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FIELD SURVEY IN SAVAI'I, WESTERN SAMOA

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Under the auspices of the Auckland University Anthropology Department, a field survey of the island of Savai'i took place in 1965-66. Funds for the expedition were made available by the Bishop Museum. Full reports on the survey, which took place concurrently with archaeological research in the island of Upolu, will be published by the Bishop Museum; the following paper is a brief summary of the findings on Savai'i.

GENERAL TOPOGRAPHY:

The island is 47 miles by 27 miles, is broadly dome-shaped with a wide upland, but is not as deeply eroded as Upolu. Volcanic cones are numerous, the highest rising to 6,000 ft; there are probably 500 such cones (Kear and Wood 1959 : 49) some being prominent and steep whilst others are low because of subsequent burial by later lava flows.

Three historic lava flows have been recorded. The first, in about 1760, flowed above and west of the present village of Aopo. The second, 1902, was a relatively small flow in the same area. The third, 1905-11, located east of the other two, flowed north-east to the sea where it spread in a lagoonal area submerging parts of the village of Saleaula. An endeavour to relate signs of occupation to these lava flows was one of the objectives of the field survey.

Although stream beds are common in all parts of the island, the only substantial streams with permanent water are on the south-east side which is the subject of the field survey of Stuart Scott. Springs occur in the upper slopes, but the almost universal sources of water are springs which emerge from lava tunnels or other conduits near the coast. The coast is for the greater part lined with cliffs from 10 ft to 200 ft high. Low-lying

parts of the coast are, however, bordered by a narrow strip of coral sand; raised beaches, 5 ft above sea level, occur in these low-lying parts and on these the present villages are built. Such low-lying areas lie along the east coast, a small part of the mid-north coast, and an even smaller part of the west north coast, the western end of the island, and two small strips on the south coast. Virtually all the present-day occupation is confined to these strips of raised beaches.

Land Utilization:

The greater part of the island is in heavy bush with low scrub, bare flat ridges and flats over the historic lava flows. Coconut plantations are not as extensive as in Upolu and are scattered. The most extensive stands of coconut lie on the east coast, with further large areas on the north coast. Some recent bush felling has taken place and the clearings have bananas, cocoa, taro and young coconuts. The rate of regrowth of cut scrub and of weed is very rapid. The coconut appears to have been established long before European contact, as was the taro and breadfruit; but cocoa and banana were introduced in an endeavour to allow the Samoans to join the great flow of trade of the latter half of the nineteenth century.

A. C. S. Wright (1963 : 91-94) points out that "the agricultural cycle for taro, ta'amū and other staple food crops involved about two years of crop production, followed by an 8-10 year bush fallow. If a century of European agricultural activity has made so little impression on the traditional pattern of island agriculture, it is safe to assume that a somewhat similar pattern was carried on before the Europeans came. It is likely that a rather different land-use pattern - modified to suit the different environmental conditions - was in use in the interior settlements of ancient Samoa."

Legends:

Story-telling is very much a part of Samoan life but no serious attempt was made to collect legends or ethno-history. It was striking that most of the legends endeavoured to explain natural features of the landscape by some

form of personification, or by associating a legendary ancestor or mythical person with them. Many of the stories featured people from Fiji who came as fairies or princesses. In contrast to the legends, it was a universally accepted fact that Tongans had once occupied the coast and had forced the Samoans to retreat to the interior. It would also appear that Christianity has always been the religion of Samoa: any suggestion of other gods or mysteries before the coming of the Gospel was refuted. In contrast to New Zealand Maori, the Samoans do not appear to have any tradition of taboo extending back before the Gospel: prohibitions and ethics are all Christian in origin, and Calvinistic at that. Closer research into ethno-history may correct this impression, but this is as I found it whilst working and living with the people of the villages.

ARCHAEOLOGICAL FEATURES IN SAVAI'I:

Introduction:

Any exploration of Savai'i, and interpretation of features of occupation found, is made enormously difficult by the Samoan's sense of time. For most Samoans there is only one time - the immediate present. Apart from the stories and legends of the past, of which the great majority of the people have a great knowledge, there is no sense of history. Abandoned villages on plantations to which wide disused roads lead, may have no name or history of occupation; concentrations of house platforms in heavy bush are not known or recognised as villages of the past; adzes and large flakes of broken adzes lie around rock platforms of present-day houses unrecognized as being to'i ma'a (stones of the old people); features of obviously recent origin are said to be very old.

This is no criticism of the Samoans, but an introductory explanation to the difficulties of interpretation of archaeological field features. Apart from general statements about the time of the Tongans, it is impossible for Samoans to place any one feature in any sort of a time scale.

Another great difficulty is that present-day Samoans live today in very much the same way as they must have lived for centuries. There are

obvious European introductions such as iron tools, tinned food, and a semblance of commerce in copra and banana production, but the existence of the villagers still obviously depends very much on the growing and gathering of the foodstuffs - taro, breadfruit and ta'amū - upon which they have existed for centuries. Bonito fishing is carried out with a lure and hook which has its origins in eastern Polynesian antiquity. The houses are still built on platforms of stone, with surrounding courtyards of rough paving, such as the house sites found in heavy bush in the uplands. In fact, the immediate question raised by Savai'i was "where does prehistory end and history begin?" if one is to judge this solely from the surviving field monuments. For all these reasons my interpretation of these first findings is very circumspect; I have simply recorded in the hope that a greater knowledge of the island will allow firmer interpretations and conclusions.

The main objective of the survey was to determine as far as possible the areas with signs of prehistoric occupation. For this reason the entire coastline was rapidly explored and sample areas visited inland. Six small peaks were climbed on the hottest days available, and five of these were found to have signs of occupation. Altogether 25 areas around the island were recorded as prehistoric sites, but this does not include the south-east area covered by Stuart Scott.

Middens:

An exploration of the surface of as many beach fronts as possible showed, not surprisingly, evidence of former occupation in all parts of the island. The evidence noted was the presence of adzes, broken adzes and basalt flakes; beach boulders with signs of working on the surface were also taken as evidence.

The adzes have not yet been analysed, but the impression gained is that they have close affinities to Eastern Polynesian adzes. They are all of local fine-grained basalt, although no quarries were located. They ranged in size from small hand adzes to large hafted: the larger were found in the heavily forested Aopo area, and had been recently picked up in the field. All were polished only on the cutting edge. There were a large number of

broken adzes but also some flakes which had obviously been struck from cores and not simply from broken adzes: these have been classed as knives, although one of these was a very fine drill-point.

The worked beach boulders were of interest because they do not seem to have any counterpart in present-day use. Some were obviously hones for adzes (see Plate 1). Others had small bowl-shaped depressions which were said to be mortars for the preparation of anointing oil (see Plate 2) which was compounded from the pounding of several different fruits. One boulder had linear depressions which had clearly been worn by sharpening fishing spear points. No petroglyphs were found. The honing stones were usually small enough to be easily carried, but the boulders with circular bowls could not be moved singlehanded. In no instance was the boulder either used or reputed to have been used as a kava stone, although the possibility is a strong one. Two phallic stones were found on the north coast: one was actually mounted in concrete, although nobody was able to explain the significance of this dignity, nor of the stones themselves.

FIELD MONUMENTS:

1. Roadways and Walls.
2. Mounds.
3. House Platforms.
4. Terraces and Modified Hills.
5. Forts.
6. Caves.
7. Pits and Stone Heaps.
8. Villages.

1. Roadways and Walls:

The most easily detected field monuments are roadways and walls. Motor roadways are recent, the road around the island being completed only ten years ago. This road is kerbed only in parts. Stone walls occur both in association with roadways, and in forest and clearings. Unfortunately, it was not possible to apply R. A. Apple's (1965) typology with any clarity,

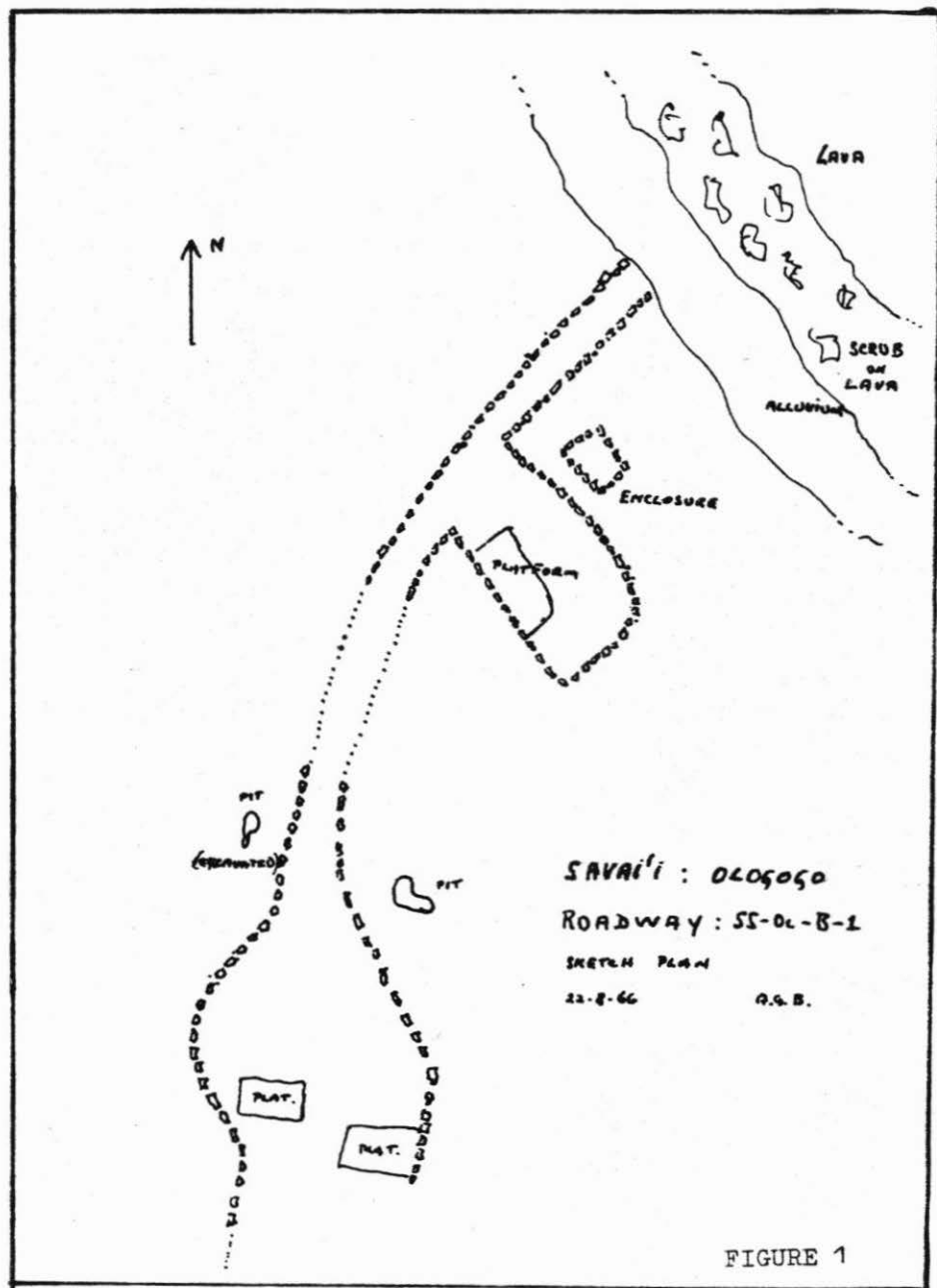


FIGURE 1

owing to the recent activity in motor transport, which has inspired the rebuilding of many inland roads connecting plantations with the coastal circular road. Furthermore, the hurricane of February 1966 had obliterated many of the trails of Type A and, although one of these was followed up inland Sato'alepai to abandoned villages in forest clearings, the trail itself was seldom clearly defined. The easy obliteration by fallen trees and the rapid rate of second growth combine to obscure all but the most frequented trails. It is possible that the most useful trail was ultimately converted to a motor track (type D), as has happened in many valley trails followed during the survey. The only Type Ae (stepping stones over lava) was discovered crossing the lava flow at inland Sato'alepai, and this trail was unfortunately historical, since the lava flowed 1905-11.

Most roadways were Apple Type AB and B, that is, wide enough to allow horse traffic, or wide enough for two horses and possibly a cart. Those discovered were walled (kerbed) - in fact, the presence of the kerb usually led to the discovery of the roadway. Recent motor road building in the valleys and on the ridges inland from the coast was found to terminate in earlier and narrower tracks, the kerbing of which had been simply widened to form the motor road.

A point of interest is that two roadways were found inland from the 1905 lava flow, both clearly being cut by the lava and both probably being continuations of existing roadways on the coastal side of the lava. Both were 12 ft wide and had eroded but substantial kerbing walls (see Plate 3). Flat clearings were associated with these roadways and large rock platforms occupied part of the clearings (see Figure 1).

Stone walls are present in great numbers. These vary from 1 ft high rough heaps to 4 ft high neatly made structures. They present a very difficult problem of interpretation because they are so difficult to trace out in full, and it is impossible to visualize the patterns they may form, owing to the dense undergrowth. The impression gained was that they nearly all represented a subdivision of the bush-cleared (or previously bush-cleared) land, and the more substantial ones probably were divisions between one village and the next. Walls were absent in the remoter of the inland

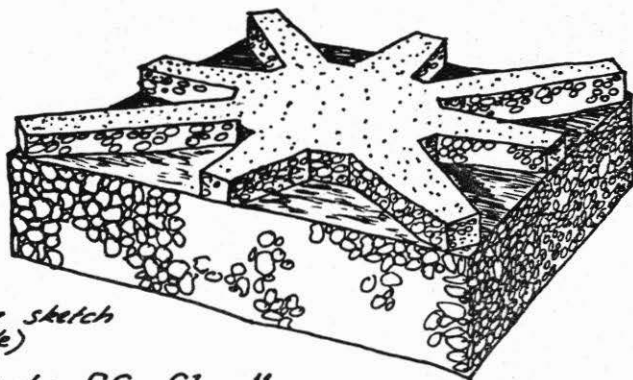
prehistoric villages, whilst the more recent abandoned villages often showed a sequence of wall-building, from low rambling walls to more substantial and straighter running structures. Ditches probably served the same purpose as walls, although they were not found as frequently. The bush clearing of one proto-historic village of inland Sapapali'i was traversed by a deep ditch which meandered throughout the house platforms as a continuation of the entrance pathway. A straight shallow ditch was found at another proto-historic village at Paia; this ran transversely across the ridge on which the village is situated, commencing at one edge of the narrow roadway; it did not completely cross the ridge and was placed in the middle of the village: clearly not a defensive feature.

The stone wall was often used to form an enclosure. Again there was some difficulty in their functional interpretation and in placing them in a time scale. Most of those noted were said to be pig-pens, and indeed at least one enclosure lies not far from each coastal village - although they do not enclose the ubiquitous pig except by accident. The more remote enclosures were said to be pa tonga: that is, a place of refuge either for, or from, the Tongans. The smaller enclosures are approximately 100 ft square and the larger may enclose up to an acre of land. Because enclosures are such a regular feature of both present and past villages, there must be some reasonable explanation for them. In the light of observation the suggestion is made that they enclosed areas in which sugar-cane was grown (for durable roof thatching) and the purpose of the walls was to keep the pigs out rather than in. Wright suggests (1963: 92) that these enclosures were for agriculture rather than husbandry or defence against a raiding enemy.

2. Mounds:

Two broad categories of mounds were discovered: stone mounds and soil mounds.

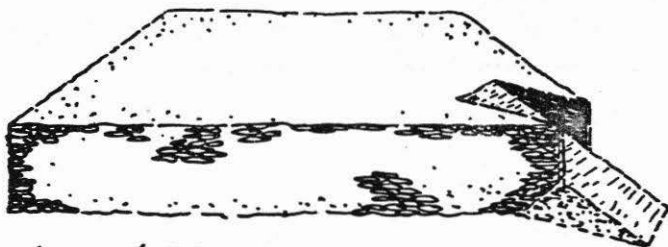
For convenience, stone mounds may be subdivided into large, small and "star" mounds. Large mounds are either square or rectangular and have a flat platform top of 100-200 ft square. The sides are not perpendicular



*perspective sketch
(not to scale)*

*Star Mound SS - S1 - 11
SALELOLOGA 28.12.65*

FIGURE 3



*perspective sketch
(not to scale)*

*Mound SS - S1 - 9
SALELOLOGA 28.12.65*

FIGURE 2

and rise to from 8 ft to over 12 ft. The top is seldom smooth, although one smoothly paved one was found. The majority of the large mounds were found on sloping ground, so that the downhill side was higher than the uphill in order to achieve a level top. They all had a regular form and this together with the level top made them a feature rather than just a heap of stones. They usually occurred in groups of three or more.

Small mounds - Into this category were placed those mounds of less than 100 sq. ft. area on top. They are also distinguished from house platforms because of their greater height in relation to that of the majority of platform mounds intended for houses. They may, however, be a special type of house platform, in which case the distinction may prove to be artificial. The height above the surrounding ground is usually 6-10 ft, the sides usually vertical (where not eroded) and the top paved with pebbles or with soil. A few were paved with the same smooth lava boulders as the substance of the mound. In some there was a well defined entrance ramp or two, cut into the mound and leading to the top (see Figure 2). As with the large stone mounds, these usually occurred in clusters and were associated with other features.

"Star" mounds - These rock mounds are different from the other two in that the plan is made up of points, rather than square or circular. (see Figure 3). They may have from five to nine points and so form a star, which seems to be the best descriptive term for this type of mound. The top is usually the rough stone substance of the mound, but one was filled with soil. The sides are vertical (where not eroded) and rise from 4-12 ft from the ground. In one instance the star form rose from an already substantial square foundation and the interstices of each point were smoothly paved.

Soil mounds - Only one isolated and unequivocal soil mound was found, at Paia on the north coast. The great concentration seen at the Vaialele Plantation in Upolu remains unique, although the Savai'i mound almost matches the size of the largest at Vaialele. It is at present occupied by houses (see Plate 4).

Although the purpose or function of any of the different types of

mounds is by no means clear, I have not interpreted them in the description as "pigeon" mounds which is the term used by a number of local informants and used by Golson (1957).

3. House Platforms:

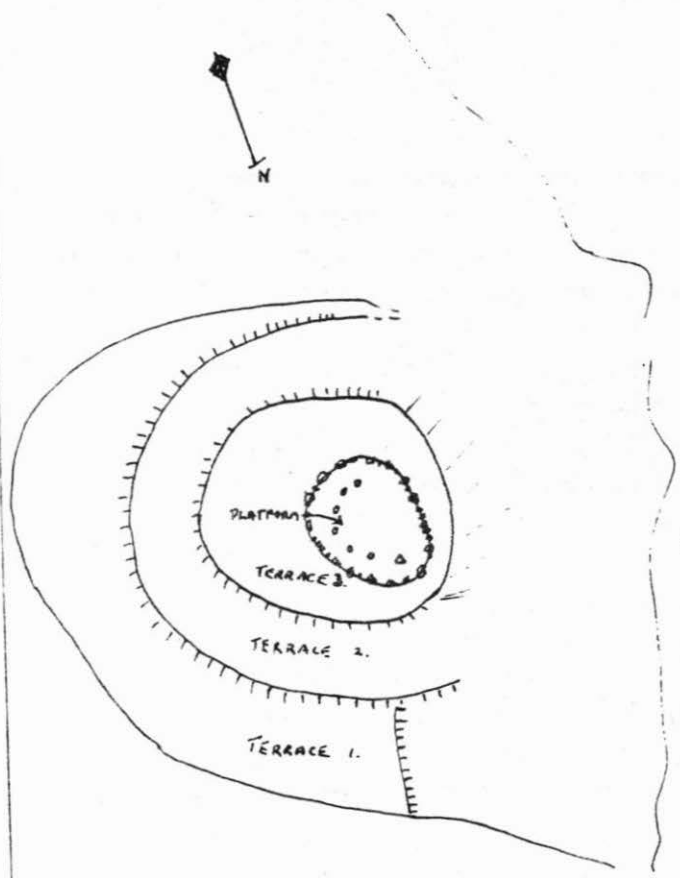
Into this category are placed the smaller, and lower, rock mounds. It was not easy to decide, when confronted with a flat raised stone mound covered in convolvulus, whether the structure was a small mound, a house platform or a terrace. The choice was narrowed when flat water-worn pebbles were found as paving, especially if an outline in larger smooth pebbles could be determined. House platforms and terraces usually occurred in clusters to form a village, but there were a few isolated platforms.

4. Terraces:

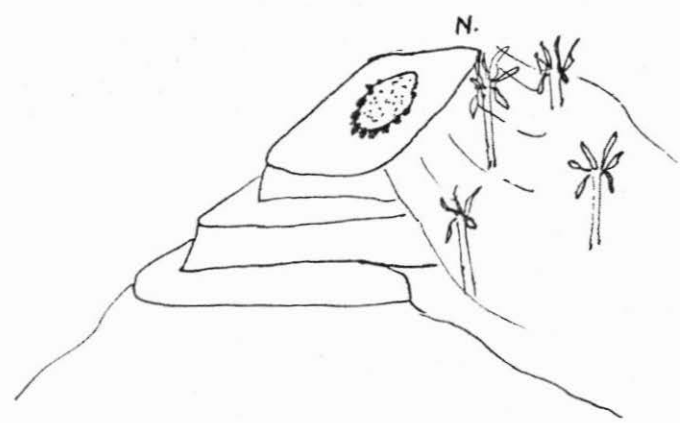
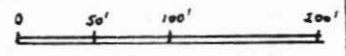
These were usually stone-scarped or made up entirely of stone, occurring on gentle slopes associated with house platforms as part of a village complex. Hills and small peaks were also modified by terracing and a levelling of the top to form a platform. Terracing, whether on gentle slopes or on hills, may indicate levelling for either living space or for agriculture, and there was no indication in the present survey which purpose was served. In none of the examples found could the terracing be said to have been designed primarily for defensive purposes (see Figure 4).

5. Forts:

Not a common feature of the Savai'i landscape, only four, possibly five, having been recorded. These all fall into the usual hill fort categories of headland, ridge and ridge peak forts. They are built from the soil by the formation of a ditch and bank, although the fifth possible fort recorded by Stuart Scott was surrounded by a stone wall. Isolated ditches and walls could not be regarded as defensive features since they were always open-ended ... it is more likely that the few discovered were old boundaries.



SCA. SAVAI'I.
SS-TU-1
TOASIVI
17-2-65



SS-TU-1.
PERSPECTIVE
M. T. S.

FIGURE 4

6. Caves:

The Calvinistic local people project a great deal of interest on to caves which, as lava tubes, are numerous in both islands. Most were said to have been occupied in the past but this was not confirmed by examination. Kear and Wood (1959: 22) discuss the formation and subsequent history of a lava tube and make it quite clear that Thomson (1921: 60-63) was mistaken in assuming that the ledge within the cave was a creation of the Samoans. Golson (1957) was unable to confirm the signs of occupation reported by Thomson in one famous cave on Upolu. Some lava tubes contained human remains but the state of disturbance by previous investigators prevented the collection of any data on prehistoric burial customs.

7. Pits and Stone Heaps:

(a) Large stone-lined circular pits with a round raised rim had first been recorded by Golson: these were found to be large earth ovens - some had a diameter of 30 ft and were 4 ft deep. They appeared to be a feature of proto-historic villages and were given the name umu-ti by local informants, who said they were used for the preparation of the cooked root, ti.

(b) Smaller elongated surface depressions up to 18 ins deep, 6 to 20 ft long and 6 to 12 ft wide distinguished from the depressions of root soil of uprooted trees by the presence of a narrow entrance track. Excavation proved these to be collapsed subterranean pits. These were found only in areas where the close cropping of the undergrowth allowed a clear view of small surface features. It is likely that similar pits occur elsewhere, but are invisible under the cover of convolvulus which forms a thick carpet over the cleared parts of Samoa.

(c) Stone heaps consisted of fist-sized stones gathered into heaps varying from a barrow-load to a lorry load in extent. These were frequently associated with pits and often with house platforms. Two heaps were torn apart and were demonstrated to lie on undisturbed natural ground (thus

dispelling the hope that they marked graves). The only interpretation was that they were "stock" for stone ovens, but it is possible that they served a ceremonial function either in the family or the tribe.

8. Villages:

Sufficient ground was covered in the two trips to Savai'i to enable a start to be made on the elucidation of prehistoric settlement patterns. Sufficient confidence was gained in recognizing clusters of house platforms, terraces and mounds to designate villages. Experience was also gained enabling an estimation of the relative age of some villages, although the interpretation was based on the evidence of access tracks rather than the shape of the house platforms: those villages with access tracks wide enough to carry a horse and cart were judged to be historic, whilst those in which access was by foot-track (or in which the track was no longer visible) were judged to be prehistoric.

The prehistory of the coastal villages is difficult to clarify. Contrary to some statements, it is common practice to rebuild a house on an existing platform. The presence of stone artifacts and worked stone in coastal areas indicates a prehistoric settlement of some intensity. It is possible that many of the existing platforms have held generations of houses, and therefore extend back to prehistory. The platforms of the coastal houses are identical in shape with the platforms found covered in weed, undergrowth and trees in the forests.

The historic and proto-historic villages have as their predominant feature a series of stone walls which appear to subdivide plots of land as well as to form enclosures. Villages judged to be prehistoric on the evidence of access tracks had no walls. However the presence of numerous walls on the slopes above Asau in the north-west of the island may, on closer examination, modify this interpretation.

The other villages discovered in a state unmodified by later building were judged to be more clearly prehistoric. The house platforms were scattered over a wider area, there were no stone walls, the umu-ti was absent and unique features were present. These unique features included the "star" mound and,

in one area, small circular and ovoid platforms associated with circular surface pits and collapsed subterranean pits. True, the star mound also appeared in villages judged to be proto-historic on other field evidence, but it is likely that certain areas were continuously occupied, undergoing changes and additions over the centuries; indeed such continuous occupation through changing phases of culture appears to be the norm in other parts of Polynesia. Closer examination by excavation of mounds in Upolu (Terrell 1966) suggests that this is also the case in Samoa.

A further unique feature is the fireplace within the house platform; this consists of an outline of hearth formed by stone slabs set on edge. The firepits discovered in the Vailele mounds were not found, but no search was made by excavation on Savai'i. The hearths are clearly different from the larger umu-ti which, as well as being a different shape, always occurred remote from the platform. A cursory examination always determined the presence of charcoal, blackened soil and fire burnt stones. Clear evidence of hearths was found only in those villages judged on other factors to be prehistoric, and it is probable that they will be proved to be a diagnostic surface feature.

GENERAL SUMMARY AND CONCLUSIONS:

The archaeological field survey of part of the north, east and south coasts of Savai'i indicates a substantial pre-contact occupation. Stone artifacts from local material were found in most coastal areas and in some inland sites as surface findings, proving prehistoric occupation in separate zones. However it is more difficult to determine the age of most of the field monuments by surface inspection, since the style of the house platforms varies very little between the abandoned villages in the bush and the contemporary coastal villages. Only by excavation will it be possible to refine and confirm the sequence of occupation, but it is possible to make some observations on surface findings alone (which are a necessary precursor to excavation, anyway).

A sufficient number of roadways and high walls were recorded to enable the conclusion that these were a late (historic) introduction. The pattern of land use introduced by the increasing trade of the late half of the nineteenth century was clearly a revolutionary one: as both Wright and Lewthwaite have shown, the pre-contact village agriculture was extended to involve the active cultivation of the staple coconut, stimulated no doubt by the German planters. The ultimate aim in coconut cultivation is to create a stand of trees with a ground cover kept low by cattle grazing: this necessitates enclosing the area with a fence and the simplest fencing material is the ubiquitous lava boulder (lately displaced by barbed wire). It is possible that stone walls were also built to protect small plots of sugar cane (used in thatching) and other succulent fodder from the marauding cattle and pigs. There is no evidence that these actually formed part of a defensive system although contemporary explanation is that the walls were either pa tonga (forts of, or against the Tongans), or district boundaries. District boundaries they may have been but it is impossible to imagine that these crude walls served the purpose of Hadrian's Wall.

Roadways found were either bridle tracks or wheeled vehicle tracks: walking tracks, other than those in constant use, were not found because the conditions of rapid regrowth quickly obliterate tenuous tracks. Lewthwaite quotes a German attempt to encourage the indolent population to increase copra production by presenting them with carts as a reward. This offer no doubt led to some increase in track widening, a labour which has recently been revived by the incentive of increasing use of motor trucks. Lewthwaite places the original widening activities in the early twentieth century, but the archaeological evidence suggests some took place prior to 1900.

Mounds present more of a problem because there doesn't appear to be any specific mention of them in the early contact period; either they were not present or, more likely, they were present but not recorded. Earth mounds are clearly prehistoric in origin, and some of the more specialised (star mounds, for example) are most likely prehistoric. Star mounds may have

been built for the practical purpose of pigeon snaring or may have formed part of the unrecorded pre-christian religious life: judging by the present-day propensity for village ceremony, the latter explanation is the more likely. The larger mounds of heaped large boulders were found, for the most part, in areas of old clearings and coconut plantations; the unromantic explanation is that they are a feature of the early copra phase of Samoan culture. Coconut oil was originally extracted by allowing the copra to drain into old canoes, the oil being collected in barrels for export to the increasing European trade. Lewthwaite states that by 1870 the "copra revolution" was virtually complete and the old method of collecting oil was superseded by the preparation of copra whereby the flesh was sun-dried and exported whole (as it is today). The drying process involved setting the shelled copra out on to large stone platforms, leaving the weather to do the work. It is possible that the majority of the large stone mounds were made either for this purpose or as plantation storage depots for prepared copra awaiting transport to barges and boats. Even the two very large stone mounds found so far in Savai'i at Letolo and inland Sapapali'i could (with some reluctance on my part) be placed in this category, since both are associated with wide roadways to the coast. I can only hope, for the sake of Samoan prehistory, that I am proved wrong in this interpretation.

One is on slightly firmer ground when reviewing the pattern of village settlements. It can be concluded, at the moment, that there is no unequivocal evidence that the earliest inhabitants lived high in the hills away from the vulnerable coast, returning to the coast by way of intermediate settlements under the influence of the Pacific peace of the mid-nineteenth century as traditional history suggests. It is just as likely that the inland settlements represent different aspects of a culture which occupied both the coast and the forest, supporting a population many times greater than the present rapidly increasing one. There is no evidence that villages were fortified, as stated by Suggs (1960 : 94). It can be assumed, on the evidence of large stone walls, that certain abandoned villages are historic: this is not to say that they were not originally prehistoric, but that

occupation continued through into the historic period. Certain unique features, such as the umu-ti, star mound, rock mound and house platform with fireplace may be proved to be of primary importance in period differentiation; but on the present evidence it can be assumed that some abandoned villages have not been occupied since prehistoric times whilst others have been occupied into proto-historic and historic times, and furthermore that all villages, from the coast to the highest hills, and their origin in prehistory.

Forts do not form a large part of Samoan culture compared, for instance, with the culture of the New Zealand Classic Maori, since only four or possibly five have been discovered in Savai'i. Those recorded both in Savai'i and Upolu are either ridge or headland forts and the presence of substantial inner banks suggests that they were used during the gun-fighting period. Unlike their New Zealand counterparts, they appear to have provided only temporary living quarters. The presence of the coastal headland fort at Safotu may give some substance to the tradition of Tongan dominance of the area, but there is no evidence within it of prolonged, or even substantial, occupation. It is just as likely that the Samoan forts represent late internecine strife of the nineteenth century. Davidson (1965: 67) was unable to find any correlation between Tongan and Samoan forts, so we must look elsewhere if we are to find evidence of the traditional Tongan occupation which is said to have pushed the Samoans into the refuge of open villages in the hills.

In conclusion, it must be emphasised that the hypotheses of this paper are based on field recording of surface features only. Apart from the collection of carbon samples and investigation of pits, no excavation was undertaken. Confirmation (or otherwise) of the statements made will depend on excavation of similar features in the more accessible island of Upolu.

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PLATE 1. Hone at Matavai, Savai'i.

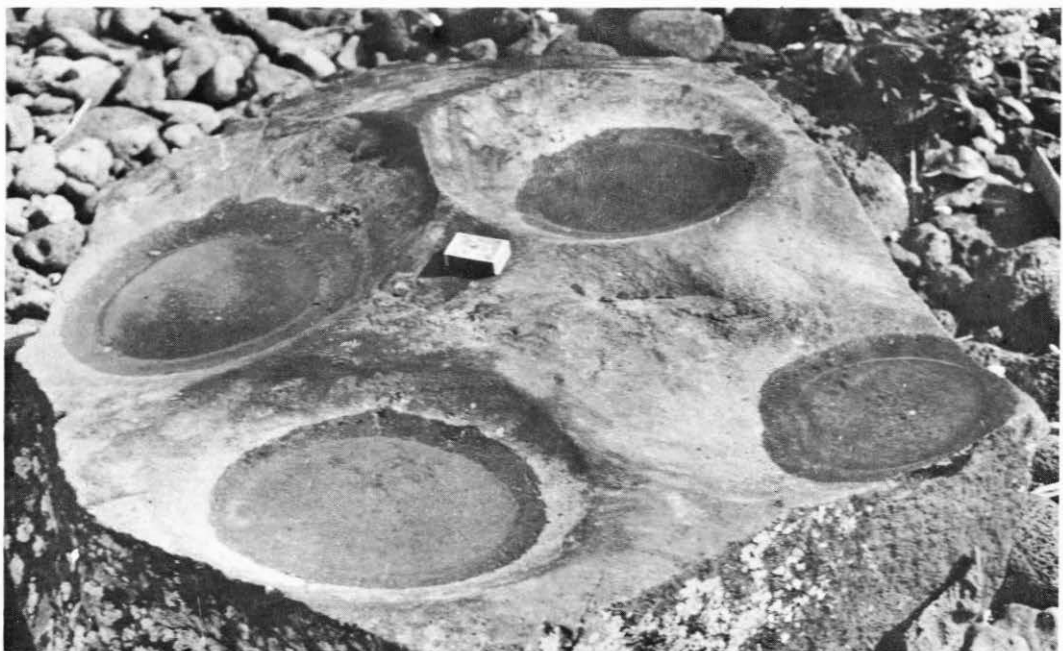


PLATE 2. Boulder with Bowl depressions, Avoa, Savai'i.



PLATE 3. Roadway at Ologog, Savai'i.



PLATE 4. Soil Mound at Paia, Savai'i.

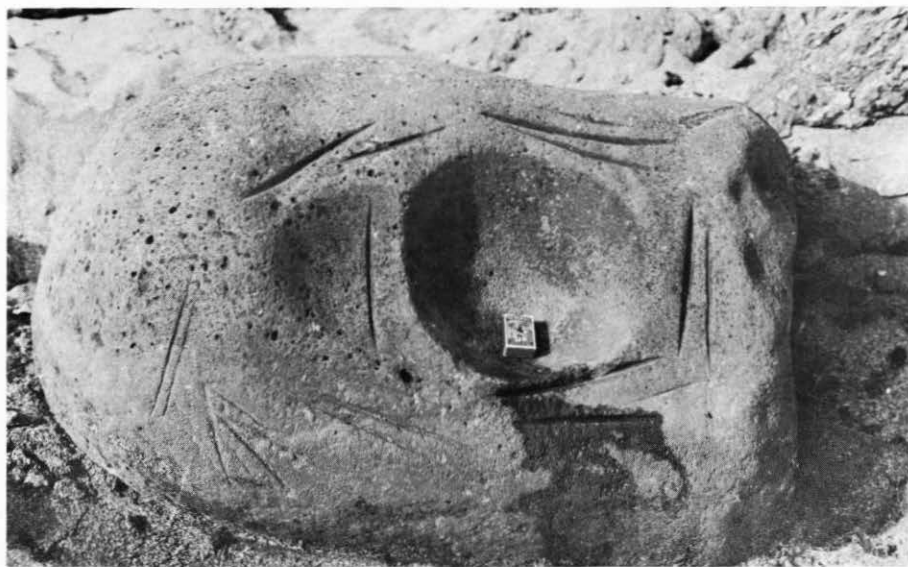


PLATE 7. Savai'i: boulder at Faletagaloa.



PLATE 8.
Upolu: excavation star
mound showing rock
build up, with fire-
places, stake and post
holes, layer IVa.

K. M. Peters