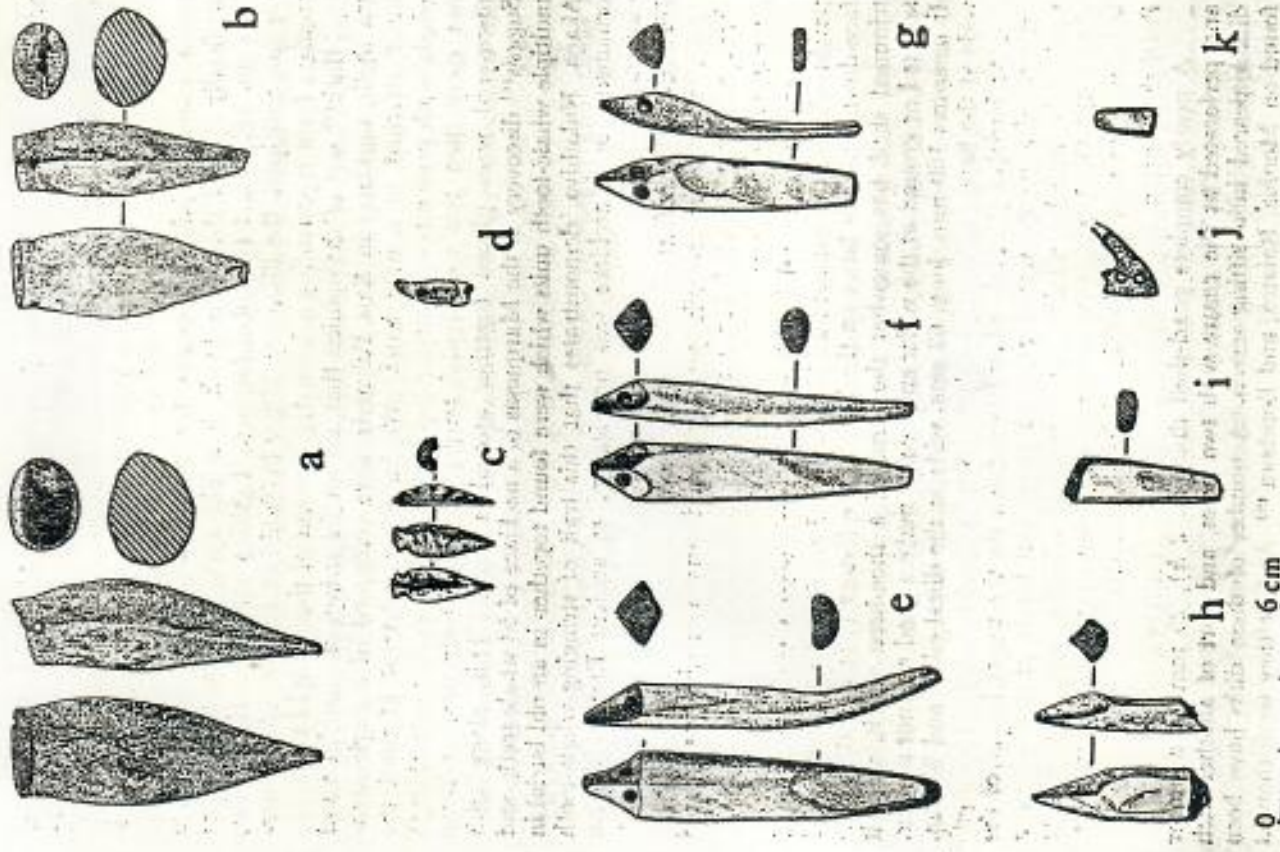


FIGURE 3

Artefacts recovered from prehistoric burial on Maupiti, Society Islands: a, b, c, whale-tooth pendants; d, human canine, with its root perforated for suspension; e, f, g, pearl-shell lure shanks of bonito hooks; h, unperforated head of a pearl-shell lure shank; i, broken base of pearl-shell lure shank; j, broken, bi-perforated pearl-shell point of a bonito hook; k, a piece of cut pearl-shell.

2. Numbers beginning with the letters Ma refer to specimen numbers for artefacts found in the Maupiti site.

3. Duff 1950:118, Fig. 24 f; 120, Fig. 25 h.

pendants are less curved, but there is no mistaking that the artificial shaping of the Mauptiti pendants would lead to the more definite curving observed in the Maori and historic Hawaiian whale-tooth pendants. The Hawaiian pendant, however, represents an extreme and highly conventionalized curve, resulting in a feature which the Hawaiians themselves called a tongue (*alelo*). Because the Marquesans seem never to have artificially shaped the whale tooth, it would appear logical to attribute both the Maori and Hawaiian forms to Tahitian influence. If this is so, we can anticipate the discovery, either in Tahiti or Hawaii, of an intermediate form representing a later development of the Mauptiti type.

Buck<sup>4</sup> was of the opinion that, except for strings of small land and sea shells, necklaces in East Polynesia were composed of a single ornament attached to a neck band. We know now that at Mauptiti the whale-tooth pendants were strung together in a necklace, for even though not more than two were found buried with one body, five of those discovered were placed together around a stone. This, along with Suggs's<sup>5</sup> discovery in the Marquesas of a necklace of 53 whale teeth, and multiple whale-tooth units which were found together in an old burial in Akapa, Nukuhiva, demonstrates that this trait of stringing whale-tooth ornaments in a necklace was not foreign to ancient East Polynesian culture.

#### Human-tooth Pendant

The one human-tooth pendant found was a canine perforated through its root (Ma 1-7, Fig. 3 *d*).

#### Pearl-shell Breast Plates

Placed over the pectus of burial 2 (Tiare), were a complete polished pearl-shell and the trimmed middle section of another. Both were placed face-down with the latter on the back of the former (Ma 2-9, 10). The trimmed shell has somewhat the form of a shoe-horn which, were it serrated or ground at the wider end, would make a good coconut scraper. It measures 160 mm. long, 62 mm. wide at the distal edge, and 28 mm. wide at the base.

At burial 4 (Paesao), placed face-down on the upper breast of the skeleton of a youth, was a polished pearl-shell breast plaque with one small hole drilled from front to back at the thickest part of the hinge (Ma 3E11-4). We also came across a number of pearl-shell fragments indicating the existence of other polished ornaments.

#### Pearl-shell Button

A nearly complete pearl-shell disk (Pl. 2 *h*), 25 mm. in diameter and perforated at the centre with two holes, and part of another such disk appeared in a sifting screen. A number of these disks have been found on Moorea, Raiatea, and Borabora.<sup>6</sup> At first they were thought to be imitations of European buttons, but they are far too thin to have served the purpose. Also, the one found on Moorea was deeply buried in a shelter (Site Mo-1), and the ones from Mauptiti must be considered

4. Buck 1844:114.

5. Suggs 1931:176, Burial 38.

6. The collection is owned by M. Faehetto of Tahiti and was photographed by Siroto in July 1931.

contemporaneous with the other artefacts found at the same depth. They were probably fastened to head-bands, as may be seen in Marquesan exhibits in museums.

#### "Fetich" Stones

Two dark grey stones, probably natural but extremely weathered, with a peculiar shale-like grain were found with the skull by Pofatu. One (Ma 1-15) was 16 cm. long, 3 cm. wide and 2 cm. thick at the middle; the other (Ma 1-16) was 10 cm. long, 3.5 cm. wide and 3 cm. thick at the middle. Two more stones of the same material were placed with an adze (Ma 2-2) to the side of burial 2 (Tiare). One was (Ma 2-3), 14 cm. long, 4 cm. wide tapering down to 3 cm., and 3 cm. thick, tapering finally to a point. One of the wide sides of this stone is flat. The other stone (Ma 2-5), 17 cm. long, 8 cm. wide, and 5 cm. thick in maximum measurements, has been deeply weathered, the markings resembling a grotesque human form with face, arms, and legs. As it does not seem that these stones could have any practical use, we have designated them "fetich stones".

#### Fishhooks

The fishhooks consisted of six complete pearl-shell lure-shanks of trolling hooks, several fragments of such shanks, one pearl-shell point of a trolling hook, and a one-piece fishhook. For measurements of the complete shanks, see Table 1.

The shanks (Figure 3 and Plate 2), are truncated at the top, and have sharp shoulders which in most of them connect with the vertical median frontal ridge by a transverse edge where the head of the shank meets the body. Holes bored from each side of the head meet to form a perforation for the lashing. Two of the shanks have grooves across the back at the base for lashing the point to the base.

There were two unpierced heads of broken shanks (Ma 1-2, Figure 3 *h*; Ma 3E13-7, Pl. 2, *e*). The first of these was found nearly a metre east of the first burial; the other near the stone marker at the centre of the burial ground. Both of these unfinished pieces may not have been contemporaneous with the burials.

The base of a pearl-shell shank (Ma 1-11, Fig. 3 *i*), does not match the head which was found, and so represents another hook.

TABLE 1

MEASUREMENTS OF TROLLING-HOOK SHANKS (mm.)

Specimen No.	Length	Width at		Thickness at	
		Shoulder	Middle	Shoulder	Middle
Fig. 3 <i>e</i> Ma 1-9	100	19		11	9
<i>f</i> Ma 1-10	87	14		10	9
<i>g</i> Ma 1-8	72	12		9	4
Pl. 2 <i>a</i> Ma 2-6	118	25		14	6
<i>b</i> Ma 2-12	91	20		14	9
<i>c</i> Ma 3C15-2	93	17		14	6

The trolling-hook shanks and point from Maupiti correspond very closely in form to the stone lures, or shanks, and bone points of the trolling hooks of the Mōa-hunters as figured by Duff<sup>(7)</sup> (see Figure 5). Obviously these early New Zealand settlers, lacking pearl shell, were imitating in stone and bone the trolling hook of tropical seas. Being unsuitable their hook did not survive into historic times but was replaced by the more adaptable *kahawai* trolling hook.

The Maupiti trolling hook finds its counterpart in the hooks illustrated by Emory,<sup>(8)</sup> which came from a prehistoric site on Fanning Island. Here again we see the sharp shoulders of the head of the shank and the same type of point, a point which has a proximal upward projection of the base and which is perforated with two holes. This point has appeared in the earliest sites in Hawaii<sup>(9)</sup> and the Marquesas<sup>(10)</sup> and is similar to the points used with lure-shanks in West Polynesia.<sup>(11)</sup> The historic Hawaiian and Tahitian hooks lack the upward turned base and have only one perforation. The prehistoric points have now come to light on Moorea and Raiatea in the Society Islands, showing that this trait was not limited to the island of Maupiti.

The single, one-piece fishhook of pearl shell (Ma 3D14-1, Pl. 2, g), found at the same depth as the burials, is the only complete hook with this head-form so far discovered. It measured 19 mm. high, 54 mm. wide, and 6 mm. thick.

As in Mōa-hunter hooks the point is turned in at right angles (see Figure 5, f, and 6, f). The existence of this form in the early Maupiti period had already been predicted on the basis of the Mōa-hunter hooks and the finding of broken hooks of this head-form on Maupiti (see Fig. 5, e) and elsewhere in the Leeward Society Islands. Suggs<sup>(12)</sup> illustrates one of the same form from an early period deposit in the Marquesas.

#### Adzes

The fifteen adzes from the Maupiti burial ground exhibit a wide range of forms, probably covering those of that period. They have been shaped by chipping and grinding, with several showing pecking on the butt. Six of the adzes lack the tang which is a distinguishing feature of the historic adzes of East Polynesia, and with one exception the remaining adzes show only a slightly developed tang. All the adzes were weathered a light grey and most of them to a depth which could be readily scratched into by a sharp stick. Those which were accidentally chipped showed a dark blue beneath the patinated surface.

Three of the adzes were broken transversely approximately in half (see Pl. 3 b, 4 b). The broken faces have the same degree of patination as the rest of the adze, proving the break to be ancient. Also, the breaking

seems to have been deliberately done, because adze Ma 3E12-2 (Pl. 7 b) was lying between the two parts of adze Ma 3E12-5, 6 (Pl. 3 b).

Measurements and weights of the adzes are given in Table 2. The adzes can be grouped into six forms, which for purpose of description and reference in this paper we have given numbers.

TABLE 2  
MEASUREMENT OF ADZES (mm.)

Specimen No.	Length	Width		Thickness Middle	Weight (gm.)
		Edge	Butt		
Fig. 3 a	131	51	18	16	167
b	175	27	29	34	632
c	250	pointed	53	52	953
Pl. 3 a	236	66	52	45	1400
b	179	57	32	36	600
c	135	40	37	35	300
Pl. 4 a	264	58	32	35	1150
b	224	67	40	28	650
and D13-1	224	45	31	42	800
Pl. 5 a	203	44	39	61	1225
b	256	81	40	65	1220
Pl. 6 a	136	40	34	35	300
b	204	61	33	40	700
Pl. 7 a	163	52	35	39	450
b	167+	47	—	—	—
c					

Form 1. Generally square in cross-section, but with corners definitely rounded and all sides somewhat convex, so that the cross-section is almost oval; incidently tanged (plate 3 a, b, c, adzes Ma 2-1; Ma 3E12-5, 6; Ma 2-4). Adze Ma 2-1 and Ma 2-4 were in association with each other and with an adze (Ma 2-2) of Form 3 B.

This adze has not appeared in Hawaii or early New Zealand culture, but it is reminiscent of Fijian and some Tongan adzes. At one time these would have been pointed out as indicating the presence of an underlying Melanesian culture, but here we see these adzes contemporaneous with typical East Polynesian adzes.

Form 2. Quadrangular in cross-section, untanged, the base wider than the face (pl. 4, a, adze Ma 3D17-1). It was in association with an adze (Ma 3D17-2) of Form 5. This form is typical of Samoan and Tongan adzes and is present in archaic Maori but only one example has come to our knowledge in Hawaii.<sup>(13)</sup> One (D-2791) was found on Haiso islet within the lagoon of Raiatea, so we know that this Maupiti example is not unique. The Bishop Museum fortunately possess an example (D-2946) from Hivaoa, and one from Nukuhiva (D-3030) in the Marquesas. Therefore, we know that this West Polynesian type of adze was present in East Polynesia at a very early time and so could have been carried to New Zealand from East Polynesia.

13. Duff 1936:169, Fig. 87, provides a Maori example. The Hawaiian example is in the Leo Forester Collection, No. 90, from Kalaheo Valley, Kauai, Hawaii.

7. Duff 1936:169, Fig. 87, no. 185; 205, Fig. 87, Z. 143 193.

8. Emory 1934:116, Fig. 4.

9. Emory, *Beak*, Sinoto 1939:61, Pl. 3, no. 46.

10. Suggs 1941:79, Fig. 28, b.

11. Burrows 1938:112, Fig. 3.

12. SUGGS 1941:79, Fig. 28, t, and p. 81.

Form 3, *A* and *B*. Quadrangular in cross-section. *A*: the face wider than the base, *B*: the face and base of equal width, untanged. Figure 4 *b* and plate 4 *b* (Ma 1-3 and Ma 3E14-1), are examples of Form 3 *A*. The first was associated with an adze of Form 5 and another of Form 6; the second was by itself with one of the two skeletons in a sitting position. Plate 5 *a, b* (Ma 3D16-1, untanged, and Ma 2-2, tanged by pecking on the butt), are examples of Form 3 *B*. The first of these two was by itself, the second was associated with two adzes (Ma 2-1 and Ma 2-4) of Form 1.

Adzes of these cross-sections are found among the Moa-hunter adzes, but most of them have a well-developed tang, and some of them have lugs on the poll,<sup>(14)</sup> indicating a later stage of development. The quadrangular untanged adzes of the historic period of New Zealand<sup>(15)</sup> are doubtlessly a response to the nature of the stone of which they are made, which is more easily shaped by grinding than by chipping or pecking.

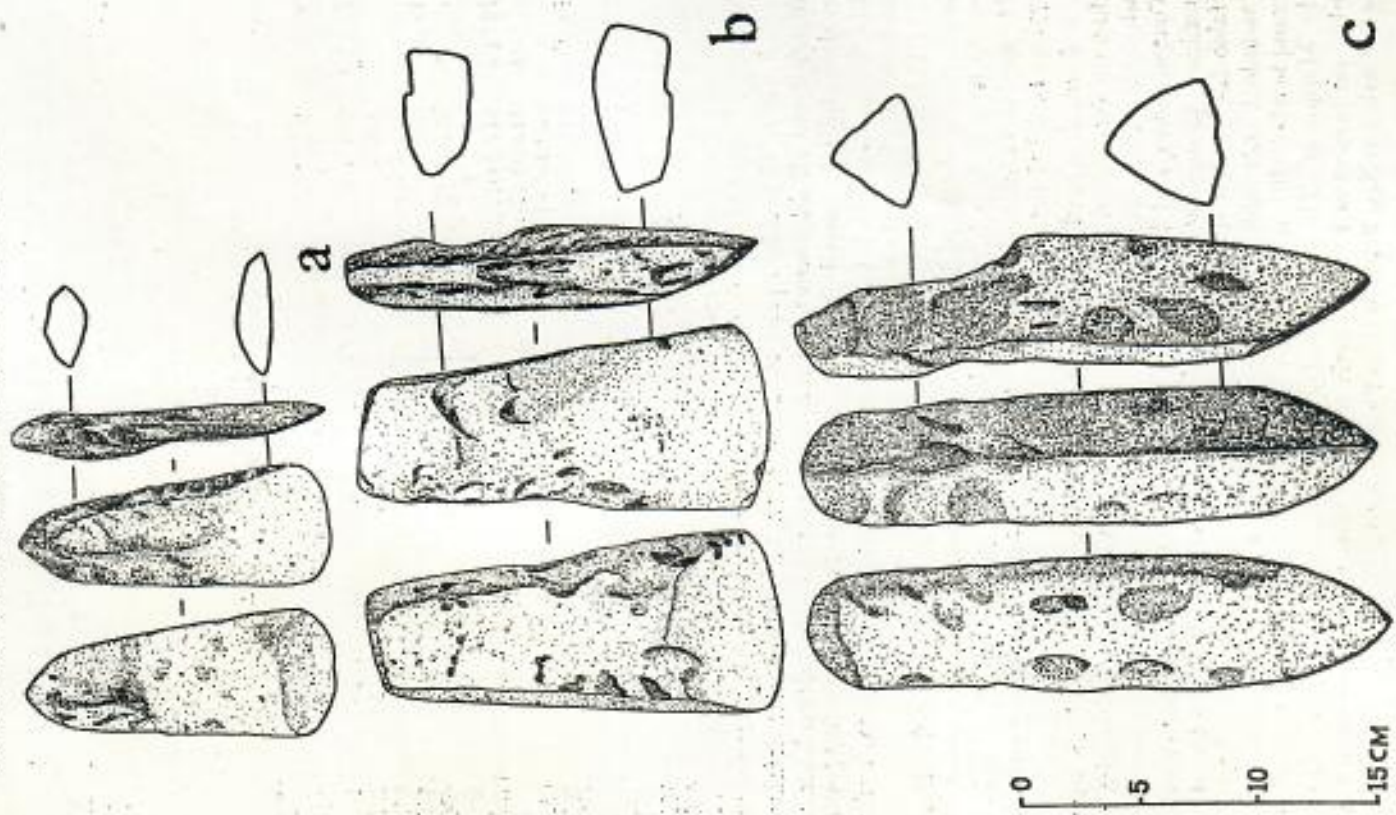


FIGURE 4  
Basalt adzes from Maupiti burial. Base, face, and side views, with cross-sections. *a*, Ma1-2, *b*, Ma1-3, *c*, Ma1-1.



FIGURE 5  
*a*, Pearl-shell lure shank Ma1-9, point Ma1-13; *b*, Duff 1956: stone shank Fig. 52, p. 203; bone point Fig. 53, p. 204; *c*, whale-tooth pendant Ma3 C15-1; *d*, Duff 1956: whale-tooth pendant Fig. 24, p. 118; *e*, pearl-shell one-piece fishhook Ma3D14-1; *f*, Duff 1956: bone one-piece fishhook Fig. 54, no. 9, p. 215.



FIGURE 6  
One-piece fishhooks. *a, b*, Marquesas, pearl-shell (after Suggs, 1961, Fig. 26, *i, n*); *c, d*, Hawaii, pearl-shell (H1J15-13, H1L14-22); *e*, Maupiti, pearl-shell (TMa1-11); *f*, New Zealand, moa bone (after Duff, 1956, p. 215, Fig. 57, 9); *g*, Maupiti, pearl-shell (TMa-83). Scale *a, b* 1/3, *c, d, e, g* 2/3.

14. Duff 1956:147, Fig. 39: 150, Fig. 41.  
15. Duff 1956:162, Fig. 45.

## CONCLUSIONS

Enough detailed points exist in common between what we discovered at the prehistoric Maupiti burial ground and what has been discovered with the remains of the Mōa-hunters of Wairau, South Island, New Zealand, to indicate that at Wairau we are witnessing an East Polynesian derived culture which has been in the process of adapting itself to the New Zealand environment.

Bodies at Wairau were placed in the same positions and were similarly oriented; artefacts were deposited in much the same manner, as can be judged by comparing our Figure 2 with Figure 14 in Duff.<sup>(19)</sup>

While the whale-tooth ornaments and the fishhooks are practically identical in form, the adzes are not as elaborated and therefore strongly suggest that the Maupiti site antedates the settlement of New Zealand. If this is so, then the Maupiti site should be older than A.D. 900. The earliest radiocarbon dates from Wairau place its culture there by *circa* A.D. 1150.<sup>(20)</sup> We can tentatively assume from this that its people had arrived in New Zealand several centuries earlier, certainly by A.D. 900.

It is not likely that the culture of the Maupiti burials persisted for long in the Society Islands, because all of its forms were obsolete in historic times and are extremely rare among the known artefacts which have been gathered from the islands. Furthermore, the historic forms which succeeded them have been in existence a long time.

All six adze forms excavated at Maupiti have appeared in one or another of the collections of adzes we have examined from the Society Islands and the Marquesas, but as we have said, they are of very rare occurrence. This in itself is an indication of archaism. Caches of adzes intermediate in form between the Maupiti adzes and the historic forms in the Society Islands have been recorded by Bishop Museum personnel. They strongly suggest that the historic forms have evolved from such forms as were encountered in the Maupiti burial ground. These early adzes exhibit unsettlement in forms and a wider range than the later adzes. At the early stage, the shaping of a tang or leaving an adze un-tanged appears to have been optional. Evidently one chose to have a quadrangular adze with rounded edges, or with the face less wide, as wide, or wider than the base, or the adze might be inverted-triangular or inverted sub-triangular in cross-section. In place of all these forms the Tahitians seem to have ended up with an adze of inverted-triangular (∇) cross-section. However the Maupiti adze of upright-triangular (Δ) cross-section continued to historic times unchanged except for the butt ending in an upward turned point.

When we compare these early Maupiti adzes with the Maori, all forms appear in the Mōa-hunter adzes except Form 1. Form 1 occurs in Tonga and Fiji and Form 2 is the typical form in West Polynesia. We know now that these two forms were present in East Polynesia in prehistoric times and therefore that Form 2, present in New Zealand, could have been carried there from East Polynesia. Forms 3 and 5, the adze

19. Duff 1959:66, Fig. 14.  
20. Duff 1954:251.

## EASTERN POLYNESIAN BURIALS AT MAUPTI

Form 4. Triangular or subtriangular in cross-section, apex down, slightly tanged. Plate 6 a, b (Ma 3C14-1 and Ma 2-8) are examples of Form 4. Each adze was by itself. These appear among the archaic adzes of Wairau.<sup>(19)</sup> A few occur in Hawaii but with a more marked tang, indicating a later phase. This form would seem to be the precursor of the most common Tahitian adze form, which is definitely triangular in cross-section and has a well-defined tang.

Form 5. Semi-circular in cross-section, the base flat, face and cutting edge curved, giving the adze a hoof-shaped appearance Figure 4 a; plate 7 a, b, c (Ma 1-2, Ma 3D17-2, Ma 3E12-2, and Ma 3D15-1) are examples of Form 5. The first adze was with the adzes shown in Figure 4; the second adze was with adze Ma 3D17-1 of Form 2; the third and fourth adzes were each by themselves. These have an archaic equivalent in Hawaii. The one example illustrated by Duff, under his classification type 4, happens to be from Wairau.<sup>(17)</sup>

Form 6. Triangular in cross-section with the apex towards the face (fig. 4 c; Ma 1-1). This adze was with the other two in Figure 4. Such adzes occur at Wairau,<sup>(18)</sup> but some of them have the end of the butt upturned as in Tahitian adzes of historic times, and so indicate that this Maupiti form served as their prototype.

## PRESENT DISPOSITION OF THE ARTEFACTS

The two whale-tooth pendants and the adze which were given by Pofatu to Bruno Schmidt were presented by Schmidt to the Bishop Museum Expedition for the Papeete Museum. The other artefacts from the first burial initially were only allowed by the owners of the land to be taken temporarily for study. On the second visit of the Bishop Museum party in September, 1962, the owners were persuaded to leave all the artefacts in the permanent care of the Papeete Museum, in the name of Terinoho a Pahi, the ancestor from whom the present owners hold their claim to the land. The signatures of nine of these land owners were obtained in agreement to this disposition. When, in 1963, it was learned that these objects were on the adjacent land, the owners of both lands fortunately agreed that all artefacts should be turned over to the custody of the Papeete Museum.

16. Duff 1954:171, Fig. 55, type 8, variety B.  
17. Duff 1956:158, Fig. 44. Another example of this form has been found on Hailo Islet, Raiatea (TR-56), another on Moorea (TM-69), another at Punaauia, Tahiti (Edward Lucas Collection, No. 26), and two on Makatea Island (Bishop Museum Collection Nos. D-466 and D-107). Suggs figures one from the Marquesas and calls it the Hatfield type (Suggs 1961:138, Fig. 31 f; 110-111); and Bishop Museum has two fine specimens in its collection from the Marquesas (3887 and 3977). This form of adze emerges as a definite type, archaic in both central East Polynesia and West Polynesia. Two adze sections of this type have been excavated by Roger Green from the bottom levels of a house mound at Vailieu, Upolu, Samoa, previously radiocarbon dated by Colson about A.D. 9 (Suggs 1950:107-108). Three adzes of this type are to be seen in the Fiji Museum, Suva. One is from a house mound being excavated by Bruce Palmer at Nadera near Suva; two others are from the Lan Islands.  
18. Duff 1954: Pl. 31, A 3.



quadrangular in cross-section and the adze of upright-triangular cross-section appear among Mōa-hunter adzes both in the simple Mauptiti form and also in more elaborate forms having a well developed tang and lugs such as have also appeared in the Society Islands. When all these things have been considered it is logical to infer that the first settlers of New Zealand derived their adze culture from a phase of East Polynesian culture later than that represented by the Mauptiti adzes.

Forms 3 to 6, in well-defined tanged form, reached Hawaii, but, judging from the extreme rarity of all but Form 3 (quadrangular cross-section) the others soon dropped out of use. These early Hawaiian forms could have been derived from the Marquesas as well as from the Society Islands. This meant that if the Marquesans dropped the West Polynesian Form 2 before it was dropped in the Society Islands, Hawaii could have been settled before New Zealand and yet not have this adze.

In our oldest site so far discovered in the Hawaiian Islands, Sand Dune site at South Point on the island of Hawaii, adzes of Form 3 (quadrangular cross-section) and Form 4 (inverted-triangular in cross-section) have been found, but with a well developed tang. Their fishhooks differ in form from the historic fishhooks of Hawaii, the Marquesas Islands, and the Society Islands, but agree more closely with the early hooks in the Marquesas than with those of the Mauptiti burial ground. Also suggesting a Marquesan rather than a Tahitian origin for these early people in Hawaii is the fact that in this early site stone sinkers for octopus lures of cowrie shell appear in early Marquesan culture.<sup>(21)</sup> The Tahitians in historic times were not using a sinker for their octopus lures of cowrie shell and seem not to have used them in the past. The very few which we know have been picked up in the Society Islands (four in Paea district, Tahiti, one on Raiatea) could have been due to influence from Hawaii in post-European times, as their use in Hawaii was continuous till at least 1900, or they could have been due to sporadic contact with Marquesans. Another link between Hawaii and the Marquesas is seen in the stone whirls for the pump drill; two of coral were unearthed from Sand Dune Site on Hawaii, one of coral from an adjacent cave site, and two of stone have been found on Kauai. Recently one of stone has come into the Papeete Museum from Upou island in the Marquesas. So far none are known from the Society Islands.

At Mauptiti itself, the historic Tahitian one-piece fishhook (T Ma 83) which has a pointed head with a lateral projecting knob (Fig. 6, g) was found just above a deposit level which has been radio-carbon dated about A.D. 1350.<sup>(22)</sup> Significantly it appears in cultural deposits in Hawaii dating circa A.D. 1200-1300. Once it made its appearance in Hawaii, this form quickly supplanted the earlier forms,<sup>(23)</sup> which find their counterpart in early hooks from excavations in the Marquesas (Fig. 6, a, b).<sup>(24)</sup> The implication here is that the pattern of this historic Tahitian head-form, along with its form of trolling-hook point, was

21. Suggs 1961: Fig. 28a, and p. 90.

22. Kirohahi, Tomikura, and Enō. 1962: 92, GaK-144, GaK-145.

23. Siroto 1962.

24. Suggs 1961: 79, Fig. 26 j, n, and p. 81.

carried to Hawaii from the Society Islands at a later period in both Tahitian and Hawaiian history, and that previous to this Hawaii was occupied by descendants of settlers from the Marquesas.

The genealogies of Hawaiian chiefs go back to individuals who are placed at 25 to 30 generations ago and who are stated in tradition to have come from "Kahiki". Allowing 25 years to a generation this would place them as having lived between the 12th and 14th centuries. The fact that Hawaiian culture in its elaboration of political organization, temple forms and religious rituals is much closer to Tahitian culture than either Maori or Marquesan, indicates a powerful influence from the Society Islands which must have been subsequent to the settlement of New Zealand. The Maoris carried with them the old Polynesian concept, retained in West Polynesia, of the *marae* as the village green and assembly ground. In East Polynesia, the increasing sanctity of the god-house rendered the adjacent ground of the *marae* too sacred for secular ceremonies and the *tahua* was created to fill this need.<sup>(25)</sup>

It would seem that, if the "fleet migration" of New Zealand's traditional history, which supposes New Zealand to have been already occupied by previous settlers, actually took place in about the beginning of the 14th century as has been generally believed, it would have carried the same influences as those which reached Hawaii at about this time. There seems to be no certain evidence as yet in New Zealand archaeology of an incoming of culture from East Polynesia other than that reflected in the culture of the Mōa-hunters. Therefore, those who came by the traditional "fleet" may have been, after all, the original settlers of New Zealand, and the shortness of the genealogies misleading as to the length of time which lapsed since their arrival.

We now have solid evidence that the cultural features which the islands of East Polynesia share in common, and which set them apart from West Polynesia, are not due to a settlement of East Polynesia by people who by-passed West Polynesia. Many of these differences can now be shown to be outgrowths of a culture which spread at an early period from West Polynesia into central East Polynesia.<sup>(26)</sup>

These cultural differences between East and West Polynesia are many and first received serious attention when Edwin G. Burrows published his monograph, "Western Polynesia", in 1938.<sup>(27)</sup> Recent archaeological finds have disclosed that in early East Polynesian culture, differences in the forms of adzes, fishhooks, and ornaments largely disappear. It would seem from these findings that central East Polynesia (that is, the Society Islands, the Marquesas, and the adjacent islands) was settled from Samoa or Tonga, or both, and that beginning 1,500 years ago, more or less, the culture of central East Polynesia spread to the distal corners of the East Polynesian cultural area: first to Easter Island, then to Hawaii, then to New Zealand. Subsequent to their first settlement, the Hawaiian islands received major influences from the Society Islands which resulted in bringing their culture in closer agreement with changes which had taken place in the Society Islands after the departure of the people who settled New Zealand.

25. Emory 1944: 15.

26. Emory and Sinoto 1948.

27. Burrows 1938.

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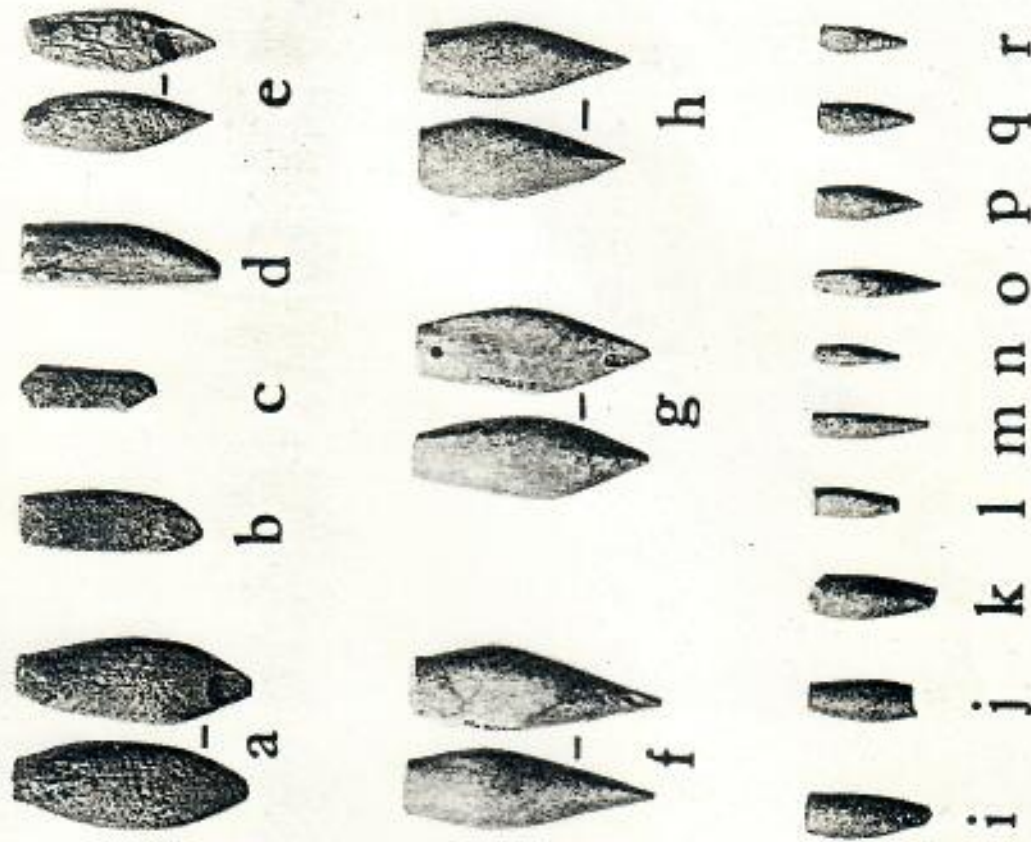


PLATE 1

Whale-tooth pendants from Maupiti burials. a-e. From Te Tiare Ma2 site, Ma2-7, -13, and -14; d-e. From Paeano Ma3 site, E11-3, E11-2, C13-1, C13-2, F11-1, C15-1, E13-3, B12-3, C14-2, E13-4, E13-5, E13-6, E13-10, C14-3, and E13-12. Scale 1/2.

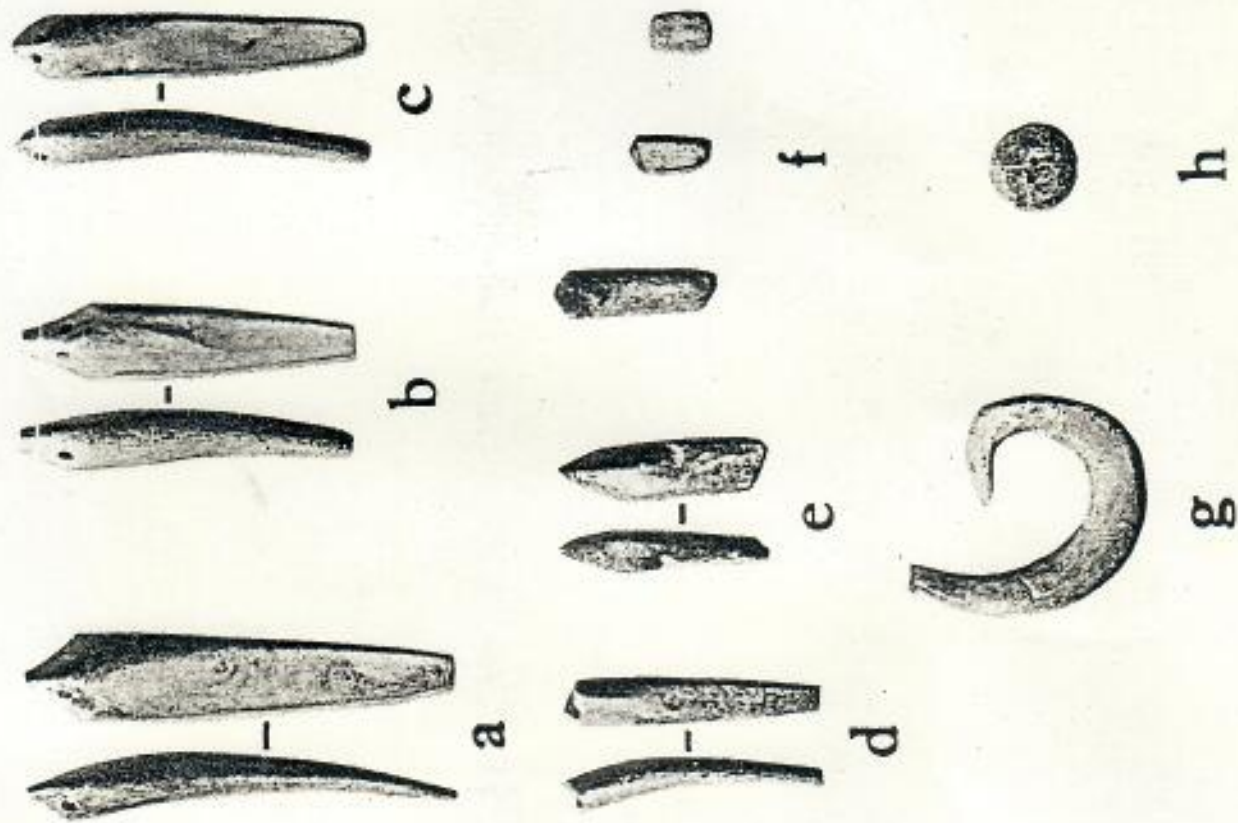


PLATE 2

Fishhooks and a perforated disk from the Mauipiti burials. *a-c*, Pearl shell bonito-hook shanks, Ma2-5, Ma2-12, Ma3C15-2, Ma3E13-2, Ma3E13-7; *d*, Pearl shell bonito-hook shank fragments; *e*, Pearl shell one-piece hook, Ma3D14-1; *f*, Pearl shell disk perforated with two holes, Ma3E12-4, F12-1. Scale 1/2.

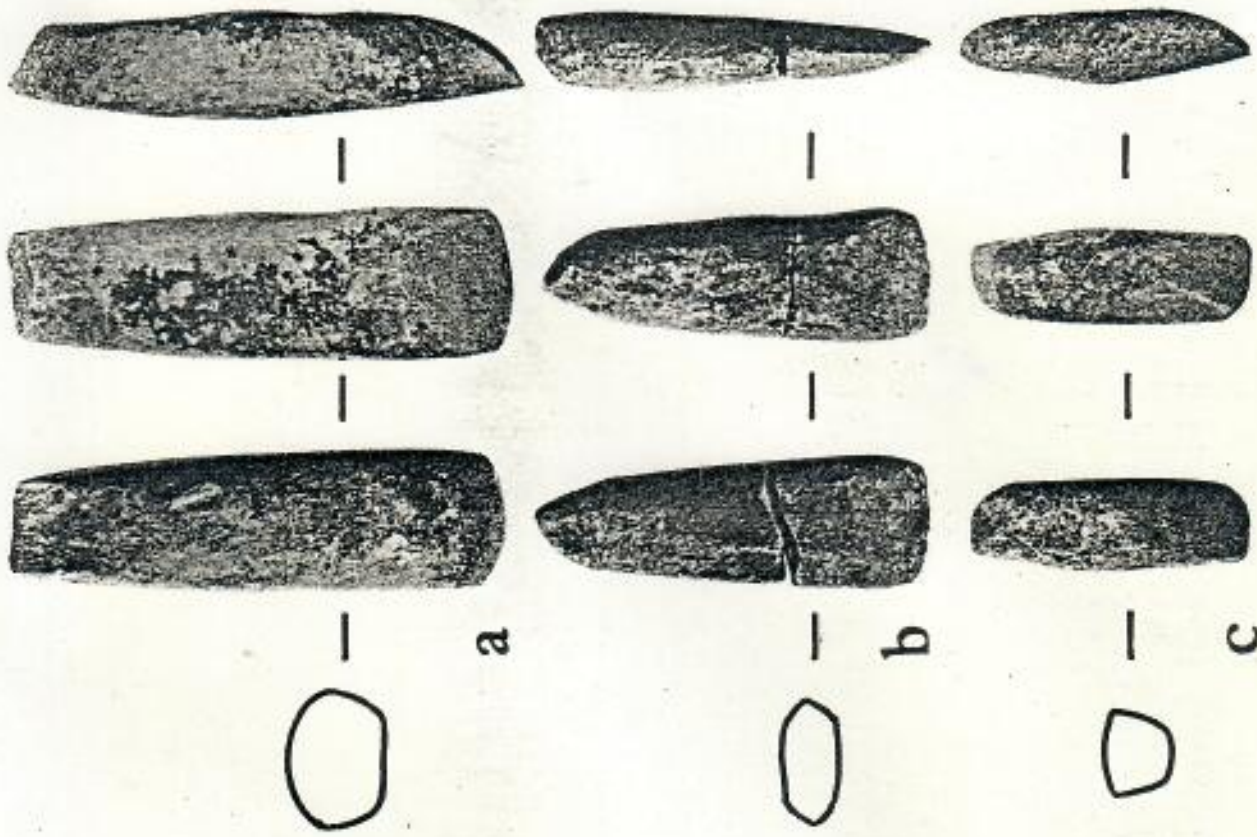


PLATE 3

Basalt adzes from Mauipiti burials. Face, base, and side views. *a*, *c*, left side, *b*, right side. Form 1, quadrangular cross-section, corners rounded. *a*, Ma2-1; *b*, Ma3E12-5 and 6; *c*, Ma2-4. Scale 1/4.

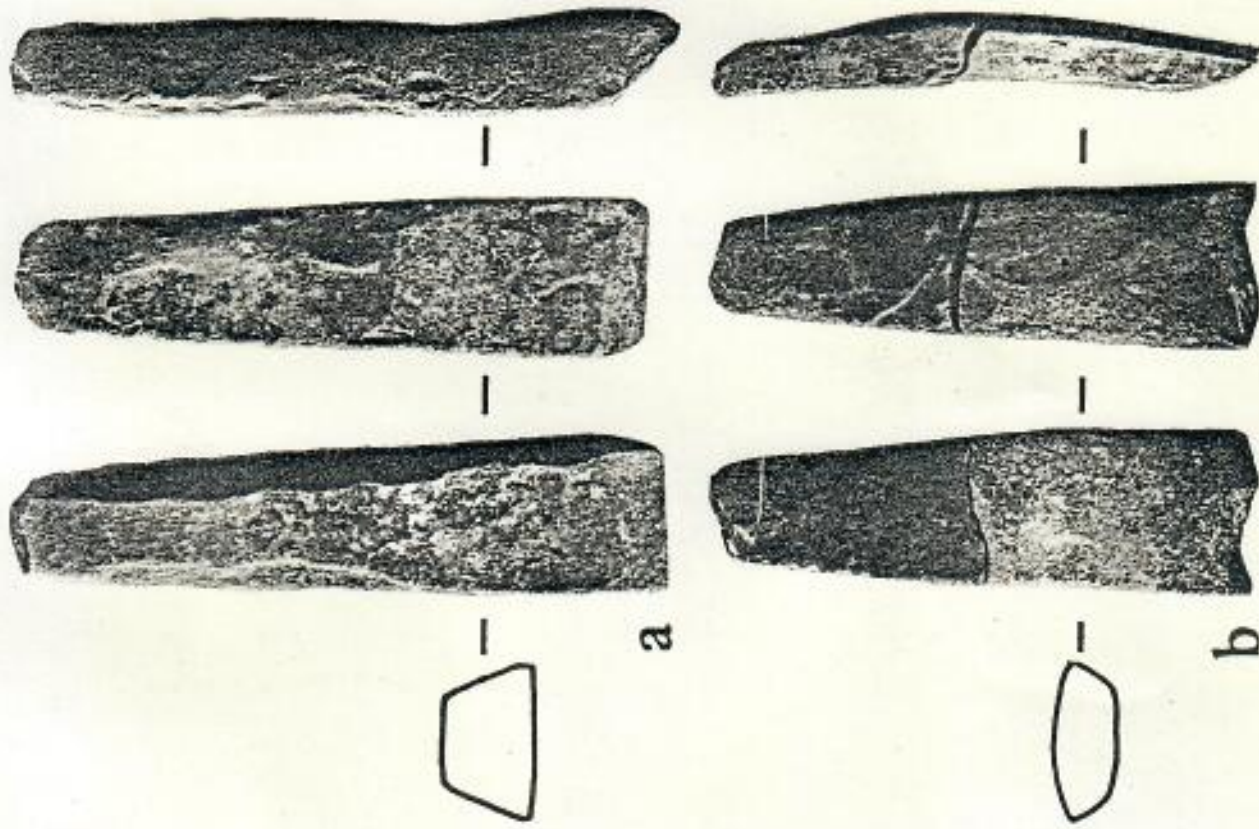


PLATE 4

Basalt adzes from Mauviti burials. Face, base, and left side views. *a.* Form 2, quadrangular cross-section, base wider than face, Ma3D17-1. *b.* Form 3, quadrangular cross-section, face wider than base, Ma3E14-1, the bit; Ma3D13-1, the butt. Scale 1/3.

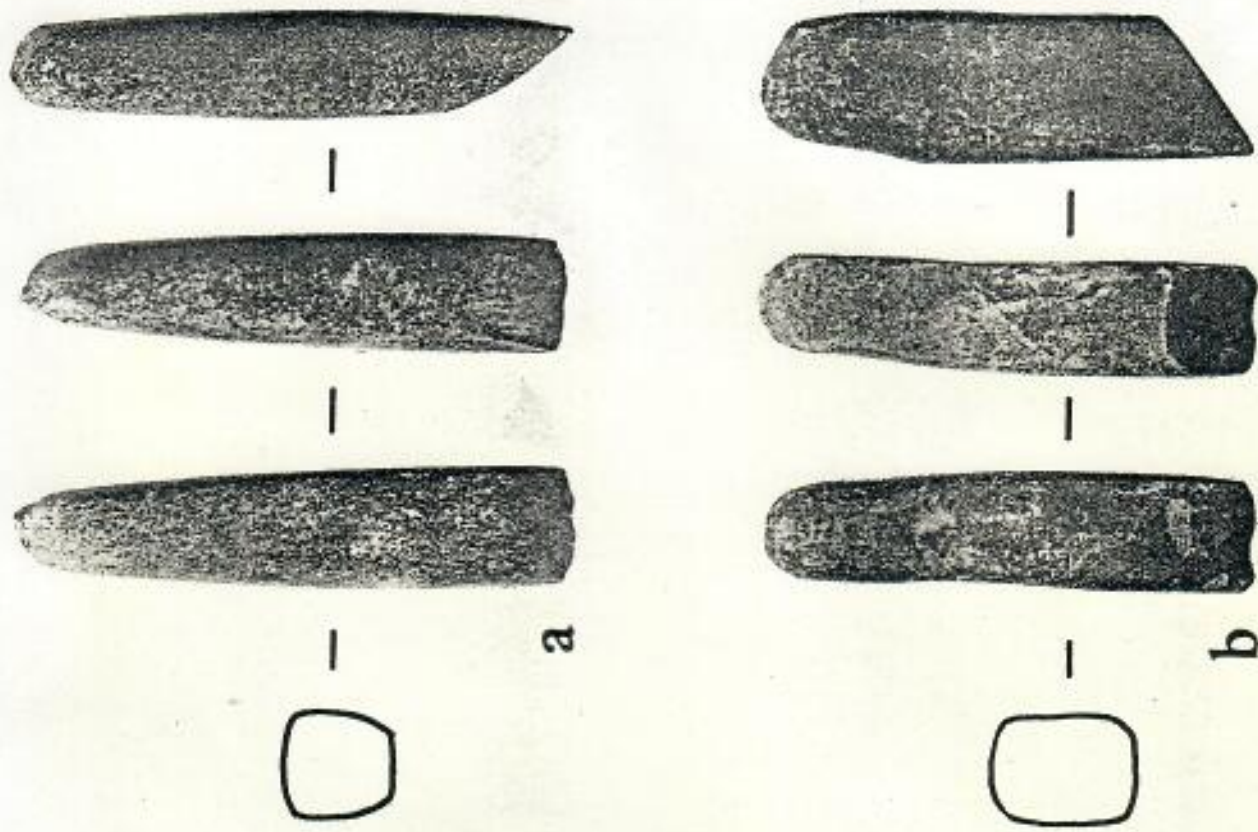
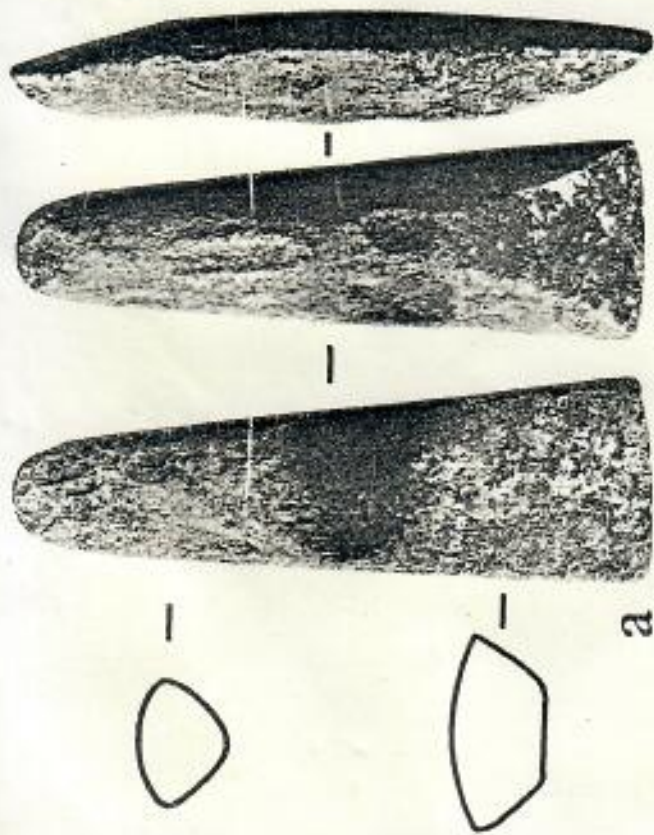


PLATE 5

Basalt adzes from Mauviti burials. Face, base, and side views. *a.* left side. *b.* right side. Form 3B, quadrangular cross-section, face equal to or wider than base. *a.* Ma3D16-1; *b.* Ma2-2. Scale 1/3.



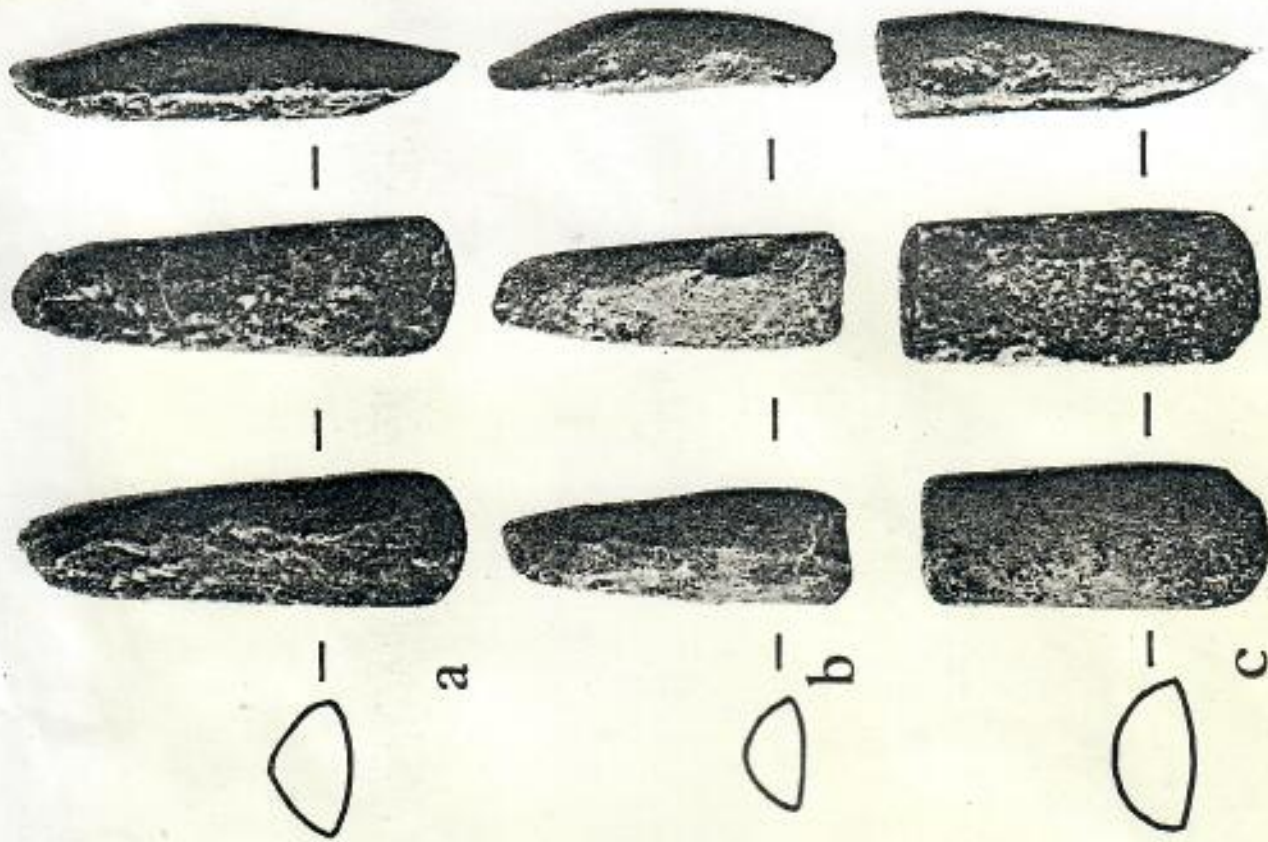
a



b

PLATE 6

Basalt adzes from Mauapiti burials. Face, base, and side views. *a.* left side, *b.* right side. Form 4, triangular cross-section, apex down. *a.* Ma3C14-1; *b.* Ma2-8. Scale 1/3.



a

b

c

PLATE 7

Basalt adzes from Mauapiti burials. Face, base and left side views. Form 5, semi-circular cross-section, curved cutting edge. *a.* Ma3D15-1, Scale 1/4. *b.* Ma3D17-2; *c.* Ma3E12-2.