

B. Archæology in Micronesia

Background, Palau Studies and Suggestions for the Future

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BACKGROUND

Micronesian prehistory still appears to be relatively simple, when cast against the background of conflicting theories, hypotheses and arguments concerning Oceania as a whole: whether Polynesians reached Polynesia through the Carolines and/or by coasting along the fringes of Melanesia; whether currents carried people, or people rode and used currents; northwestern Micronesia (Palau to the Marianas), are tied closely to adjacent Malaysia (including the Philippines) by language, culture and physical type.

Both Gifford on Yap and Spoehr on Saipan, and in a less precise way, myself on the Palaus, have demonstrated cultural developments *in situ*. Gifford and Spoehr seem to have found evidences of two stages of development which on Saipan are separated by differing ceramic and architectural attributes, and on Yap primarily by ceramics. On Palau, the situation appears to be more complex, as will be shown below; although I am prone to accept an earlier period of finer pottery, lower population, and non-culminating political structure as separable from a 'classic' period of less fine ceramics, major megalithic and earthwork activities and pyramidal, tight political structure.

Neither my own brief labours on Guam or the information that I have, show the same sequences that Spoehr found on Saipan; but I believe them to be reasonable and as close to the truth as we can come now and to be roughly applicable to the Marianas as a whole.

We must await excavation in the Palaus before we can be justified in making a close comparison between the artifacts, ceramic or otherwise, from the three island groups. Gifford's description of the Yap pottery is not as clear to me as it might be, and I have not seen the un laminated ware. As far as my knowledge goes, however, I accept the ceramics and indeed most of the other artifacts (of shell and stone) from Palau to Saipan, as representing only a lightly varying continuum. The area looks, from one point of view, like a rather classic example of a culture area; from another, that of the widely varying megalithic conventions, or yet another, that of the earthworks, the differences are emphasized. I consider both to have derived from Indonesia and I should not be surprised to see that the development and use of the latter is an independent variation on an old theme.

If we accept these relationships and origins, where do the Carolines, exclusive of Palau, stand as a whole group? The small islands and atolls will probably yield little; the larger volcanic islands, principally Ponape and Kusiae, must be surveyed and studied intensively. Pottery has been found on Ponape, according to the Südsee reports, and I am almost ready to predict that we shall find that it was made

there at one time. The Marshalls are unknown archæologically. Megalithic structures on Ponape are an excellent reason for believing that the individual megalithic expressions in Micronesia were of independent development, though no doubt all sprang from strong and long standing cultural bases which were both historical and functional.

To modern archæology, the Carolines and Marshalls (except Palau) are unknown quantities. They, principally Truk and Kusaie, will be shown to have had a different prehistory than the Palau-Marianas groups. Very possibly the Melanesian influences were deeper and stronger there.

PALAUAN ARCHÆOLOGY

The Palau group, which covers roughly 100 miles of latitude, has some 200 islets and islands. Tobi, Sonsorol, Merir and Pulo Ana, the so-called southern islands, were included in the survey although they are not a part of the Palaus. None of these latter is a true atoll, but perhaps they are miniature platformed reef sections.

Four physiographic subgroupings exist in the Palaus proper: *i.* atoll (Kayangel); *ii.* volcanic (Babeldaob, Ngarkebesang; western Koror; Malakal, and islets); *iii.* reef islands (Ngurkthabel, Aluptaciél, Aulong, Macharchar); *iv.* platform islands (Angaur, Pelilieu).

The main current sets of the area are: *i.* an easterly out of the Celebes Sea, *ii.* a westerly through the Palaus, which then turns south, *iii.* an apparently not well known eddying effect between the two which has brought castaways and floating debris from Malaysia and northern New Guinea through the southern islands to Palau. There is no straight drift from the Philippines toward or to the Palaus, for it goes the opposite way. Palauans or other western Micronesians could have drifted to the Philippines, and have done so several times in recorded history; only experienced sailors in good craft could go the other way. There is plentiful evidence of Melanesian influence but the main migrations or drift must have come from Indonesia.

These islands were not discovered, apparently, until 1710 by the Spanish from the Philippines who were stimulated into voyages of discovery by the arrivals of western Micronesian castaways near Samar a dozen or so years earlier. It was not until 1783 that contact worthy of the name was set up by the Captain and crew of the wrecked British *Antelope*, off Aulong (Keate 1788).

The work which we did in Palau in 1953-4 (less than six months) was primarily archæological with three major objectives: *i.* to assess the archæology of the islands, *ii.* to create a coherent first statement as to Palauan culture history, and *iii.* to delineate and date cultural complexes. The first two objectives are attained, and the third was partly so. No C-14 dates were secured and the complexes, which are primarily ceramic, rest on too few and small excavations.

Some ethnology, collecting and ecology were done. The first was concerned largely with folklore as it related to known sites and to Palau money, which was identified. Ecological work was oriented toward discovering a relationship between the retention of plants useful to man, and age, in a previously settled area—it was successful where tested.

The only sites noted on the southern islands were on Merir and Tobi. Likewise Palauan is said to have one. On the west coast of the first island is a midden accumulation around 450 ft. long and 210 ft. wide. It is 10 to 12 ft. deep and the top lies some 30 ft. above sea level. It appears to be old and could well be of importance of first order in Micronesian prehistory. The site is obviously important as far as the southern islands are concerned. On Tobi are large deep 'house mounds' 30 to 40 ft. on a side, and 5 to 7 ft. deep. No pottery was found on any of the southern islands.

Palauan *pottery*, in its attributes or variations, did not present any basic potentiality for the use of a binomial system. Attributes that were usable and used were: sherd thickness, paste, surface treatment, rim form.

The *thickness* attributes are: 1-type, above $\frac{1}{4}$ in. thick, extra thick above 1 in.; 2-type, $\frac{1}{4}$ in. or less, extra thin, less than $\frac{1}{8}$ in. All measurements from sherd body, not rims.

The *paste* attributes are designated and described as:

Paste A: sherd temper, particles large, often up to $\frac{3}{16}$ in. in diameter; firing mediocre, carbon streak common; open spaces in paste, not dense; feldspars, epidotes, and quartz inclusions in the clay (up to 15%).

Paste B: same as A, but finer temper; firing better and more uniform; paste denser.

Paste C: same as A; temper particles $\frac{1}{32}$ in. or less; firing fine; paste compact and tight; components of clay fine, difficult to see.

These attributes permute to form modes 1A, 1B, 1C, and 2A, 2B, 2C. *Surface finishes* are grays, buffs, reds, slipped red and white, smudged; dull to polished; painting is crude and rare; texturing (incising, rare; punched or punctate, trace; check-stamped, trace).

Sand-tempered sherds of two major types, probably wares, were found. They will be mentioned later.

Twelve *rim forms* with many variations were isolated. They vary from straight through incurving, lipped, back-curving, thickened, to flanged rims.

Seven vessel shapes were noted; three are bowls, one a jar, one a plate. An only partly known form with an annular base was found on Pelilieu; the lamp is the seventh.

All rim sherds that were large enough were measured for diameters. These varied from small (less than 8 in.) to very large (25 to 36 in.).

Terraces are the obvious and certainly one of the important archæological aspects of the volcanic islands. A terminology was developed for them. Sherds found on them are often of late types; recent villages were located in their lower sections and modern or near modern desultory agricultural use has been made of them. The terraces lack strong evidence of megalithic activity on their surfaces and no ethnographic data are apparently still available about their use. They would make poor fortified areas, at least for a real siege and not being constructed for defence, they are usually easily flanked. None is irrigated and water supply is poor. The terraces would appear to be, primarily agricultural and to have been built either to increase usable land (probably for dry-farm taro) and/or to get at fertile soil which underlay farmed-out surfaces or leached (often bauxite-bearing) strata. They were built by increasing

cuts and spreading of material back on the treads and over the edge as delta foreset beds develop.

Several test excavations were made, two of which illustrated the pattern of the terracing. These and three others gave the following information on ceramic stratigraphy. 1A is rare in the lower levels, increases rapidly to the surface; smudged surfaces are common earlier; reds and grays later; rims are simple, curves and back-curves are earlier, proliferate in the mid-periods, become straight in the latest. 1B follows the same pattern, trace in lower levels, up to fifty per cent in later; rims are simpler and there are fewer types in the earlier periods. 1C is rare but more common in the upper levels; the older sherds are more apt to be smudged. It is primarily a late type, may have replaced the thinner fine sherds noted in the earlier levels. 2A is unusual in all levels but found in all; probably more used in the older periods; always smudged on both surfaces. 2B comprised nearly all sherds from lower levels; decreased upward; simple and backcurving rims in the lower levels; usually smudged. 2C: too few data but apparently more important in oldest eras; smudged.

All sherds were weighed as well as counted. It was obvious during analysis that large and thick sherds are overstressed by weighing; small and fine ones by counting. Counting sherds may well give a fairer picture of the larger and heavier and weighing on the smaller and finer. A statistical study and manipulation of the two methods would be the answer to a correct presentation of archæological pottery.

On a basis of site survey, stratigraphy tests, local history and legend, suggested prehistories of the Philippines and the Marianas, I have suggested the following *historical column* for the Palaus:

Upper Late (A.D. 1750 to late 1800's). Period of Koror ascendancy, of coarse simple pottery.

Middle Late (A.D. 1600 to 1750?). War, unrest and abandonment of the reef islands and parts of Pelilieu and Angaur, and resettling in Koror, Ngarkebesang and Babeldaob.

Lower Late (A.D. 1400? to 1600?). Final period of terrace use; abandonment; refugee movement from volcanic to the reef islands from Ngurkthabel to Pelilieu.

Upper Early (A.D. 900? to 1400?). Late classic; end of terrace building, megalithic activity; end of important exterior contacts (Indonesia, Philippines, Oriental traders?); in pottery, complex rim forms, thin finer pottery. Presumably, aristocratic controls, population and a depletion of resources culminated here.

Middle Early (A.D. 400? to 900?). Classic period; exterior trade, terrace building, megalithic work, empire building. In pottery, finer pastes, thinner wares. Introductions of various taros; pottery and glass trade with the Philippines.

Lower Early (7-800 B.C.? to A.D. 3-400?). Formative; earthworks begun; Malaysian influences; in pottery, thin wares, finer pastes.

Archaic (1500? to 800? B.C.). Developing settlement; in pottery, B and C pastes, thinner walls; few or no terraces; people in volcanic and large platform islands primarily.

The last two may merge; this sequence would be preceded by a period of discovery, voyages, drift, exploration, and first settlement which would merge with

the Archaic. Perhaps they are one. The dates of this column, from the Lower Late down, are frankly speculative.

It can be seen that this development depends on exterior contact and influence. It is peculiar, if this is so, that the dog and pig were not introduced (as they were not into Yap). The Palauan stone adzes so far seen, and they are few, appear to be like the Philippine Early Neolithic (400 to 2250 B.C.?). The glass beads are Iron Age in the Philippines (250 B.C. to A.D. 900). They were probably no earlier in the Palau. The C-14 dates from Yap place the unlaminated pottery in Lower Early to Lower Late, Palau scale. The later laminated wares may well be the result of Melanesian influence. Spoehr's latter period, as defined on Saipan, spans the last part of my Middle Early through Lower Late. His oldest date is in my Archaic period. I have not examined his Marianas redware but believe it to be similar to my 2B or 2C.

A study of the surface collections in relation to the stratigraphic information from several small tests and a graphing of the ceramic attributes and a seriation of the resultant curves enables me to offer the following chronological arrangement of sites by islands (only the more important are listed in the Table below). The numbers are numbers of sites.

RELATIVE DATING OF PALAUAN ARCHÆOLOGICAL SITES

<i>Island</i>	<i>Archaic</i>	<i>Lower Early</i>	<i>Middle Early</i>	<i>Upper Early</i>	<i>Lower Late</i>	<i>Mid Late</i>	<i>Upper Late</i>
Koror (volcanic)	1	1	2	1	3 ←	13 →	
Babeldaob (volcanic)			3	3	10	8	
Ngarkebesang (volcanic)				3	2	3	
Kayangel (atoll)						3	
Angaur (platform)						1	
Pelilieu (platform)					4	7	2
Aluptaciel (reef)					2	6	
Aulong and Ngemelis (reef)						7	
Macharchar and adjacent islands (reef)						?	?
Ngurkthabel and adjacent islands (reef)					1	4	
					1	1	1
					1	5	
						1	

The earlier use of the volcanic and the lesser use of the coral platform (Angaur and Pelilieu) islands, and the still more concentrated later settling of the reef islands is obvious.

The Aluptaciel sand-tempered wares, from site 2 of that island, were identical or nearly so (megascopically) with sand-tempered Philippine sherds from La Mesa

dam, near Novaliches, some 30 km. north of Manila, a so-called Iron Age site (A.D. 500 to 600). Sand-tempered sherds with a fine red-orange paste, a black polished surface which was either plain, check-stamped or punctate-stamped, were found on site Koror 15.

Stone adzes, elongate, truncate-circular cross-section single bevel bit, are, as mentioned, comparable to the Philippine early Neolithic ones. Shell adzes, knives, trumpets, and ornaments were found. Stone anchors, hammers, and abraders complete a rather meager inventory.

The brief study made of several forms of Palau money identified it as stemming most likely from the Philippines. A survey of the relevant literature indicates an old basis for its forms in Asia. Iron-age glass makers made many beads and bracelets and others, especially the beads, were imported from the Mediterranean area in Neolithic (?) and iron-age times. Both native (Philippine) glass and Mediterranean glass spread to the Palau Islands and to Yap.

SUGGESTIONS

Palau is linguistically related to the southwest, to Indonesia. Evidence derived from the survey and other work done in Micronesia likewise points that way. (We have excavation and some survey in the Marianas, excavation and survey in Yap and survey and testing in the Palaus.) We are in a position to define, rather readily, western Micronesian archæology, through a moderate excavation programme in the Marianas (Guam and Rota), a few more excavations on Yap, and about one year's excavation in the Palaus. The next steps (which could be concurrent with the latter stages of excavation in Palau) should be an assessment of Philippine archæology in terms of itself and Micronesia and of Micronesian archæology in terms of the Philippines (if the Philippine work has been done recently and competently). The latter stage of study should be and must be an archæological incursion into adjacent Malaysia: the Talauds, Sangihe, Morotai and Halmahera and adjacent Celebes. I confidently expect it will form part of or one end of a continuum and include western Micronesia.

Sites and recommendations for future work in the Palaus, toward a full study of this cultural continuum which I visualize, will involve excavations or large tests in 20 sites on Pelilieu, Aulong, Angaur, Koror, Babeldaob, Macharchar, Aluptaciel, Ngurkthabel. Several other small tests would likewise be necessary as would the organization of a tight body of data on Palauan megalithic stone carving. It is well-nigh mandatory that the Palau efforts be followed by (or they may be concurrent with) a short excavation programme on Merir and Tobi.

For an active field programme for northwestern Micronesia and for professional personnel only, I estimate:

- i.* Marianas: excavation, $1\frac{1}{2}$ man/years; special laboratory and writing $1\frac{3}{4}$ man/years.
- ii.* Yap: excavation and survey, $\frac{3}{4}$ man/year; laboratory and writing, 1 man/year.
- iii.* Palau: excavation, further survey, testing, megalithic study, 3 man/years; laboratory and writing, 2 man/years.

iv. Merir and Tobi: excavation and testing, $\frac{3}{4}$ man/year; laboratory and writing, $\frac{3}{4}$ man/year.

v. Appraisal of Philippine and Micronesian archæology: 1 man/year.

vi. Survey and testing in Talauds, Sangihe, Morotai, Halmahera and Celebes, 3 to 4 man/years; laboratory and writing, 2 to 3 man/years. Initial venture should be financed on the above basis.

This totals $9\frac{1}{2}$ to $10\frac{1}{2}$ man/years in the field, 8 to 9 man/years in the laboratory and in writing (number 5 divided evenly). These estimates may be rounded to 19 man/years for professional work alone. At an average of \$8,000 per year for salaries, \$152,000. Labour for field and laboratory in the field, 75 man/years. At a guess-rate of \$600 per year for field wages and local transportation, \$45,000.

Travel costs, if the funds are used economically, and advantage is taken of rates for scientific work, government transportation, etc. \$40,000. Equipment rental, \$23,250. Publication, \$50,000.

Total: US\$310,250.

Careful administration of such a fund would, I am convinced, accomplish the work outlined above and clarify the problems of Micronesian prehistory and origins. With its success some of the basic question of Oceanic prehistory would also be clearer. Of secondary importance, to our main problem, are some of the western atolls of Truk, and of Ponape-Kusaie; these should be secondary to the main project and can be studied if funds are saved from the more important studies (to me) listed above. On the problem of the route from Japan to the Marianas via the Bonins, I am not competent to judge; perhaps a survey of the latter group is of prime importance.

There are obviously numerous decisions concerning policy, polity and ways and means that must be made toward the best development of an activity suggested so sketchily above. Should a separate budget for C-14, search for samples and laboratory work be set up? Would a strong separate effort to establish a grid of C-14 dates be valuable? Should research grants be used to put professional personnel in the field or is a straight hiring policy best? Would it be advisable to drop Yap and Rota (inasmuch as work has been done on both islands) and transfer that effort to Truk and/or Ponape-Kusaie?

In any event the time is ripe, or nearly so, to begin another concentrated programme in Oceanic prehistory.

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