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SUMMARY REPORT OF ARCHAEOLOGICAL INVESTIGATIONS ON TUTUILA ISLAND, AMERICAN SAMOA

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INTRODUCTION

This paper summarizes archaeological investigations conducted on Tutuila Island, American Samoa from May through August 1972. The research was financed by a doctoral dissertation research grant from the National Science Foundation. The project involved the clearing and mapping of five sites. Test excavations were made at four of these sites plus at two other locations on the island. The work was conducted to establish a chronology of the occupation of the island, to identify the nature of that occupation, and to study the range of archaeological sites present on the island. The second goal was to collect a body of data that could be compared with the results of the extensive archaeological work conducted in Western Samoa since the 1960s (Green and Davidson, 1969, 1974; Jennings, 1974). Finally, it was hoped that the data would help answer some of the questions being asked about the origin of the Polynesian culture and the development of the western variety of the Polynesian culture (Green, various; Groube, 1971).

Preliminary information concerning archaeological remains in American Samoa comes mostly from a survey conducted in 1961-62 by William Kikuchi (Kikuchi, 1963, 1964) and brief test excavations made shortly after the survey by archaeologists from Bishop Museum (Emory and Sinoto, 1965). In addition, a brief survey of a proposed park area was made in 1970 by the National Park Service (Ladd, 1970). The only other information comes from ethnographic sources and are simply in-passing references to sites (Buck, 1930). Kikuchi (1963) identified several old village sites on Tutuila which he felt were probably prehistoric. He also mentioned the existence of several unusual "star mounds" in one area of the island. The research programme was designed to map and test excavate several of these sites and to map some of the specialized "star mounds". It was hoped that the test excavations would yield carbon-14 samples to aid in establishing a chronology for the island.

THE ARCHAEOLOGICAL SITES

This project investigated three sets of sites: prehistoric or abandoned old village sites including Fagatele Bay, Alava Ridge, Lefutu Ridge and Tulotu; specialized "star mound" sites near Tufuna; and house foundations and a burial in and near the modern village of Leone.

Two house foundations *(paepae)* in the present village of Leone were explored with test trenches. Leone village is located on the south coast near the west end of the island. It has traditionally been an important village and is presently the second largest occupational area on the island. Both foundations selected for testing were rectangular raised earthen mounds with stone facing and both had supported houses within the memory of the present villagers. The test trenches showed evidence that each mound had supported at least two houses. These were identified by the occurrence of distinct layers of coral fragments *('ili'ili)* used by Samoans for forming the floor of the house. Glass, metal and other evidence of the modern period were found in the top layers. One of the foundations contained a human burial. It was beneath an *'ili'ili* floor and a layer which sealed a pre-European period occupation. A carbon-14 sample associated with the burial produced a date of A.D. 1410 (540 ± 80 years before 1950). All samples were charcoal and calculations were based on the 5570 years' half-life. Post-holes were present, but the limited nature of the excavations failed to reveal any specific patterns. The only cultural material associated with the burial was several sea urchin spines. Several stone tools were picked up on the surface near the mounds.

On a farm at Fuafua just east of Leone a small stone covered mound was excavated. The mound had been preserved during the clearing of the farm land and the owners now wished it removed. The stone mound was removed to reveal two small 1 m. in diameter circular stone outlines. Excavation revealed human long bones under one of these at a depth of 80 cm. No associated material was found with the burial, but several adze fragments were found among the stones composing the mound. In addition, several adze fragments were found in the cleared field near an area containing coral fragments. There was some archaeological evidence then to support Samoan informants' statements that a village had once occupied this area. Both of these excavations were conducted as training exercises for crew members.

The specialized sites are located at Pava'ia'i near Tufuna and the modern airport, Pava'ia'i is about 3 km inland from the south shore and in an area covered by dense forest growth. The specialized sites

are large lava rock mounds constructed to have three or more projections which give them their characteristic "star" shape. The sides of the mounds are usually vertical and from 4 to 6 m. high. The mound is usually between 15 to 30 m. in overall diameter and the top is usually flat but not really paved. Eight of these mounds were cleared and described. Many other such mounds have been reported in this general area of the island, but so far only a few other archaeological remains such as house foundations or *paepae* have been reported for the area. No artifacts were found and no excavations were conducted. The mounds were solid rock from all indications including one abortive attempt to dig a trench into one of the mounds.

The four old village sites were cleared, mapped, and test excavated. Carbon samples were obtained for three of the sites and a stone artifact assemblage was collected from one site. Two of the sites were coastal village or hamlet sites and two were inland fortified ridge villages.

Fagatele Bay is a breached volcanic cone on the south-west coast of Tutuila Island. The site is located on an old raised, narrow beach level about 5 m. above the present beach. This section of land is about 70 m. wide and 100 m. long. The area is presently a plantation area and a fishing site. There is a wood-frame house on a large rectangular stone-faced earthen *paepae*. This *paepae* was probably part of the older village or hamlet and now is being re-used as is common in modern Samoan villages. In addition to this *paepae* there is a larger, several tiered or terraced somewhat circular structure, probably another *paepae*, judging from the coral *'ili'ili* fragments covering the top as well as three tiers below. Eight other possible house foundations were located. Most are rectangular or oval in shape and outlined with stones to form curbing. Most of the foundations were constructed as terraces built on to the sloping hillside ground to provide level areas for house construction. Many were built up to only a few centimetres above the site surface and most were covered with the coral fragments. There were also several possible "graves" at the site as well as the remains of an old "two-seater" outhouse. Excavation at the site was limited by the discovery of a human skeleton in one of the house foundations and by land ownership disputes. Evidence indicated that at least two of the foundations had been used several times. Buried layers of the typical coral fragment floor coverings were found on the site and in the top layers of the site. It appeared that some of the deeper levels may have been free of European material but the limited excavations were not conclusive on this matter. Samoan informants told of the occupation and rebuilding of the site about 30-60 years

ago, which would seem to account for some of the European goods and possibly the toilet. The earlier occupation could also have been during the contact period or perhaps earlier. No carbon samples were found.

The old village site of Tulotu is located just behind the modern coastal village of Tula on the extreme east end of Tutuila Island. The site lies at the bottom of Lefutu Ridge in a cultivated area. The site covers an area about 100 m. by 40 m. and was divided into two sections because of some variation in the surface evidence. One section of the site (A) located near the government road had clearly visible house foundations with some coral fragments, while the section (B) on to the east several metres and below a recent stone "pig pen" had no clearly definable foundations but the surface artifactual material, as well as a few large foundation-type stones suggested it had been occupied at one time. The site is separated from the village of Tula by a stone and coral wall which is about 1 m. high and several hundred metres long. It is called a "pig" wall. There is also a small area not under cultivation just to the east of the site which was said to contain "graves". The area contained several small circular stone outlines.

The western section (A) of the site showed evidence of three possible *paepae*. This evidence was fragmentary sections of stone outlines and the typical floor covering of coral fragments. There was also a circular pit about 1.5 m. in diameter and 50-70 cm. deep. It was called a *Masi* pit (used to make fermented breadfruit) by a Samoan informant. The eastern section of the site (Section B) showed three areas with a few large foundation-type stones. These were vaguely suggestive of house foundations. This section of the site also contained many basalt chips, flakes, and adze fragments on the surface.

Excavation in one of the *paepae* in section (A) revealed an area of concentrated charcoal and stones. A human burial was encountered in a trench in section (B) of the site. The occupational zone at the site was not more than 40 cm. thick in most areas of the site and no stratification was detected. No glass or metal or other evidence of the European period was found. Several adze fragments and other basalt tools were found in excavation (see Plate 1). Two carbon dates were obtained. Charcoal from a fire area found in the *paepae* in section (A) of the site dated A.D. 1330 (620 ± 70 years before 1950); the charcoal associated with the burial yielded a date of 610 B.C. (2560 ± 40 years before 1950).

On the Lefutu Ridge above the site of Tulotu another old village site was located. The ridge is narrow with steep sloping sides. It is very possible that this site was fortified. The entrance to the site from the Tulotu and Tula area is along the ridge top which is crossed by a ditch. This ditch crosses the ridge top about 100 m. before the main site is reached. The ditch is about 2 m. wide and 1.5 m. deep and cuts transversely across the ridge at a point where the ridge is about 10-15 m. wide. The main site area consists of several house foundations, several terraced areas, three possible "graves", and two *Masi* pits. Six possible *paepae* were identified, some were simply areas outlined by large stones or coral blocks, others were slightly raised earthen mounds with stone facing or pavement.

Excavation at this site was very limited. It was the last site worked during the project and it commenced raining the day the site clearing was completed and we were unable to return before the project ended. The brief excavation revealed that the site had only about 40 cm of soil and there was no evidence of more than one cultural layer. No artifacts were found and no European material encountered. A carbon sample produced a date of A.D. 1140 (810 ± 210 years before 1950).

The fourth site mapped and test excavated was another fortified village site located on the Mt Alava Ridge above Pago Pago Harbour. This area is today reached by the aerial tram which crosses the bay to give access to the television tower located on the ridge. The site is located north of the tower on the very steep-sided ridge which is often only a few metres wide. The village obviously existed as a fortified retreat. There is no readily available water or food sources on the ridge, access is difficult and there are deep, perhaps artificial, escarpments or ditches on both ends of the village. Despite the position, the village shows evidence of considerable care being given to construction of house foundations which occur along the sloping ridge for a distance of over 100 m. There are at least ten areas where the ridge had been modified to build house foundations or *paepae*. The modifications are often in the form of terracing. At the centre of the site there is a narrow terrace on the east side of the ridge. It is 1.5 m. below the ridge top and 2-3 m. wide. It might have served as a pathway since the houses appear to have covered most of the ridge top in this area of the site.

The house foundations are all paved with smooth river cobbles obviously carried some distance since no immediate source was located. Most of the foundations are oval or circular slightly raised earthen mounds which are paved or encircled by a 1-2 m. wide border with large

stones. Usually the border is a single layer but occasionally there are several layers of stone forming a slight platform. The interior of the foundation is an earthen core usually oval or circular and 5-6 m. in diameter. It is usually 40-60 cm. higher than the surrounding site surface.

Several test trenches were dug at the site. The soil on the site was about 35 cm. deep and subsurface features consisted of charcoal concentrations and several ca. 30 cm. in diameter holes, some stone lined, but no artifact material was found. No evidence of multiple use of the foundations was observed and the typical *'ili'ili* floor covering of white coral fragments was missing. The two carbon samples yielded dates of A.D. 1570 (380 ± 80 years before 1950) and A.D. 1860 (90 ± 80 years before 1950).

CONCLUSIONS

The archaeological project mapped and tested four village sites, mapped a complex of specialized "star" mounds and tested two areas in presently occupied areas of Tutuila Island. When this data is added to and compared with the Western Samoan data, it will be possible to draw a preliminary picture of the prehistory of Tutuila. It is at present only possible to make a few general comments about Tutuila's prehistory as the analysis of the material is not complete.

It appears, judging from the single C-14 date at Tulotu, that Tutuila was settled at least as early as other islands in Samoa. The 610 B.C. date is presently the oldest date for a site in Samoa, but it certainly poses more questions than it solves since all sites of comparable age in Western Samoa were associated with pottery and no pottery has yet been found on Tutuila.

It would appear that fortifications had become a part of the settlement pattern on Tutuila by A.D. 1140 (Lefutu Ridge) and that the fortification techniques included the use of naturally defended areas modified with at least some transverse ditching and terracing. Further, the Alava Ridge village represents another example of the use of a naturally defendable area for a village in a somewhat later time period.

The single carbon-14 date of A.D. 1410 for a house foundation in the modern village of Leone indicates that this coastal site was in all probability an important prehistoric, as well as, historic village.

The existence of the specialized "star" mounds on Tutuila was established but no further information as to possible function or age of the structures was obtained. These structures remain an enigma in Samoa's past.

Finally, a tentative chronological framework for Tutuila was established and some information on settlement patterns and community patterning is now available for the island.

Many questions were raised by the research including the lack of pottery on the island and the age and function of the "star" mounds. Certainly much work remains to be done on Tutuila before it will be possible to answer the many questions about its past.

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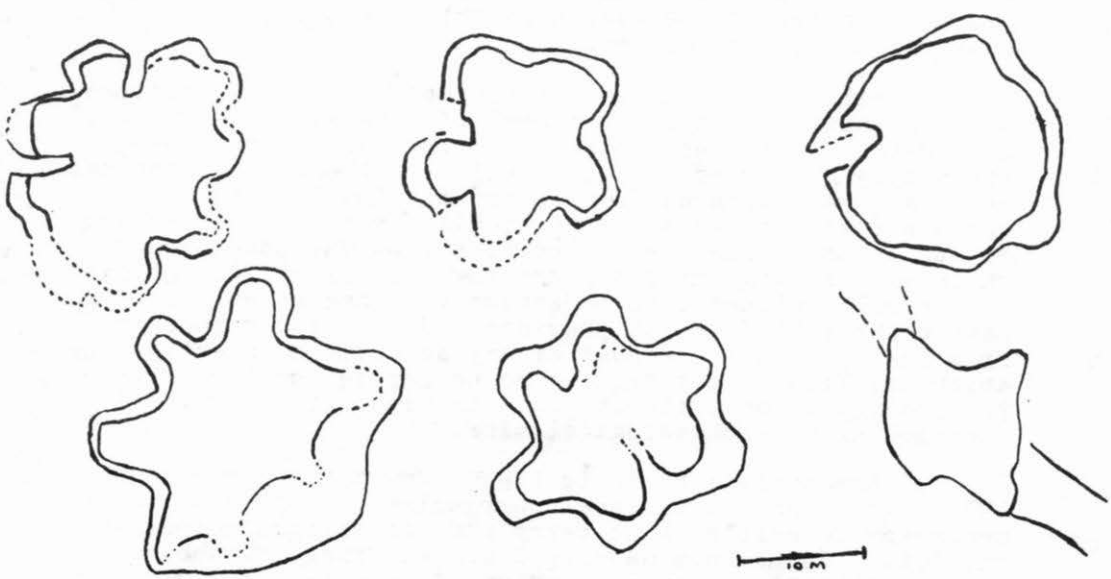

Figure 1: Plan maps of six "specialised" mounds near Tofua, Tutuila. Both top and bottom outlines shown except for the one which was built on a lava ridge.