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# NOTES ON SOME ARCHEOLOGICAL REMAINS IN THE SOCIETY AND AUSTRAL ISLANDS. 

## [With Plates XVIII-XXIV.]

By S. and K. Routledge.

The following are notes of a cruise in French Oceania undertaken with the object of finding traces of culture analogous to that of Easter Island. It was thought best to utilize the time at our disposal in each island, which has so far been strictly limited, in gaining as wide a knowledge as possible of existing remains rather than in making an exhaustive examination of any particular site. Difficulties of exact record have been much increased by the fact that the remains themselves are not only in ruins, but also largely hidden by tropical vegetation. Sketch-plans are therefore given with reserve ; measurements have been taped, and are given to the nearest $\frac{1}{2} \mathrm{ft}$., but an allowance in some cases of 5 to 10 per cent. should be made for error. Compass bearings are to be considered approximate unless otherwise stated.

Moorea.
The expedition arrived at Tahiti on July 6th, 1921. Delay occurred before a vessel could be found in which to proceed, and between two or three weeks of the time were spent in the neighbouring island of Moorea; we are much indebted to ex-Queen Marau for making known to us localities of interest in that place.

Marae Horora (or Matati) ${ }^{1}$ stands about 400 yards from the east coast, at the entrance to a valley which runs up among the mountains and abounds with terraces, evidently used for cultivation by a much larger population than that which now exists ; there are also other remains in the vicinity of the marae itself. The main structure is covered by a network of tree trunks (which prevented photography), but all lighter growth was removed. The form was found to be oblong and of that known as " truncated pyramid" (Fig. 3). It appears to have risen in three steps or terraces, two of which, on the western side, are clearly visible, each having a width of 2 ft .3 in . The total height is 11 ft . The building is constructed mainly of unhewn stones, the larger of which average about 100 lbs . in weight; few blocks of coral are employed, but small coral débris was found in a position suggesting that it had been used to strew the terraces or for other ornamental effect. In two places
${ }^{1}$ The latter name was given locally, the former we are informed is its correct designation.
Note.-The cost of the blocks for the illustration of this paper has been defrayed by the authors, who retain the copyright of the illustrations.
on the western side there are traces of a facing formed of cone-shaped pieces of volcanic rock weighing about 20 lbs . each. A careful examination showed that, contrary to local information, the structure was solid and did not contain any cavity.

This "pyramidal" edifice forms the western end of a rectangular enclosure surrounded by a wall about 3 ft .6 in . in height. On the north side of the enclosure


FIG. 1.-THE AUSTRAL ISLANDS AND PART OF THE SOCIETY GROUP.
this wall is in good repair, and it shows a foundation of stone blocks and a facing of cone-shaped stones similar to those on the main building; in one place seven courses of these are visible : they are remarkably regular in size and shape, and the general appearance of the facing is very effective (Pl. XXIII, A).

The centre of the enclosure was covered with thick brushwood and not examined: no remains were obvious.

Marae Umarea (Fig. 4 and Pl. XVIII, A) stands on the extreme edge of a small promontory, about half a mile to the south of Marae Horora, but has been largely wrecked, apparently by some exceptional action of the sea, such as hurricane or tidal wave. The body of young King Pomare III was originallyburied here. The main edifice is roughly semi-lunar in shape, the base on the landward side running in a straight line, and that on the seaward following the curvature of the coast. The building is composed of


FIG. 2.-KEY TO THE LINE-DRAWINGS.
large blocks of coral, one measuring $2 \mathrm{ft} .6 \mathrm{in} . \times 2 \mathrm{ft} . \times 10 \mathrm{in}$., but at regular intervals, averaging about 4 ft ., a transverse septum has been introduced made of rectangular pieces of stone. Traces of terraces are still visible, and on both sides there has been a facing of cone-shaped stones similar to those at Horora; on the seaward aspect some of these still remain in place, while others lie at the foot embedded in coral rock which has grown up around them. The greatest height of the structure is now about 12 ft .

fig. 3.-MARAE HORORA, MOOREA.

Foundations were found of the walls of a large enclosure of which the edifice described has formed the eastern end. Part of the southern boundary wall exists to-day, in the form of an embankment, holding back the sea. It has been breached near the marae, and the landward end of the enclosure turned into a swamp, which is scattered with débris from the building. The corner of the north and west walls is, however, clear, and both walls can be traced for the greater part of their extent. The foundations consist of parallel lines of selected stone blocks, the interval between which is usually packed with rough coral: the northern wall has had an extreme
width of 4 ft .9 in ., and the western of as much as 6 ft .9 in . Cone-shaped stones are found in situ on the west wall and scattered elsewhere in the neighbourhood of the enclosure.

It is of particular interest to compare these two marae with the descriptions given by Cook and Banks of the great Marae of Tooarai ${ }^{1}$ at Mahaiatea in Tahiti, and with the drawing of the same (Pl. XIX). It was, we learn, an oblong pyramid with a base $267 \mathrm{ft} . \times 71 \mathrm{ft}$., consisting of eleven steps composed of squared coal stones and " blue pebbles." The building formed, it is stated, one side of a court or square, the whole being walled in. ${ }^{2}$ This marae is now a ruin, having been uțilized in comparatively recent times as a source of material for burning lime and also owing to the encroachment of the sea. A few feet, however, of the original structure were found

fig. 4.-marae umarea, moorea.
on the seaward side and exhibit the foundations, on the top of which are rows of coneshaped stones bearing a striking resemblance to those of the marae of Moorea (Pl. XVIII, в). It is thus satisfactory to find that we have on the neighbouring island at least one marae in good condition, that of Horora, which represents, on a small scale, the more striking features of the most famous structure in Polynesia.

Two other marae were visited on the west coast of Moorea, both known by the name of Nurua. The most marked feature of the smaller, which is also the more northerly, were two stones of columnar type, about 2 ft . in height, which stood at a short distance from one another in front of the northern base, of the structure; they are stated to have been the seat of the chiefs connected with the marae. Stones of about the same height, but more slab-like in form, adjoin the base of the neighbouring marae of the same name, where is also a large horizontal stone known as the place

[^0]of sacrifice, certain depressions in which are said to have been used to contain the eyes of the victims.

Two Tii, or images, were seen in Moorea, both standing more or less in situ, but in each case the figure was small and roughly carved. One, locally known as "Atarainoa," was shown near the house of its owner, among a number of stones said to have formed a marae. The arms are held in front of the body with the hands level ; there are no legs ; the height above ground is 1 ft .6 in . The other Tii, whose name is "Omito," is $2 \mathrm{ft}$.6 in . in height. It was found at the corner of certain foundations known as Marae Tafano situated in a ravine full of remains of former cultivation. The foundations appeared to be in the form of terraces or enclosures, and in no way resembled the other marae seen. Nothing observed in Moorea in any way recalled Easter Island.

## AUSTRAL ISLANDS.

## Tubuat.

Tahiti was left on August 24th in the 150 -ton schooner "Vaite." Orders were given to sail for Rimatara, the most western of the four Austral Islands, with the intention of proceeding through them in an easterly direction. Owing, however, to the vagaries of Polynesian navigation, the land actually made turned out, to the general surprise, to be Tubuai, the third member of the group, a slight error of about 200 miles in a distance of some 300 miles. Accepting fate, we lay.in the lagoon at Tubuai from August 29th to September 3rd.

The island is five miles in length, with a central mountainous region and cultivated coastal belt. All over this low ground, upstanding stones are met, which are obviously the survivors of destroyed structures. They are mostly insignificant, but in four cases marae were found of superior size and in better preservation. These are all of the same character, being composed of large stone slabs, which are set up as palisades so as to form three sides of a square; the fourth side, generally that to the south, is always left open ; in certain cases gaps were noted also at the sides, which may have been arranged entrances.

The stones used are basaltic, the bulk resembling tombstones, but the upper extremity inclines to be pointed, while the lower, that set into the ground, is thick and heavy; the form appears to have been brought about by the bevelling effect of water acting on horizontal beds. That surface of a stone which is directed towards the enclosure is usually flat, that away from it tends to be convex from side to side. The slabs are set up in fairly close approximation, but there is no attempt to dress the vertical edges, or to intersperse smaller fragments between them. They vary much in height, ranging from 2 ft . to 7 ft . or 8 ft ., while in exceptional cases they are still taller. The biggest stones are always placed opposite to that side which is left open. Pavement is found in the best preserved instances and was probably
present in all. Outlying stones suggested that the rectangle may originally have formed only one, although the principal, part of a larger design. The structures. appear to have no local names.

fig. 5.-THE " marae," tubuai.
The "Marae" (Fig. 5 and Pl. XX, a) lies within 20 yards of the eastern shore; the interior is utilized as a homestead. The stones number some sixty-seven, of which about fifty still remain upright. The range of heights may be gathered from the following, which are those of the ten stones forming the western half of the northern. side :-

$$
\begin{aligned}
& 2 \mathrm{ft} .1 \mathrm{in} . \times 2 \mathrm{ft} . \quad 9 \mathrm{in} . \times 0 \mathrm{ft} .9 \mathrm{in} . \text { broken. } \\
& 2 \mathrm{ft} .7 \mathrm{in} . \times 2 \mathrm{ft} . \quad 0 \mathrm{in} . \times 0 \mathrm{ft} .11 \mathrm{in} \text {. vertical. } \\
& 2 \mathrm{ft} .9 \mathrm{in} . \times 2 \mathrm{ft} .11 \mathrm{in} . \times 0 \mathrm{ft} .7 \mathrm{in} \text {. vertical. } \\
& 5 \mathrm{ft} .9 \mathrm{in} . \times 3 \mathrm{ft} .2 \mathrm{in} . \times 0 \mathrm{ft} . \quad 7 \mathrm{in} . \text { horizontal. } \\
& 3 \mathrm{ft} .5 \mathrm{in} . \times 2 \mathrm{ft} .9 \mathrm{in} . \times 0 \mathrm{ft} .11 \mathrm{in} \text {. vertical. } \\
& 2 \mathrm{ft} .9 \mathrm{in} . \times 1 \mathrm{ft} .10 \mathrm{in} . \times 0 \mathrm{ft} .6 \mathrm{in} \text {. vertical. } \\
& 7 \mathrm{ft} .4 \mathrm{in} . \times 2 \mathrm{ft} .8 \mathrm{in} . \times \quad-\quad \text { horizontal. } \\
& 5 \mathrm{ft} .6 \mathrm{in} . \times 1 \mathrm{ft} .5 \mathrm{in} . \times 1 \mathrm{ft} .2 \mathrm{in} \text {. vertical. } \\
& 8 \mathrm{ft} .2 \mathrm{in} . \times 4 \mathrm{ft} .9 \mathrm{in} . \times \quad \text { horizontal. } \\
& 6 \mathrm{ft} .7 \mathrm{in} . \times 4 \mathrm{ft} .3 \mathrm{in} . \times \quad-\quad \text { horizontal. }
\end{aligned}
$$

The largest stones, as usual, face the open side, the tallest being $10 \mathrm{ft} . \times 3 \mathrm{ft}$. $4 \mathrm{in} . \times 1 \mathrm{ft}$. No pavement was found. An outlying stone 4 ft .8 in . in length lies on the south side, 19 ft . from the rectangle.

Marae at Harii (Fig. 6 and PI. XX, в) stands on rising ground amid tropical growth, some 200 yards from the eastern shore. It was visited three times and the


FIG. 6.-MARAE AT HARII, TUBUAI.
rectangle personally cleared. It consists of some thirty-six stones, of which about twenty-five are standing. Two slabs are placed at the south-west corner so as to make a small bay (see sketch-plan); it was stated by the proprietor that they had once formed part of a small area partitioned off from the main enclosure. Two small stones, about 1 ft .6 in . in height, stand vertically at a little distance from one another, well within the enclosure.

The stones of the palisade range from 2 ft .7 in . upwards. The longest, now horizontal, was the largest observed on the island; it has stood in the middle of the north side and measures $14 \mathrm{ft} . \times 3 \mathrm{ft} . \times 10 \mathrm{in}$. The previous authority stated that it had fallen about thirty years ago, within his own memory. when a Frenchman
had removed the stones at its base for building purpose, doing at the same time much other damage to the mare. The base of this stone appeared to be wrought on the three sides visible, the only instance of such work encountered.

The whole is said to have been covered with pavement, a considerable amount of which is still intact; it is made of slabs of basalt of irregular shape, averaging 18 in . square, pieced together with fair neatness. The pavement has extended on the north and east sides some 6 ft . beyond the palisade, the west side could not be examined.

Certain outlying stones suggested the possibility of an avenue of approach. Three others at a distance of some thirty yards from the south end of the maras could not be accounted for.

fig. 7.-marae pirate, RURUtU.
Rurutu.
Rurutu, which was next visited, resembles Tubuai, save that the coast is more precipitous; the reef is too close to the shore to allow of anchorage, so the "Vaite " lay off the island from September 5th to 8th. On landing, remains were seen of at least ten maras of a character allied to those of Tubuai, but with no stones above 6 ft . in height. The majority were so destroyed that only in one or two cases could the original form be satisfactorily determined.

Marae Piraé (Fig. 7) is situated in a wood about 150 yards from the north or north-west coast. The stones are falling in all directions, but mainly from natural
causes ; they are of basalt interspersed with cut coral ; one of the highest still in place is 4 ft . above ground. The palisade here forms four sides of a square instead of three as at Tubuai, a pavement seems to have covered the whole of the interior and extends on the north and west sides some 20 yards beyond the rectangle. Various vertical stones on the north aspect appear to indicate a neighbouring enclosure.

Another marae was noticed on the ride back to the ship, but unfortunately too late to be examined. It was a rectangle perhaps 40 ft . by 30 ft ., paved throughout, and having in the interior a sunken space lined and paved, measuring possibly $14 \mathrm{ft} . \times 10 \mathrm{ft} . \times 3 \mathrm{ft}$. This is the only case where the last feature was observed.

## Rimatara.

Rimatara is a low circular island only some two or three miles in diameter and with no anchorage ; we landed on September 9th, and on September 10th rode across it with guides. Remains of three marae were seen and others were said to exist.

E.S.E.
W.N.W.
fig. 8.-marae mauenua, rimatara.
Two hours were spent in examining Marae Mauenua (Fig. 8), which stands on an old coral flat some fifty yards from high-water mark and lightly covered with sand and vegetable soil. It consists of coral slabs, many of which have been fractured or converted into lime, by the practice of heaping against them fallen débris from the adjacent coconut trees and then setting it alight; it would, no doubt, be possible with time and clearance to trace their bases. The slabs have been set up in palisades
as in Tubuai and Rurutu, but here the remains were found actually extending beyond the simple rectangle in a manner which is now only indicated in the other islands. The sketch represents with fair accuracy those lines which could definitely be traced ; in some (noticeably in $\mathrm{A}, \mathrm{B}$ ) the stones have been set in close proximity, in others it is possible that they were placed at intervals, while yet others may have been isolated. The majority did not appear to exceed 2 or 3 ft . in height: the largest were in the neighbourhood of line c , where the fallen portion of one, which had its base still in the ground, measured $6 \mathrm{ft} .8 \mathrm{in} . \times 2 \mathrm{ft} .6 \mathrm{in} . \times 1 \mathrm{ft}$. In this part of the marae there were also found traces of pavement.

Tapa is still being made in Rimatara for domestic purposes.

## Raivavae.

Retracing our steps to the eastward, we reached Raivavae on September 15th, and lay inside the fringing reef till September 22nd. The island is twelve miles long, high, and with a nearly continuous coastal belt; the remains here are very extensive and interesting: various marae were found and five specially studied.

The main characteristics were the same as elsewhere in the group, but here the main court instead of being roughly square is definitely oblong, running approximately east and west. All sides were enclosed, and entrance ways were found, such as had been guessed at elsewhere. In all cases, subsidiary erections were found adjoining to, or in the immediate neighbourhood of, the main one. In four out of the five cases one of these extensions took the form of a small enclosure adjacent to, and at one end of, the north wall of the main rectangle. ${ }^{1}$ In two marae (Figs. 10 and 11) there were further paved courts beyond this small area, leading up to certain stone foundations, said to be those of a house devoted to the great man of the place. In one instance (Fig. 12) small spaces were found walled off on either side of the entrance to the main enclosure, which were said to be for the sentinels on guard, and a similar arrangement was noted in another marae.

Pavements were general, but only in one case was anything beyond this found within the enclosures; the exception was a monolith, standing in the centre of a main court and said to have formed the dividing line between persons of greater or less importance (Fig. 112).

Two avenues of approach were marked by slabs at near intervals (Figs. 10 and 11, and Pl. XXI, в). No wrought slabs were found, but the finish of the structures was definitely superior to that elsewhere : in particular, the palisades were supplemented by a low continuous curb formed of wrought bars of red tuff, about 2 ft . to 3 ft . in length, 9 in . in width and the same in depth.

[^1]Marae Raau (Fig. 9) is a small and unpretentious structure about 200 yards from the north coast. The main enclosure has 44 stones in all, ranging from 2 ft .7 in . to 7 ft .2 in .: it is chiefly interesting as showing the apparent necessity of the secondary enclosure. There were other stones in the vicinity.


FIG. 9.-MARAE RAAU, RAIVAVAE.
Marae Unurau (Fig. 10, and Pl. XXI, a and в) stands on rising ground near the western extremity of the southern coast and was visited four times. It was found planted with coffee trees which were purchased, and the ground both inside and in the immediate exterior of the main enclosure was thoroughly cleared. The minor structures and adjoining ground were not cleared.

The palisade surrounding Area A is complete; the count of stones being as follows :-

| $\ldots$ |  |  |  | Vertical. | Horizontal. | Total. |
| :--- | :--- | :--- | :--- | :---: | :---: | :---: |
| North side... | $\ldots$ | $\ldots$ | $\ldots$ | 14 | 8 | 23 |
| South side... | $\ldots$ | $\ldots$ | $\ldots$ | 6 | 12 | 18 |
| West end $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 1 | 4 | 5 |
| East end $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $3+$ one | 1 | 5 |

Some of the largest stones measure as below (when the stone is still standing the height given is that above ground) :-

On north side : vertical, $7 \mathrm{ft} .5 \mathrm{in} . \times 6 \mathrm{ft} .3 \mathrm{in} . \times 2 \mathrm{ft} .3 \mathrm{in}$.
On west end : horizontal, $12 \mathrm{ft} .6 \mathrm{in} . \times 5 \mathrm{ft} . \times 2 \mathrm{ft} .9 \mathrm{in}$.

On east end : horizontal, $12 \mathrm{ft} .3 \mathrm{in} . \times 4 \mathrm{ft} .6 \mathrm{in} . \times 2 \mathrm{ft} .8 \mathrm{in}$.
On east end : vertical, $8 \mathrm{ft} . \times 5 \mathrm{ft} .9 \mathrm{in} . \times 2 \mathrm{ft} .6 \mathrm{in}$.
The smaller stones are about 5 ft . in height.


FIG. 10.-MARAE UNURAU, RAIVAVAE.
There is one entrance on the southern, and two (perhaps three) on the northern side. The whole seems to have been surrounded with a coping of red tuff, and neat doorsteps are made of the same (Fig. 13, a).

Area B , which is entered from A , is surrounded by stones much smaller in size and possibly not contiguous to one another.

Area c is outlined at present on the north and east sides by a few odd stones only, and no definite boundary was found on the west side ; the area is, however, paved.
vol. LI.

Area D is a raised terrace or foundation, on which are lying certain wrought stones of red tuff.

A long and complete processional road extends from the south entrance of the marae to the sea, a distance of about 117 yards, coinciding nearly the whole way with the present coast road. The slabs on either side seem originally to have been set up with a space between them of 2 ft . to 3 ft ., the interval being filled by a bar of red tuff. Near the marae, where the road is least disturbed, a curb of tuff is found in addition running behind the slabs (Fig. 13, в). The stones near the marae, where they are smallest, average about $2 \mathrm{ft}$.6 in . in height; nearer the sea they measure 3 ft . to 5 ft . The breadth of the road at its higher end is 7 ft ., near the sea 9 ft .8 in .; it has been paved throughout (Pl. XXI, в).


Close to the foot of the avenue, below present high-water mark, are certain foundations, and among them is the base of a small image, the trunk of which lies near by. About 10 yards from the east side of the road and 70 ft . from the sea is found a block of red tuff, weighing about half a ton : on one side of it has been cut a long and narrow seat, the back is surmounted by a carved human head (Fig. 13, d).

A small enclosure of slabs on the west side of the road and some 15 yards from the marae was not examined.

Marae Pomoarau (Fig. 11) is on the south-east coast about 50 yards from the sea. The main enclosure A was the longest seen, having a total length of 126 ft .6 in ., but the western portion of the northern wall is almost entirely missing. The average
height of the remaining stones was about 5 ft ., but one on the east side of the southern entrance measured $8 \mathrm{ft} .3 \mathrm{in} . \times 3 \mathrm{ft} .8 \mathrm{in} . \times 2 \mathrm{ft} .1 \mathrm{in}$. The monolith in the centre, already mentioned, has a height of 6 ft .5 in .

An entrance at the north-east end of Area A leads into Area B. Here the ground rises sharply and is somewhat thickly wooded, but the north and east sides of two courts, $C$ and $D$, were found, rising one above the other, and separated by small slabs. At the top of $\mathbf{D}$ are perfect foundations of red tuff blocks, of the dimensions of a house, the upper side of the central block being wrought into a point (Fig. 13, c).

The south entrance to Area a opens on to an avenue which can be traced to the sea; it is 3 ft . wide, paved, and has slabs at intervals. On either side of this principal entrance, and at 18 inches from it, is a low secondary palisade which extends for 12 ft . on either hand, parallel to the main wall. It is composed of small slabs alternating with blocks of tuff, and in each case there is set, near the termination, the base of a small image (Fig. 13, G).

A larger image lies some yards away, which is said to have been removed from the main court. It is 3 ft . 3 in . in height, exclusive of a triangular pedestal, which was apparently set into the ground. The last feature was also noted elsewhere (Fig. 13, F). It is nuch worn and the features are indistinguishable.

Marae Titiura (Fig. 12) is mainly remarkable for the small spaces already mentioned, partitioned off each side of the door. The sea side is banked up and paved and kept in place by parallel curbs made of small stones or of cut coral, no tuff has been used. Beyond the north-east corner are two parallel rows of slabs which were not accounted for.

Stone Statues of considerable size were found at Raivavae. Two images, known as " Moanaheiata" (no individual names could be found), stand in a copse about 400 yards from the landing place (Pl. XXII, A). One is a female, the other presumably a male figure. The former statue, which faces due north, is 7 ft .3 in . in height, in 'addition to which it rests on a small pedestal ; the girth round the body is 9 ft .8 in . The male figure, which is not quite so accurately oriented, ${ }^{1}$ is buried to the ankles and surrounded by a few stones : the height above ground is 6 ft .6 in., and the extreme girth 7 ft .10 in .

The statues form at present no part of any structure, but there are remains of a platform and marae about 20 yards away, from which, it is possible, they may have been removed. Those images are within 150 yards of the main church of the island, which presumably is the one where, according to Ellis, the idols were turned into seats or benches, and it is extraordinary that they should have escaped demolition. This church has now been wrecked by a hurricane, but no remains were obvious among the débris.

Another statue lies about a hundred yards from the village, to the sea side of the main track. Its greatest height is 4 ft .10 in .: its most interesting feature is a

[^2]flattened boss over the occiput, raised $1 \frac{3}{4}$ in. above the surface and 7 in . in diameter. The same feature was noticed on the head carved on the sedilla near Marae Pomoarau.

Near Marae Purepo, in the centre of the island, were found fragments of four or five small squatting figures, originally about 2 ft . high. All save one have had legs, and all are now headless ; one separate head was discovered. The back of one bore an interesting design (Fig. 13, e). The larger statue at Marae Pomoarau has been mentioned. With the exception of the small bases at the same place no statues were


FIG. 12.-MARAE TITIURA, RAIVAVAE.
found in the marae, though Ellis states that, in his time, one temple had no less than twenty large stone figures.

Folklore was outside our sphere in the time at our command ; but, so far as we could gather, here, as elsewhere in the group, little or nothing is left in the way of knowledge of the past.

Two geographical names at Raivavae were, however, noted with some interest. One island with two remarkable peaks, said to be the work of " the devil," is called "Hotu Atua," recalling "Hotu Matua" of Easter Island legend ; while one of the principal peaks is known as "Hiro," who was god of the sky there, and was worshipped on its highest mountain.


FIG. 13.-JOTTINGS (FROM MEMORY AND A ROUGH NOTE-BOOK).
(a) \Marae Unurau, entrance, interior aspect.
(b) Marae Unurau, part of avenue of approach.
(c) Wrought stones in proximity to Marae Pomoarau, believed to be foundations of a house.
(d) Wrought stone near Marae Unurau, believed to be a seat.
(e) Design on back of small image at Marae Purepo.
( $f$ ) Image near Marae Pomoarau, showing triangular base.
(g) Entrance to Marae Pomoarau, exterior.

The statues of Raivavae, the only place in the Austral Group where such were ound, resemble those of Easter Island in being made of stone and having the hands in front of the body. Save, however, for these elementary facts, they bear no relationship either in conception, design, or workmanship to those on that island. The marae of the Austral Islands are also, as will have been seen, wholly dissimilar, both from their fellows in the Society Group and from the $A h u$ of Easter Island.

It is satisfactory to know that the Austral Group is among those claiming the attention of the scientific mission from the Bishop Museum of Honoludu, and the material at the disposal of the latter will render their report of great interest.

## Rapa-iti.

Rapa lies nearly 200 miles south-east of Raivavae, and forms a prolongation of the Austral Islands ; its shape, however, is unique. It is a high, round island, indented by bays, the whole of whose centre is occupied by an arm of the sea known as the Bay of Ahurei. It consists, therefore, of a chain of mountains, circular save for the opening on the eastern side, and of its radiating spurs. We lay in the central bay for ten days-September 25th to October 5th-but work and photography were somewhat hindered by the wet weather, which is characteristic of the place.

No marae or ceremonial structure of any kind was seen by us. That name is given to three monoliths which stand on the main bay, one at high-, and two at lowwater mark, which, it seems most probable, were boundary stones, or had reference to the fish ponds, which are numerous. We could gain information with regard to one building only, termed a marae, which was in one of the exterior bays we were unable to visit. It was said to be an insignificant enclosure, perhaps 20 ft . square, surrounded by a low wall about 2 ft .6 in . in height, and having at one end a semicircular platform of the same height. It is debatable whether the present inhabitants of Rapa really know what constitutes a marae.

The interest of the island lies in the works (palé), ${ }^{1}$ which crown the summits of the mountains, and which it was hoped might bear some possible relation to the $A h u$ of Easter Island (Pl. XXIV). There seems, however, no doubt that they are simply what tradition claims-the strongholds of different sections of the community. These works are found on practically every available height: some twenty were counted by us, but more exist. Eight, which seemed typical and which stood at an elevation varying from 840 ft . to nearly 1200 ft ., were visited ky our party, and the following deductions are drawn from them.

The rock is sedimentary volcanic, of various degrees of hardness, and the forts are in some cases little more than excavated terraces, of the nature of pure earthworks, but usually the natural summit of the hill has been turned into a round tower or keep. In such cases, the rock is sometimes utilized with no addition, or only a small amount of walling, but where this is not adequate the core has been faced, as in the one shown (Pls. XXII, B, and XXIII, B), with a dry masonry of basaltic fragments,

[^3]
A.-MARAE UMAREA, MOOREA, FROM THE SOUTH.

B.-Marae tooarai, mahaiatea, tahiti ; with inset showing remaining section of WALL.

NOTES ON SOME ARCHÆOLOGICAL REMAINS IN THE SOCIETY AND AUSTRAL ISLANDS.

(From A Missionary Voyage in the Ship "Duff," 1796-98.)
NOTES ON SOME ARCHEOLOGICAL REMAINS IN THE SOCIETY AND AUSTRAL ISLANDS.

A.-THE MARAE, TUBUAI, WEST SIDE.

b.-MARAE AT HARII, TUBUAI: INTERIOR, SHOWING N.W. CORNER AND REMAINS OF PAVEMENT.

NOTES ON SOME ARCHÆOLOGICAL REMAINS IN THE SOCIETY AND AUSTRAL ISLANDS.

A.-MARAE UNURAU, RAIVAVAE ; INTERIOR, SHOWING N.E. CORNER AND ENTRANCE ON N. SIDE.

B.-MARAE UNURAU, RAIVAVAE ; AVENUE OF APPROACH, LOOKING SOUTH.

NOTES ON SOME ARCH $\neq O L O G I C A L ~ R E M A I N S ~ I N ~ T H E ~ S O C I E T Y ~ A N D ~ A U S T R A L ~ I S L A N D S . ~$

a. - Statues, moanaheiata, raivavae.

B.-FORT OF PUKUTAKÉ-TAKÉ (EAST), RAPA-ITI, FROM THE NORTH, SHOWING DEFENSIVE DITCH.

Journal of the Royal Anthropological Institute, Vol. LI, 1921, Plate XXIII.

B.-FORT OF PUKUTAKÉ-TAKÉ (EAST), RAPA-ITI, FROM THE SOUTH.

NOTES ON SOME ARCHÆOLOGICAL REMAINS IN THE SOCIETY AND AUSTRAL ISLANDS.



RAPA-ITI, LOOKING NORTH-WEST ; TO SHOW THE POSITIONS OF TH

the forts. In the foreground is the fort of tevaitau and the bay of ahurei.
REMAINS IN THE SOCIETY AND AUSTRAL ISLANDS.

Journal of the Royal Anthropological Institute, Vol. LI, 1921, Plate XXIV.

the height of these towers being perhaps 6 ft . to 12 ft . or 14 ft ., but in all cases they are solid, and never contain apartments.

Below this tower, the hill-side has been wrought into a number of terraces or platforms at different levels, following the contour of the ground. Steep declivities have been rendered vervical, either simply by quarrying, or by building a facing wall and filling it with loose material, or by both methods. The upper surface of the area thus obtained has been levelled, and sometimes edged by a low breastwork. All platforms, except the highest, have thus their vertical sides, whose drop may range from 8 ft . to 20 ft ., while the fourth side consists of a wall which is one of the faces of its neighbouring terrace at a higher level. The result is a number of platforms, standing one below the other in various directions, and of all shapes and sizes. On one side of a fort, at least six of these tiers were counted. The more vulnerable aspect of the stronghold is sometimes defended by a ditch : a col may thus be cut through, leaving only a narrow portion to act as a bridge. The whole amount of ground covered by one of these forts was judged to vary from one to three acres.

It is an interesting question how far these works were the villages or permanent residences of the people who lived by the cultivation of the lower ground. On one of the passes, in addition to the levelled ground frequently found in such places, were certain stone enclosures, apparently connected with dwellings, and also a sunken area which may have been roofed in ; but on the terraces of the forts there were never found buildings, nor foundations of buildinge, nor even subterranean shelters worthy the name; the only depression in the ground had evidently been excavated for purposes of cooking. Huts made of grass only would, no doubt, have disappeared, but would be peculiarly unsuitable for so exposed a position. It seems most probable that the forts were designed only to serve as a refuge for the inhabitants of the valley below in case of sudden raid or emergency. They could be held for a considerable time against an enemy far superior in namber, but precluded by circumstances from carrying out a protracted siege.

The only work on Easter Island remotely resembling the forts of Rapa is the terraced hill on the east side of Anakena Bay (see Mystery of Easter Island, Fig. 97).

We had intended to remain and work on Rapa, but came to the conclusion that, under the circumstances, it would serve no very useful purpose. We were also influenced in arriving at this decision by the fact that Mr. and Mrs. Stokes, of the Bishop Museum, Honolulu, had already been on Rapa four months, doing most thorough work, not only archæologically, but also among the few inhabitants, in anthropoiogical measurement and folklore : the latter was, they stated, disappointing. They most kindly put all assistance at our disposal and offered to surrender the field if we cared to remain, but it seemed wiser to continue our way to Mangareva, which legend connects with Easter Island and which has not as yet been investigated.

## Mangareva, Gambier Islands,

November 2nd, 1921.


[^0]:    ${ }^{1}$ Madame Marau informs us that this is its correct name, the usual appellation-Mahaiatea -being that of the locality.
    ${ }^{2}$ The fence shown in the illustration by no means fulfils this description: it is apparently either additional to the wall, or more probably an invention of the artist in redrawing the picture.

[^1]:    ${ }^{1}$ In the fifth case its position, near the west end of the main court, may have been determined by the lie of the ground, a steep hill-side.
    ${ }^{2}$ This monolith, accidentally omitted from the plan, stood exactly in the centre of enclosure A.

[^2]:    ${ }^{1}$ On its back is painted, " 1898 Papeete erexit Lalang."

[^3]:    ${ }_{1}$ Two palé bear the same name of Pukutakétaké.

