Outlier Archaeology: Bellona. A Preliminary Report on Field Work and Radiocarbon Dates

PART I.—ARCHAEOLOGY

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OUTLIER ARCHAEOLOGY: BELLONA. A PRELIMINARY REPORT ON FIELD WORK AND RADIOCARBON DATES[1]

PART I.—ARCHAEOLOGY

By J. I. POULSEN*

WITHIN the last two decades an exceptionally wide range of research has been carried out in the two neighbouring Polynesian outliers in Melanesia, Rennell and Bellona (British Solomon Islands Protectorate). They were visited in 1951 by the Galathea Expedition, by the British Museum Expedition in 1953, by the Noona Dan Expedition in 1962, and subsequently by individual field workers for longer periods. The results won from some of this research promised to be of relevance to prehistoric studies, relating as they do to ethnography (Birket-Smith, 1956), to linguistics (Elbert, 1962, 1967), to traditional history and folklore (Elbert and Monberg, 1965), to religion (Monberg, 1966), and to geography in terms of subsistence systems (Christiansen, 1967), to mention only the most important sources. It was therefore felt attractive to add a new dimension to the research centred on these islands, and the first archaeological field work took place from the end of August to the beginning of November, 1968, with the author as sole professional participant. Rennell and Bellona form a cultural whole and work was limited to Bellona, the smaller and more accessible of the two and also the better mapped (Figure 1).

The basic task of this field work was to establish the archaeological potential of the island, but also to obtain preliminary data on some of the major problems of its prehistory, both general and specific: the date and nature of first and any subsequent settlement; the relationship of its settlement history to that of the South-west Pacific, and to Polynesia in particular, including the whole outlier problem. Of particular local interest was the question of the *hiti*, according to tradition, the first settlers of Rennell and Bellona. This and other questions raised problems of methodological interest as to how the archaeological evidence would compare with other evidence pertaining to Bellonese prehistory.

ENVIRONMENTAL AND ETHNOGRAPHIC BACKGROUND

Bellona is an emerged atoll 11·5 × 3 km., rimmed by old, densely bushed 60–80 m. high reefs, except at its north-westernmost tip. Though the sea offers an important source of food, permanent coastal settlement is only possible at a few places with sand

[1] Based on a joint paper delivered by Mr. Polach at the 8th Congress of the Far-Eastern Prehistory Association held in conjunction with the 28th International Congress of Orientalists, Canberra, January, 1971.

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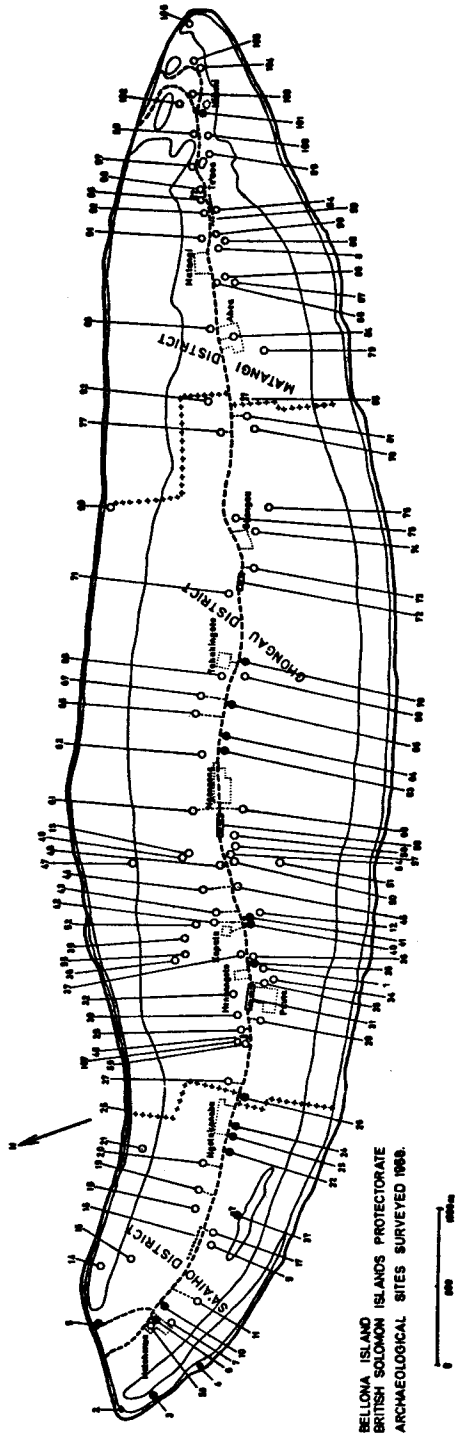

Figure 1.—Map of Bellona.

beaches and good access to the sea. The long flat fertile interior, the former lagoon bottom, now 8–16 m. above sea-level, occupies roughly half the island, and permanent habitation is restricted to this part.

Presently settlement is concentrated along the main trail through the middle of the flat interior, where the gardens extend continuously to the bush-covered limestone heights. People live in neatly organized villages, an institution introduced by the mission from A.D. 1949. Traditionally, however, people lived in their gardens, and homesteads and temples were scattered along or close to the main trail. The archaeological survey confirms this picture and it is interesting to note that the distribution of the sites traditionally ascribed to the *hiti* does not deviate from it.

Traditional history and ethnography provide further information. The homestead was constructed as a circular area surrounded by coconut palms with a dwelling house in the centre, sometimes on a very low earth mound, and an open space in front reserved, among other things, for ritual activities. Behind the house was a separate cooking shed with earth-oven, sometimes with other earth-ovens nearby, and the midden area was further to the rear. Pits for the fermentation and storage of food were dug in the homestead area (but also in the gardens). A narrow coconut palm-flanked path led to the main trail. The ancestral grave mounds were situated on either side of the entrance path near the house, men's graves in a front row nearest to the main trail, women's graves in a row behind. The oldest graves were usually placed nearest to the entrance path.

The temples were somewhat similarly organized, being usually encircled by a low earth wall which continued on both sides of the slightly depressed entrance path right out to the main trail, which was consistently situated to the north of the temple. On the north side of the main trail, opposite to the entrance path to the temple grounds, there would often be a semi-circular wall as a continuation and termination of this path. The god-house was as a rule built on a low earth mound and there was always an open space in front of it reserved for the religious ceremonies. Stone structures, earth-ovens and graves were never made on temple sites, and while habitation sites were always situated in gardens, the temples were always surrounded by bush (Hogbin, 1931: 179, pl. IA).

From the same sources, we know that the Bellonese homesteads, graves and temples were only little elaborated in terms of features and portable objects such as will normally survive to be recovered archaeologically, and also that re-occupation of homesteads frequently took place as a function of the horticultural system. The archaeological survey showed homestead sites to be generally characterized by flatness and shallowness. The indications thus are that re-occupation did not normally result in the accumulation of middens and the gradual growth of house mounds.

Field Work

Field work had three aspects:

(1) The surveying and mapping of sites, together with limited test digging, which occupied the period from the end of August to the end of September.

(2) The excavation of selected sites, from the end of September to the beginning of November.

(3) The record of surface artifacts. Small numbers of shell and stone adzes were or had previously been found, mainly by Bellonese.

Site Survey

On the basis of traditional history and genealogical dating, many of the surveyed sites could be sorted into three provisional chronological groups: those belonging to the *hiti*, to now extinct Bellonese clans, and to existing clans. All known sites belonging to the two first groups were visited, whereas only some of the much more numerous sites in the third group were included. Information on the localization and identification of the majority of sites was kindly provided by Torben Monberg and Sofus Christiansen of the University of Copenhagen. A total of about 100 sites was surveyed (Figure 1), and Table 1 gives a general idea of the kinds of monuments represented.

TABLE 1

Monuments Represented on Bellona

hiti sites:	
Large mounds[1] of stones and/or earth	22
Large ditch structures and pits	4
Stone walls flanking the roadside	2
Bellonese sites (those belonging to extinct clans in brackets):	
Habitation sites,[2] mostly with low grave mounds[3]	(9)+34=43
Temples[4]	(2)+13=15
Medium sized mounds[5]	(3)+ 2= 5
Probably common to *hiti* and Bellonese:	
Caves with habitation deposits in the bush	6
Accessible fresh water sources on the coast	3
	100

[1] Dimensions vary a great deal, but on average these mounds are 15–20 × 20–30 m. in groundplan and 50–100 cm. high.

[2] House mounds were rarely observed but measure 4–15 × 5–15 m. in area and 20–30 cm. in height.

[3] They are 4–7 m. in diameter and 20–30 cm. high.

[4] The godhouse mounds are 5–12 × 9–18 m. in groundplan and 20–30 cm. in height.

[5] They are 10–20 m. across and about 30 cm. high.

The potential of the sites varied considerably from the point of view of excavation. Most suitable were the *hiti* mounds, ditches and pits, which all seemed to promise stratigraphic and structural evidence. Next came the Bellonese grave mounds and the medium-sized mounds, and to some extent also the temples. The Bellonese habitation sites unfortunately promised to be archaeologically difficult. They proved generally to be poor in cultural deposits; house mounds and middens were rarely encountered and, when present, were usually small and thin, lacking stratification. With no trained personnel and only limited time and equipment, this group of sites was put lowest on the priority list. This is not to deny that, aided by the ethnographic evidence, settlement studies could be successfully pursued on Bellona, despite the archaeological poverty of the sites involved (cf. Green, 1970).

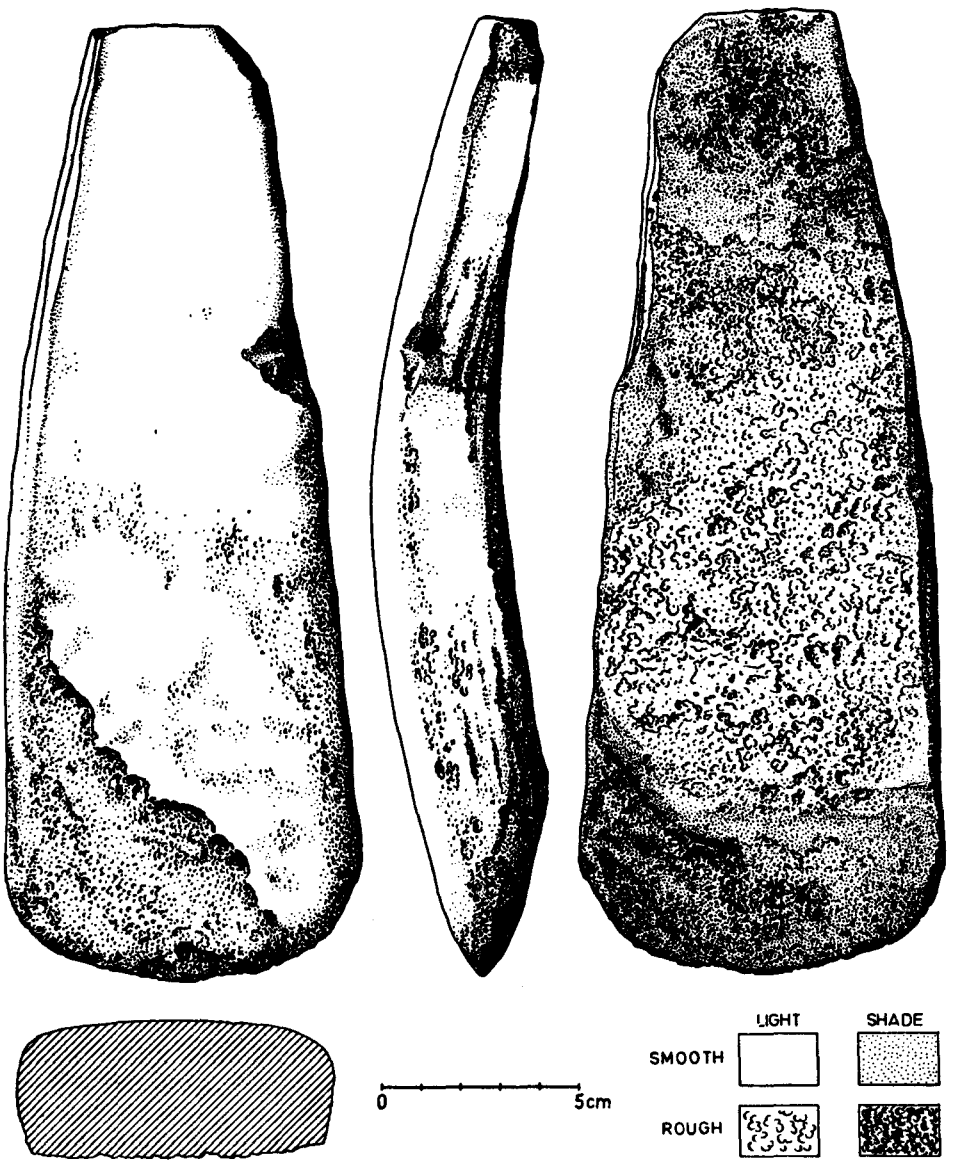

Figure 2.—Artifact of limestone, presumably an adze, excavated at Sungaghina, Be. 1.

Excavations

Seven sites were investigated by excavation, all by trenching, since time forbade more than a limited degree of area digging. Five of the sites belong to the *hiti* category and two to that of extinct Bellonese clans. This selection was made in terms both of the priorities of the research programme, which was oriented to the earlier prehistory of the island, and of archaeological potential. In fact, these considerations prompted the same choice since, as already noted, it was the traditionally oldest sites that promised to be most rewarding for excavation.

The sites are now described in the order of their investigation and are introduced by site name and number.

Sungaghina, Be. 1, is a habitation site situated 100 m. south of the main trail opposite the Council headquarters in Henuangoto. The site is a large, possibly natural, depression in the ground 18–20 m. across, 1·4 m. deep now but originally 2 m. deep, with limestone outcrop and yellow clay as the subsoil. A trench 1 m. wide was opened from the centre to the edge of the depression, exposing beneath 10–30 cm. of topsoil a fairly continuous, homogeneous cultural horizon, 30–90 cm. thick, with scattered charcoal and fragments of bone and limestone, and revealing two shallow pits and an earth-oven at the bottom. A possible artifact of limestone, rather like an adze (Figure 2), was found in a sand-filled concavity in the limestone bedrock in the centre of the depression.

Te Ngua o Hiti, Be. 46, " the pit of the *hiti* ", is a problematic monument adjoining the north side of the main trail between the villages of Pauta and Ngotokanaba. Today it looks like a right-angled ditch structure, 60 m. long to the north, 32 m. long to the west, 3–5 m. wide, and 30–80 cm. deep. To the north the ditch widens into a large, rounded depression 14 m. across and 1·85 m. deep, in the centre of which there is an artificial concrete-lined well 9 m. deep. A transverse trench 1·25 m. wide, opened in the western leg of the site, clearly showed that the ditch was artificial. At this spot it had been dug to a depth of 2·5 m. below ground surface. A 25–40 cm. thick topsoil, 75 cm. below ground level, covered the 1·5–1·75 m. deep almost sterile fill of the ditch. Halfway down the fill changed slightly in character, and at this point was a distinct flat fireplace.

In no place was the ditch flanked by a bank, so its purpose does not seem to have been defensive. The *hiti* are said to have dug it to get water, so to think in terms of something like an artificial taro swamp may not be totally erroneous. The site seems, however, on the evidence to be better interpreted as a series of quarry pits, continuous or not, where yellow clay was mined for the construction of the nearby Pongi's Mound, which is situated just 35 m. north-west of the western leg of the presumed quarry site (Figure 3).

Pongi's Mound, Be. 56, is a large *hiti* mound situated 15 m. north of and parallel with the main trail. It is an earth mound of irregularly round groundplan, 36×26 m. in dimensions and 90 cm. high. Its flat top measures 27×8–12 m. and its sloping sides meet the surrounding flat terrain outside without the intervention of an encircling ditch. A discontinuous trench of varying width, 0·5–1·5 m., was cut

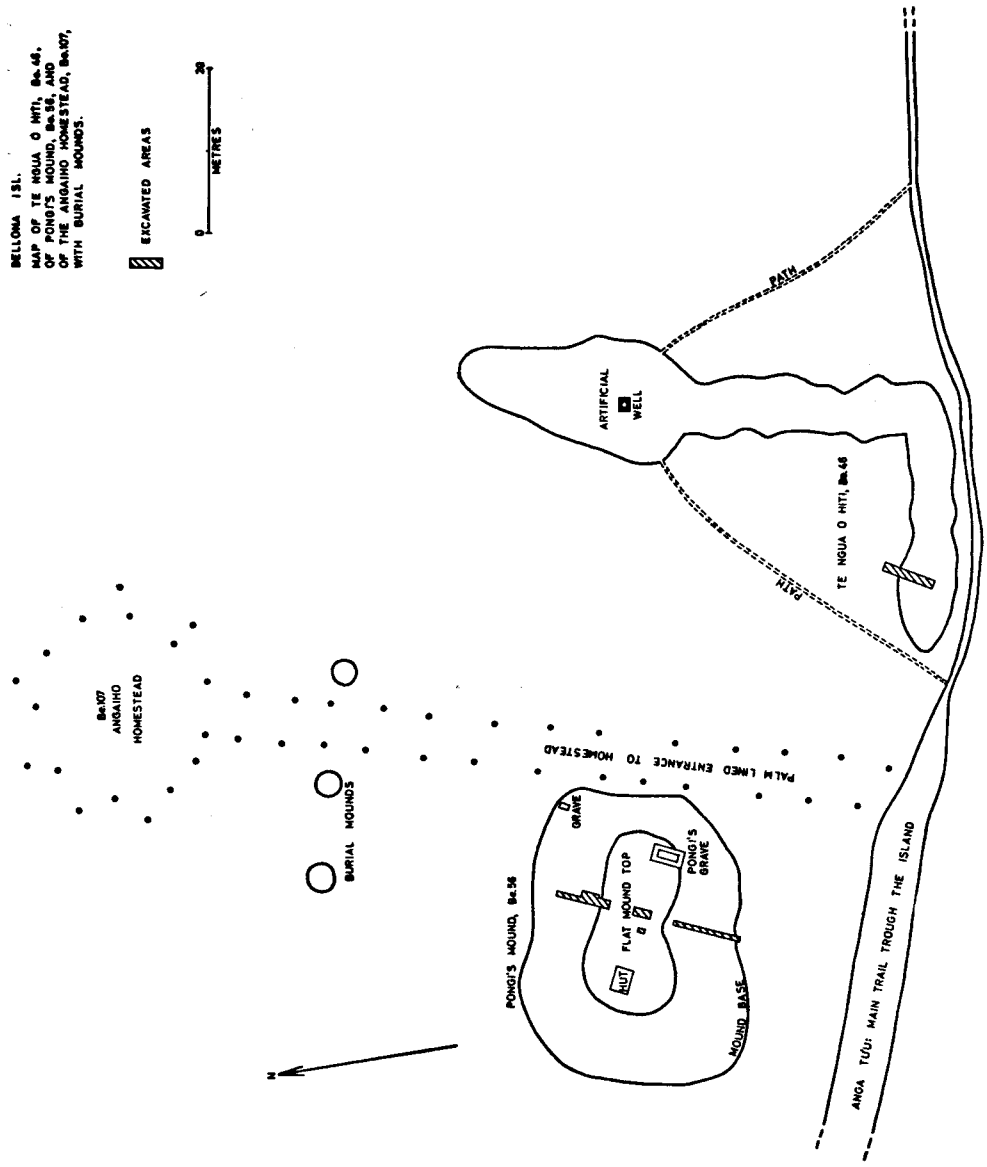

Figure 3.—Map of Te Ngua o Hiti, the " clay pits ", Be. 46, and Pongi's Mound, Be. 56.

across the mound from the southern to the northern foot with additional test pits beyond. It exposed two cultural horizons, the mound itself and a habitation site below.

The mound consisted of two distinct earth fills, clearly part of a continuous construction, a bright yellow clay at the top, reaching the surface of the mound over half the excavated area, and a thinner, black, clayish garden-soil type of material at the bottom. The maximum thickness of the mound in the centre was 1·4 m. At the junction between the two types of mound material two thin, flat fireplaces were observed, but apart from these no other structures could be referred to the mound horizon with certainty. In the centre of the flat summit area there were a few post-holes reaching into the yellow clay zone, but as we know that a large church stood here till 1955, area excavation is obviously required to determine whether they were an original part of the mound or not.

Excavation within and outside the mound demonstrated two things: there was no natural occurrence of the yellow clay material on the spot, nor was there the slightest sign of a ditch around the mound from which its fill could have been taken. The materials of the mound must have come from somewhere else, probably from the nearby site of Te Ngua o Hiti, where a restricted occurrence of the bright yellow clay is found. Though the black mound fill could have been taken from surrounding gardens, it could also have been uplifted from the quarry site before the attractive clay was reached. Further investigation is, however, required to prove conclusively that the two neighbouring sites are part of the same complex.

The mound sealed in a habitation horizon with three earth-ovens and a few post-holes dug into the dark brown clay subsoil. Cultural deposits as such were only observed in these holes, and they included bone, shell, oven stones of limestone, fragmentary shell adzes and unworked stone of foreign rock type. Various observations proved the construction of the mound to have been commenced immediately after the habitation activities had ceased.

Teutua, Be. 55, is another large earthen *hiti* mound, situated 400 m. north of the main trail between the villages of Pauta and Ngongona, some 800 m. east of Pongi's Mound. Of rectangular groundplan with rounded corners, it measures 36 × 30 m. and stands 1 m. above the flat ground outside the site. Its long axis parallel with the main trail, it is surrounded by a 4–7 m. wide and 60 cm. deep ditch, except at the north-west, where a kind of ramp leads up to the large flat summit area of the mound. A trench 1 m. wide and almost 20 m. long was opened from its centre to the flat ground beyond the ditch, and it was a surprise to discover that the story at Pongi's Mound was repeated here.

The earliest evidence was of habitation and consisted of three earth-ovens and many small holes, some of them possibly post-holes, all dug into the subsoil. Cultural deposits were only encountered in the earth-ovens, which contained numerous cooking stones of limestone, some bone fragments including human bone, and one small stone fragment of foreign rock with definite traces of polishing.

These activities had obviously been discontinued immediately prior to the construction of the mound, which involved first the depositing of a layer of black garden soil at the bottom and then, sharply divided from it, a layer of fairly bright yellow clay at the top. Five post-holes had been dug from the surface of the black bottom zone near each other, but in the narrow trench their distribution did not suggest any meaningful pattern. Various observations made it likely that the two mound zones reflect two phases of a single act of construction. The thin topsoil that concludes the sequence sealed in a large, deep post-hole dug from the surface of the yellow clay and reaching well into the black zone underneath. Though we definitely know that houses have stood on the mound top over the last three generations, this particular post-hole can in all probability be connected with the original function of the mound, involving some kind of house construction. Unfortunately, the original plan to undertake area excavations at this mound could not be implemented for lack of time.

The only essential difference between Teutua and Pongi's Mound is the presence at the former of an encircling ditch. In the excavated area this ditch was delimited inside and outside by heavy limestone bedrock reaching the present ground surface. Inside the ditch itself and immediately beyond both of these limestone formations the subsoil consisted of bright yellow clay identical with the clay of the upper zone of the mound fill. Obviously this material derives from the ditch which the mound builders had dug down to a depth of almost 2 m. to get enough of it. The black soil of the lower zone was definitely brought to the site and could have come from the ditch and/or from outside it. The ditch had been refilled, whether artificially and/or naturally is uncertain, and in the upper part of this fill was a large fireplace. The topsoil of the mound was continuous over the ditch and beyond.

Teutua is then one of three sites, Sungaghina and Te Ngua o Hiti being the other two, where either a localized occurrence of bright yellow clay is found or such clay is more accessible from the surface. For some reason this type of earth seems to have had a special attraction for the mound builders, who intentionally placed it uppermost and originally perhaps visible at the surface of their large earth mounds. But we cannot yet suggest for what purpose these economically exacting earthworks were undertaken.

Teghaighai, Be. 8, is one of the large *hiti* stone mounds of the Matangi district of eastern Bellona. The mound is situated in Matangi village just south of the main trail. One metre high, it is of slightly rhomboid ground plan, 27 × 17 m. in dimensions, with the long axis parallel with the main trail. To the south it terminates in a 12 m. long and 2–3 m. wide " spur " (a ramp ?). Only very limited excavation was done here, a 1·5 m. wide and 3·5 m. long trench being dug into the mound from its eastern edge. The predominant mound material was limestone, large pieces along the edge and through the bottom half, which rested on the limestone bedrock, with smaller pieces preponderant in the upper half and exclusive at the surface. Because none of the surface pieces was larger than a hand, the mound surface was fairly even, in striking contrast to the surrounding terrain which is characterized by many heavy

limestone outcrops typical of the Matangi district. Animal and human bone fragments were found in the earth material of the mound, some right down on the limestone bedrock, but there were no post-holes or fireplaces in the excavated area.

Tangakitonga, Be. 12, is a Bellonese habitation site situated between the villages of Pauta and Ngongona, 75 m. south of the main trail. It was first used by the extinct Sau' clan, and permission was obtained to investigate one of the burial mounds belonging exclusively to this clan. According to informants it was *tapu* to use the grave mounds of other clans for secondary burials, so the contents of such mounds should be of some antiquity.

A 1 m. wide trench, with extensions, was opened across this particular mound, called Tapuimata, and the few positive observations made showed it to conform to the pattern known from the ethnographic record. The mound was circular in ground plan, about 8 m. in diameter and 25 cm. high. It was made entirely of coral sand brought all the way from the beach. Only two definite graves were found, both small and shallow pits. But the numerous bone fragments, all small, found here and elsewhere in the mound centre, showed no apparent order.[2] Two types of grave goods were recovered, both well-known forms: teeth of flying fox and small, circular, flat and polished shell discs, both types perforated for suspension and serving as ornamental units. Two post-holes, observed in the coral sand area no doubt relate to the use of grave huts, also recorded ethnographically (Hogbin, 1931: 179, pl. IA).

Sikumango, Be. 53, is a Bellonese site located in Matahenua village. Because of the importance of this site in terms of its radiocarbon age and of the pottery found there, it is reported in somewhat more detail than the foregoing sites and a separate discussion of it follows later.

According to tradition, the Sikumango site and the surrounding area belonged exclusively to the extinct Tanga clan and investigation of it was undertaken because it promised to throw light on an earlier phase of Bellonese culture.

The field monument is situated at the eastern end of the level, grass-covered village square and appears as an evenly curved mound with smooth grassed surface devoid of any visible traces of disturbance. Circular in ground plan with a diameter of 20 m., it is 30 cm. high in the centre. A 10 m. long and 1 m. wide trench, opened from the centre to the western edge, showed the site to consist of two distinct earth layers with the subsoil below (Figure 4).

The top horizon=layer 1, or the capping of the mounded site, was a deposit of brownish-grey earth of the same kind as the topsoil in the village, i.e. consisting predominantly of phosphatic gravel and sand with a scatter of tiny limestone fragments and with a carbon (C) content of 3%. Except for the 3–4 m. gradually thicker stretch nearest the mound base, the topsoil also contained some small limestone fragments and a few larger limestone pieces as in the midden below, but none of these sizes were quite as abundant in the topsoil as in the midden. This observation may

[2] Human long bone was a much-sought-after material for the manufacture of weapon points, and graves were plundered to obtain it.

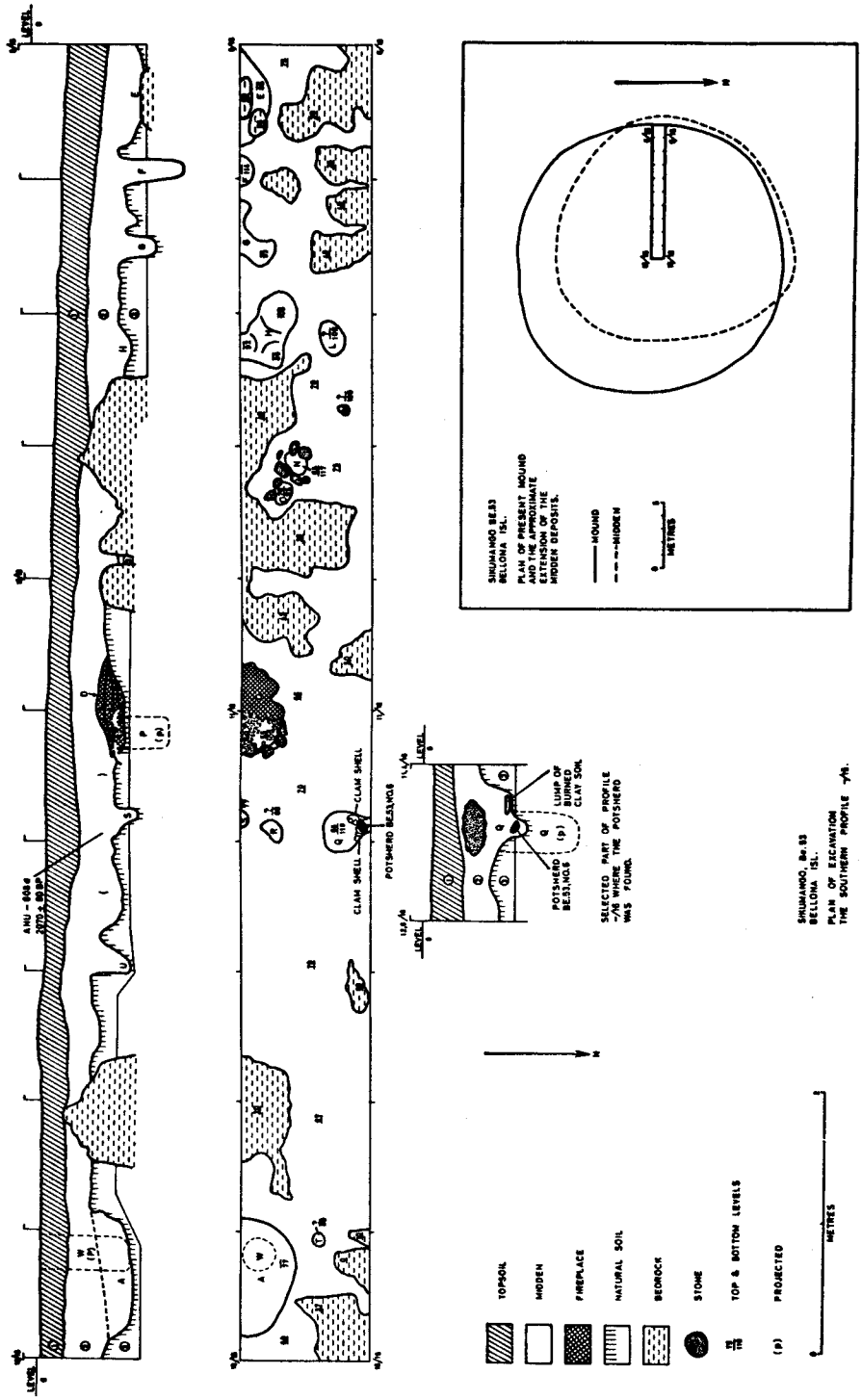

Figure 4.—Plan and sections of the Sikumango site, Be. 53.

indicate a common origin for both horizons. The estimated weight of the upper layer all over the site is 78 tons, of which inorganic matter takes up 94%, organic matter 6%.

This upper horizon was 15–20 cm. thick in the middle of the mound, thickening gradually to 25–30 cm. at the edges. A series of spade-holes dug along the main axes of the grid system showed the topsoil to be wider than the midden below to the east and south, at a maximum of 3–4 m. to the south-east (Figure 4, lower right-hand corner). This observation would alternatively indicate that the top horizon was deliberately added to the mounded midden to create the present evenly curved and rounded surface of the monument.

Since cultural evidence was absent and no structural features in terms of hole digging, etc., were noted here in the narrow trench (which took up just 3% of the site's total area of 314 m.^{2}) we have no conclusive data on the original function and date of the upper horizon. That its rather flattish surface has in the past been used for dwelling purposes is quite feasible, but the only post-hole encountered could be proven to relate to the church which stood on the site in A.D. 1951.

From a soil science point of view, however, there are also two possible ways to explain the origin of the upper horizon, though on existing evidence a decision unfortunately cannot be made.[3] It is either identical with a once upper zone of the midden below, which has thus undergone a severe biological change in the course of time. Or it is an entirely new earth layer added to the already existing mounded midden surface, something which can also only be accounted for by reference to cultural activity. The available archaeological evidence is not in itself conclusive either way and does not seem to exclude one or the other of the two explanations offered by the study of soils. In other words we just do not know whether the top horizon really represents a deliberately added mound capping of the site or not.

Totally sealed by and easily distinguishable from the upper horizon was a habitation horizon. The border between these two layers was not a sharp line but a narrow more or less undulating area of diffuse transitional nature. In its upper part the habitation horizon consisted of a continuous midden deposit *in situ*, =layer 2, 15–25 cm. thick, 40 cm. higher in the centre than at the edges, thus also forming a mounded monument. As shown by the same series of spade-holes mentioned above, it was of partly lesser extension than the top horizon (Figure 4). The estimated weight of the midden on the whole site is 50 tons, of which inorganic matter accounts for 86%, organic matter for 14%.

[3] For discussions about and information on the status of layer 1 I am most grateful to Mr. Kristian Dalsgaard, Department of Geography, University of Aarhus, Denmark. To quote his conclusion in full: "On the origin of layer 1 at Sikumango, Be. 53, Bellona Island. According to Nye and Greenland's models for the increase and decrease of organic material in soils under shifting cultivation (Nye and Greenland, 1960), a balance between supply and decomposition of the organic material should be reached after two to three hundred years. This balance seems to have been reached in layer 1 which contains 2·8% C, an amount very close to that found in profile one at a depth of 0 to 10 cm (2·9% C) and in profile eleven at a depth of 0 to 15 cm (3·5% C) (Dalsgaard, 1970: 111, table 4). Thus, it is not possible to determine from the amount of organic material in layer 1 whether it has been made from the highly carbonaceous layer 2 or from a layer added at a later date."

The midden was an unstratified, homogeneous deposit of sooty, blackish earth of phosphatic gravel and sand, close-packed with limestone fragments of various sizes, some shell fragments, and a small amount of cultural materials scattered throughout. The sooty character clearly ebbed out towards the edge, and the limestone occurrences disappeared or were absent from the last 3–4 m. before the edge, as was also the case in the top horizon. As for the status of this midden layer, it most probably represents a midden built up on the spot or perhaps alternatively the re-depositing of midden material taken from elsewhere to make an artificial mound. It is not possible to produce conclusive evidence for or against either of these alternatives. But as long as this is the case, the former one is being chosen here as the most likely one, as indeed it is the simplest and most acceptable interpretation.

In the lower part of the habitation horizon were other traces of occupational activity: five post-holes, one pit, and one earth-oven, all dug into the yellow-brown, gravelly and sandy clay subsoil between numerous heavy and extended limestone outcrops.

Pit A is a small and shallow depression, the fill of which is only slightly different in texture from the midden which seals it. A post-hole, W, from the 1951 church is presumed to have penetrated the fill to the base of the pit, though no shaft was observed in either profile or plan. The case can be argued only in terms of two brown glass sherds, one found in the topsoil in the profile just above pit A, the other on the bottom of the pit just outside the profile.

The earth-oven D consisted of a lens (b) of whitish grey ash, embedded in a matrix of grey ash (a), with the subsoil clay at its base burned red. The sooty nature of the midden material was especially conspicuous adjacent to the earth-oven, and post-hole P was entirely sealed by this earth-oven deposit.

Of the five definite post-holes encountered, three, N, O and P, had a stone-lined edge, one, F, was without such reinforcement, whilst the possible strengthening of the edge of post-hole Q, which, since it was exposed in the profile, could be definitely established as dug before the formation of the midden, merits special mention. Two 15–20 cm. fragments of clam shell, situated level with the subsoil surface, appeared to reinforce the edge. A large piece of pottery was found between these two shells. Below them a large piece of limestone was probably also part of the post-hole strengthening.

Various observations combine to justify the interpretation that all four types of features observed in the habitation horizon are in practical terms contemporaneous, in the sense that they refer to one event of occupation where the deposition of a limited midden continued the immediately previous use of the site for pit digging, cooking and some kind of house construction.

This occupation of the site also involved the use of shell adzes, shell spoons or scrapers, ornamental units of perforated flying fox teeth, imported Lapita pottery (Figure 5), as well as local limestone for cooking stones. Some 20 stones of foreign rock types may reflect manufacture of stone cutting tools, whilst waste products

may have been used for cooking stones. The midden and the holes also contained shell of marine species, together with bone fragments of man, whale or dolphin or porpoise, fish, green turtle, 130 cm.-long monitor lizard, bird, rat, flying fox, and possibly also of pig, dog and chicken.[4]

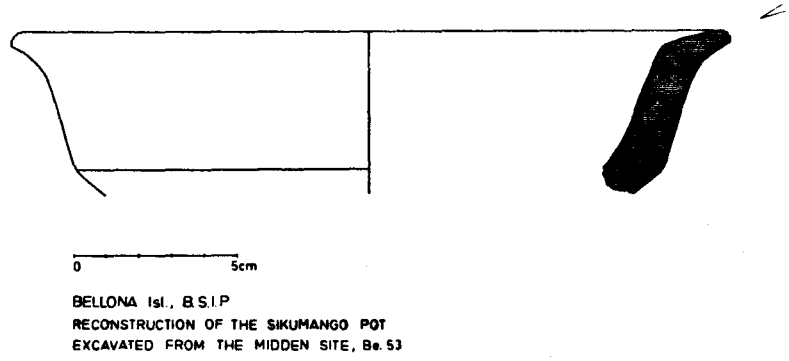

Figure 5.—Reconstruction of the Lapita pot from Sikumango, Be. 53.

Radiocarbon Dates

1. K–1600. 160±100 B.P. (A.D. 1790). Charcoal from fireplace A in the ditch fill of Te Ngua o Hiti, Be. 46. This date must be disregarded in the present context, where we are not concerned with the subsequent history of the abandoned clay pits.[5]

2. K–1595. 660±100 B.P (A.D. 1290). Combined charcoal samples from pits A and B at Sungaghina, Be. 1.

3. K–1597. 740±100 B.P. (A.D. 1210). Charcoal from fireplace V in the ditch fill at Teutua, Be. 55.

4. K–1598. 900±100 B.P. (A.D. 1050). Charcoal from earth-oven C in the habitation horizon at Pongi's Mound, Be. 56.

5. K–1596. 1060±100 B.P. (A.D. 890). Charcoal from earth-oven AE in the habitation horizon at Teutua, Be. 55.

6. K–1599. 1470±100 B.P. (A.D. 480). Charcoal from earth-oven F in the habitation horizon at Pongi's Mound, Be. 56.

7. ANU–608d. 2070±80 B.P. (120 B.C.). Sample of sooty midden soil taken from the midden deposit east of and adjacent to earth-oven D at Sikumango, Be. 53 (Figure 4). This date was obtained on the basis of currently available soil dating techniques now applied for the first time in an archaeological context. The process is described by Mr. H. A. Polach in the second part of this article.

[4] I am most grateful to Mr. Leslie Cram, Melton Mowbray, England, for this preliminary information. Mr. Cram is currently working on the excavated fauna from Bellona.

[5] The implications of the recent date in respect of soil formation and of various possible cultural activities subsequent to the original use of the site for clay quarrying constitute a very complicated problem. The Copenhagen Radiocarbon Dating Laboratory remarked on the submitted sample that owing to its smallness (5 gr.) it had to be looked upon with reservation.

There is good relationship between the dates for 2–5 above even at 1 standard deviation (S.D.), showing the use of the so-called *hiti* sites, Be. 1, Be. 55, and Be. 56, to fall in the centuries around A.D. 1000. Unfortunately there is no agreement between Nos. 4 and 6 which derive from earth-ovens 10 m. apart in the same archaeological horizon at Pongi's Mound. On present evidence No. 4 is the more acceptable because of its better agreement with dates from similar sites with similar histories. The aberrant date of No. 6 may be best explained in terms of very old wood making up the sample. We know from tradition that heavy house posts and canoes were often made from ancient trees from the dense bush of the limestone heights of the island.

The age of No. 7 from the Sikumango midden is absolutely earlier than all the other dates obtained, taking the prehistory of the island back at least around the beginning of the Christian era. The unexpected discovery of pottery in this midden made it most desirable to get a radiocarbon date, but the only material available was the sooty soil of the midden itself. It was fortunate that the A.N.U. laboratory was involved in a research programme of dating material of this kind.

In the context of dating, some reference to extant Bellonese genealogies is required. They comprise 23 generations back to the settlement of the island by the ancestors of the present-day Bellonese people (Elbert and Monberg, 1965: 52–53). This immigration accordingly took place some 700 years ago, so that the 13th century A.D. should mark the approximate boundary between the previous *hiti* settlement and the arrival of the Bellonese newcomers. We have two radiocarbon dates from this time, Nos. 2 and 3 above, but the sites concerned are allegedly *hiti* and not Bellonese, though feasibly the two peoples could have co-existed in the island for a while. The only radiocarbon date for a traditionally Bellonese site is No. 7 and, according to tradition, this is more than a millennium too old to refer to Bellonese culture. The conflict may be more apparent than real in view of the uncertainty characterizing the traditional knowledge of the earliest generations (Elbert and Monberg, 1965: 52–53, 60–61; also pers. comm. T. Monberg). These circumstances make it reasonable to believe that the beginning of the specifically Bellonese settlement could easily be considerably older than A.D. 1300 as maintained by tradition, and could well be represented by the Sikumango midden evidence. We may further note how from linguistic evidence it is possible to suggest that Bellonese settlement began some 1,500 years ago, that is around the 5th century A.D. (Elbert, 1967: 283, 285).

Sikumango and Its Pottery

The Sikumango site, Be. 53, which provided the oldest date and the only pottery, is located in Matahenua village, the most westerly on the island and close to the best access to the sea. According to tradition this area, called Ngabenga, had been neither cultivated nor inhabited for a long time before the acceptance of Christianity in 1938. The village was in fact established only in 1951, when a church was also built (the one which had stood on the Sikumango mound). The Ngabenga area was of the

utmost sacredness to the Bellonese because their two only stone gods were placed here, at a spot some 50 m. north of Sikumango. Only one Bellonese clan had ever lived at Ngabenga and cultivated land there. This was the extinct Tanga clan, one of the eight immigrant clans, though another of these, the Ngoha clan, also extinct, may have previously lived "near the two black stones" (Elbert and Monberg, 1965: 177). Not even a fragmentary genealogy is preserved for the Tanga clan (Elbert and Monberg, 1965: 61), a reasonable indication that a long time has elapsed since it died out, because of war and hunger. Ever since this happened, and because of the presence of the very sacred stone gods who remained in Ngabenga till 1938 when they were demolished by the islanders, nobody dared to live or cultivate the land there. Only people of the Iho clan, who subsequently occupied the western district of the island, ventured into the area to dig wild yams, pick fruit and fell trees (Monberg, 1966: 45–48, fig. 6). The Iho people of Matahenua village report that when digging post-holes and pits in the recently established village they have sometimes found human bones and remains of old cooking fires, which they attribute to the Tanga people. They also consider the Sikumango site and a similar mound site, Tongabe, Be. 7, about 100 m. further south, the work of this long-extinct clan. It may be noted that the traditions make no reference to the *hiti* in connection with the Ngabenga area but relate every sign of settlement here to Bellonese culture, more specifically to the Tanga clan. The decision is taken here to accept this traditional information and see how it fits with other evidence concerning the Sikumango site.[6]

Let us look at the archaeological parallels, excavated and surveyed, to the Sikumango site features on Bellona. The moundedness of the site[7] is paralleled in a few similar, low medium-sized mounds, in the very low house mounds of habitation sites and temples, in the very small and low grave mounds, all Bellonese, as well as in the many generally large *hiti* mounds. Earth-ovens (the Polynesian *'umu*) and the simple, narrow and moderately deep post-holes were observed also in Pongi's Mound and Teutua, though stone-lined holes are exclusive to Sikumango. Common to this and Sungaghina are earth-ovens and shallow rounded pits. A proper substantial kitchen midden was only recorded for a few other habitation sites, all Bellonese. And all the structural features found at Sikumango are represented in the ethnographical record: the low mound, the midden, the post-holes (even stone-lined), the pits, and the earth-oven.

As regards portable artifacts, Sikumango shares shell adzes of identical type and the use of imported stone with Pongi's Mound and Teutua, and perforated flying fox teeth as ornamental units with the grave mound at Tangakitonga. Shell spoons were not excavated from other sites, but all the items mentioned are also in the ethnographic record for Bellona, and most of them are present among the archaeological surface finds.

[6] The existing evidence seems in any case to be inadequate for serious theoretical discussion of subtle relations between tradition and the stratigraphy at Sikumango. Does tradition only record visible features or can it refer to hidden features instead, or as well?

[7] Dependent on the alternative interpretations of the stratigraphy of the site, see pp. 193-6.

The total material referred to admittedly is small and the points of similarity sometimes of a general nature. Nevertheless, the Sikumango sites do not appear to deviate seriously either from the archaeological record or—and this is quite important—from the ethnographic record. Fitting well with this latter observation is the abovementioned traditional information that the site belongs to Bellonese culture. This truly Bellonese site is thus unusual in two respects only: its antiquity and its pottery.

The pottery in question consists of a mere handful of six sherds, five small ones found bottommost in the midden west of post-hole Q, and a large rim sherd found in the top of the fill of post-hole Q (Figure 4), securely sealed in by the midden deposit. None of them shows sign of decoration. In material, colour and texture, the sherds are identical, so that there is every likelihood they all come from the same pot. The big rim sherd allows this pot to be reconstructed (Figure 5) as a shallow bowl or dish with strongly everted rim whose sides converge to a slightly damaged but probably rounded lip. The bowl had a shoulder of moderate angle, but the form of the base cannot be established. The mouth of the vessel was 23 cm. in diameter and its height is estimated to have been 6–8 cm. The surface colour inside and out is a dark slightly reddish-brown, possibly owing to polishing rather than to a slip. The paste is of a lighter brownish-red colour and is tempered with various minerals such as olivine, pyroxene, plagioclase, and magnetite, all foreign to Bellona (and Rennell), proving that the pot (or at least the tempering material !) represents an importation. A small amount of sherd temper has also been observed in the thin section.[8]

A fair parallel to the rim sherd is on record for Emae in the New Hebrides (MacLachlan, 1939 : 53, fig. 38). Its cultural status has not been determined, but it looks like Lapita. However, from the point of view of texture, surface finish and colour, and also of pot form including rim details, the Bellona material could very easily be lost in excavated collections of Lapita ware from Tonga (Poulsen, 1967 : figs. 58 : 1, 59 : 2, 65 (type 4) and 66 : 12). Moreover, parallels for the vessel can also be quoted from Lapita contexts on Watom Island, New Britain (Specht, 1968 : 127–28) and Fiji (Golson, 1969 : 33–34). These overseas examples differ slightly in that their rims are more strongly everted than on the Sikumango specimen, often to the point of being horizontal. Specht's Buka style of pottery includes some general points of similarity with the Sikumango pot but differs in most other respects (J. R. Specht, The Australian Museum, Sydney, pers. comm.). In the meantime Lapita-related pottery has been reported from excavations on Santa Ana Island in the Solomons (Specht, pers. comm.) and classic Lapita from Santa Cruz (R. C. Green, War Memorial Museum, Auckland, pers. comm.), thus establishing Lapita presence in central as well as in northern and southern Melanesia.

We may now compare the age of this Lapita sherd on Bellona, 120±80 B.C,. a date for the midden where it was found, with the dates for Lapita in the Western

[8] The petrological analysis of the pottery and also of all stone materials collected is currently being undertaken by Mr. K. Thamdrup, Department of Geology, University of Aarhus.

Pacific. These cover a long time-span from 1290 to 350 B.C., possibly up to 70 B.C. (Shutler, 1971: 15–16; cf. Golson, 1971: 74–76). The possible A.D. status of Lapita on Malo Island in the New Hebrides awaits validation (Golson, 1971: 75), while the Tongan A.D. dates for Lapita (Poulsen, 1967: 148–55) have now been questioned (Groube, 1971). Whatever the origin of Lapita in Bellona, a date for it of 2000 years or more is expectable, so that the age given by ANU–608d of 2070±80 B.P. is highly appropriate.

How the pottery found its way to Bellona,[9] whether as part of the cultural equipment of the earliest settlers or as a trade item after settlement, it is impossible to say. In connection with the first of these two alternatives, we may recall that in the Marquesas a small amount of pottery has been found restricted to the earliest settlement phase, though here the pottery in question was locally made (Sinoto, 1970: 113–15). The only thing we can be certain about with the Bellona pottery is that it was not made on the island, but we shall need much more evidence about the regional styles of Lapita in the western Pacific and their dates, as well as of the mineral constituents used in their manufacture (cf. Dickinson and Shutler, 1968, 1971) before we can tie down the point of origin of the Bellona sherds.

At this point we should bear in mind the traditional claim for an East Uvean origin, or at least connection, for the Bellonese ancestors (Elbert and Monberg, 1965: 173–99; Elbert, 1967: 283–85). Uvea is as yet archaeologically unexplored but it lies near to the classic Lapita areas of Fiji and Tonga.

Bayard's conclusions on the cultural relationships of the Polynesian outliers, as reported and reviewed by Green (1966: 8–9, 13), would make western Polynesia the source area for all of them. Rennell and Bellona would be linguistically an early separation, though later than proto-Tongan and related languages (cf. Green, 1966: 34). We may recall in this connection, however, that the prehistoric pottery of Samoa, where the ceramic phase is restricted to a few centuries round the birth of Christ, is claimed as Lapita-derived and as including the vessel type to which the Sikumango pot belongs (type 4 of Poulsen, 1967; Golson, 1971: 70–71).

Summing up our present knowledge of the Sikumango site, its cultural status is undoubtedly Bellonese. All features of the site are matchable in the ethnographic record, except for the pottery. Traditional history refers the site as a whole to Bellonese culture in general and specifically to the extinct Tanga clan.[10] Moreover, its Lapita pottery indicates early links with western Polynesia, where Lapita is interpreted culturally as Polynesian (e.g. Poulsen, 1967; Golson, 1971; Groube, 1971). The same source area is also suggested by the linguistic evidence for Bellona and Rennell. In the light of the radiocarbon date for Sikumango of 2070 B.P., both

[9] Since the 1968 field work more pottery has been found on Bellona, excavated from another site in the Matahenua village area by Miss Pernille Monberg in late 1971 (Torben Monberg, pers. comm.).

[10] It is a question whether we have serious reason to reject categorically this information on present evidence because a time span of no less than 2,000 years is involved. Tradition possibly cannot cover such a long period of time, not even recalling the paramount importance of the Ngabenga area in the traditional history of Rennell and Bellona.

these things have some bearing on the Polynesian migration to Bellona in which the Tanga clan participated and of which the Sikumango site is a potential representative.

Archaeology and the *Hiti* Traditions

The solution of problems in the prehistory of Bellona and of its sister island Rennell, is, as elsewhere, dependent on the concurrence of evidence from many disciplines and various sources. We may conclude this report of the first archaeological results from Bellona[11] by looking at one aspect of this question; the relationship between the archaeological and the traditional evidence on the settlement history of the island. Essentially, this comes down to a consideration of the *hiti* phenomenon. The bulk of existing evidence on this is rather appreciable and cannot really be rejected without serious consideration.

According to tradition, Rennell and Bellona were already settled when the ancestors of the present-day inhabitants arrived (Elbert, 1962: 28; Elbert and Monberg, 1965: chap. 9; Monberg, 1966: chap. 9 and p. 118). The two peoples were different, but the origin of the *hiti*, the first settlers, is unknown. Tradition offers information about their physical appearance and psychological characteristics and about their material culture, both in terms of constructional activities and of gardening and fishing techniques, the skills of which they taught the newcomers. In the beginning the relationship between the two peoples was of a friendly nature, but subsequent conflict eventually led to the extermination of the *hiti* by the others. Some *hiti* seem, however, to have survived to live an outcast's life in the bush, though perhaps of a rather mythical character, of which there are many tales. The traditions have their parallels in Polynesia proper, where the more or less mythical peoples concerned are called *menehune* (cf. Buck, 1960: 61–65; Luomala, 1951).

On the basis of ethnography, it is possible to see the *hiti* as a real people and not just a mythical creation without historical validity. This is provided the *hiti* can be defined as Melanesian (Birket-Smith, 1956: 24, 143–45, 207). Ethnography can document so-called Melanesian elements in the present culture of the islands, but lacking time depth, it cannot readily distinguish the source of such elements, whether they are earlier than, related with, or indeed subsequent to the traditional Polynesian settlement.

From the study of religion and mythology it cannot be established whether or not the *hiti* represent originally real people incorporated into folklore, but they certainly constituted an important class of supernaturals on Rennell and Bellona (Monberg, 1966: chap. 9).

The linguistic situation is interesting in that non-Polynesian elements such as the phonemes /*gh*/ and /*l*/, plus an essential part of the lexicon of the present language of the two islands, have clearly been assimilated from an alien source, probably Melanesian, inside or outside Rennell and Bellona. Linguistics cannot say as yet whether this source is to be found in the original settlement of the islands by *hiti*

[11] A full report on the prehistoric Bellona materials is in preparation.

or at some point along the route of migration of the present inhabitants, though the tendency seems to be in favour of the first alternative. This being the case, the *hiti* would not be Polynesian, but rather, though nowhere explicitly stated, Melanesian (Elbert, 1962: 28–29; 1967: 281–82).

Finally, certain elements in the present subsistence system appear to reflect foreign influence (S. Christiansen, Department of Geography, University of Copenhagen, pers. comm.), though the observations from which the statement derives are not themselves able to suggest the sources of the influences involved. However, they testify, with the other investigations mentioned, to the presence of allegedly non-Polynesian elements in Rennellese-Bellonese culture, one explanation of which might be the original settlement of the islands by *hiti* as suggested by the traditions.

The archaeological starting point for discussion of the problem is a considerable series of impressive field monuments, mainly mounds, all of which on traditional evidence are consistently referred to the *hiti* and never to the later Polynesian culture. On the basis of radiocarbon dating the few excavated examples in Bellona fall in the period 1060±100 B.P. to 660±100 B.P. Whoever made these constructions, they appear to represent chronologically a prelude to the traditionally recorded, 23-generation era beginning in the early second millennium A.D. and leading up to the present day.

Is it possible to define a *hiti* culture in its own right, or are the *hiti* sites in fact part of Bellonese prehistoric culture?

The background for this inquiry is Bellonese culture as we know it from the ethnographic record and from the island's traditional history. In the light of the ethnographic record it is also possible to identify many items of the archaeological record with Bellonese culture as a result of surveying, surface finds, and excavations. And the Sikumango site evidence is of course of crucial importance to this inquiry since, as shown in the foregoing, its cultural status in all reasonability can hardly be but Bellonese. The following brief listing then serves as an attempt to compare *hiti* and Bellonese materials.

Restricted to *hiti* contexts, we have the large mounds, the examples of clay quarry pits, and the large habitation site depression with its unusual adze-looking limestone artifact (Figure 2).

Restricted to Bellonese contexts—represented by the combined data from ethnography, tradition, archaeological surveying, surface finds and excavations—we have low house mounds, small and low grave mounds, medium-sized mounds (this is only a possibility for Sikumango[12]), kitchen middens, stone-lined post-holes, perforated flying fox teeth as ornamental units, shell spoons, and imported pottery (only for Sikumango).

[12] Cf. discussion of the Sikumango site stratigraphy on pp. 193-6, where attention is drawn to the uncertain interpretation of layer 1 as a real mound horizon or as originally an integral part of the midden, i.e. layer 2.

Shared by *hiti* and Bellonese contexts (as defined above), there is the very idea of mound construction (again this is only a possibility for Sikumango), the use of household and rubbish pits, of earth-ovens, of simple, narrow, moderately deep post-holes, of a specific type of shell adze made from small clam shells with the outside of the shell as the back of the adze (Davidson, 1968: 61), and the use of imported stone material.

An overlap between *hiti* and Bellonese materials thus seems to be substantial enough to suggest a common cultural background rather than an independent *hiti* culture. We may note that none of the specific *hiti* features is represented at Sikumango, which is located in the Ngabenga area, for which traditional reference to *hiti* is also entirely lacking.

However, the radiocarbon dates for Sikumango and for *hiti* sites make it hard to believe that a distinct *hiti* culture could have existed prior to or as an interruption of a truly Bellonese culture which, in its early stage, is represented at the Sikumango site, several hundred years older than any dated *hiti* site. We thus have good reasons to abandon the traditional idea of an independent, different and earlier *hiti* culture at least temporarily.

The existence of exclusive *hiti* and of exclusive Bellonese cultural features need not necessarily be irreconcilable with the hypothesis that *hiti* is part of Bellonese culture. The same view applies to the fact that in terms of field monuments the tradition distinguishes sharply and apparently without exceptions between sites of *hiti* types and sites of Bellonese types. Such disharmony is explainable by reference to dimensions such as sampling errors, distinct socio-cultural functions of sites and artifacts, and the inadequacy of tradition to keep memory of all events.

As for this latter dimension a number of the " aberrant " sites have on archaeological investigation proved to date beyond the period of 23 generations that is covered by the extant tradition. These older sites have thus fallen out of the record and have subsequently been ascribed to a people different from the Bellonese, i.e. the *hiti*, because the sites looked different from what was then usage, and this needed an explanation. In the interpretation of the evidence presented here it therefore seems as if some break or specific change in the traditional history of the island took place around 1300 A.D., unless it is sheer coincidence that the *hiti* sites seem to disappear from the record at the same time as the extant genealogies appear to begin.

The majority of *hiti* sites are large mounds. Mound sites are known from Tonga, some of them with ramps like that at the Teutua Mound, Be. 55 (e.g. McKern, 1929: 8–9), and from Samoa, where ramps when present tend to be internal (e.g. Green and Davidson, 1969: 15, 39–40, 69–90). This may support the idea that the *hiti* sites belong to the remoter ancestors of the Bellonese themselves.

Conclusions

The question now suggests itself whether we may not already be able to recognize the faint outlines of a sequence for Bellona, beginning with a Lapita-affiliated settle-

ment some 2,000 years ago, followed by a phase characterized by truly prehistoric types of earthwork, those investigated falling in the centuries around A.D. 1000, and concluded by the latest phase illuminated by the extant traditional record of 23 generations covering some 700 years. This sequence would represent the developmental stages of one cultural tradition which is fundamentally Bellonese throughout and, according to ethnography (Birket-Smith, 1956: 138–207), linguistics and archaeology, in origin Polynesian.

This explanation would mean that the *hiti* to whom the large earthworks are traditionally assigned would simply belong among the remoter ancestors of the present-day Bellonese. This is not to deny the possibility of a Melanesian strain in the population and culture of Bellona—and Rennell—as indicated particularly by the linguistic evidence.

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