

Principles of Organization in the Outer Islands of Yap State and their Implications for Archaeology

WILLIAM H. ALKIRE

*Department of Anthropology, University of Victoria
Victoria, B.C., Canada V8W 2Y2*

KEIKO FUJIMURA

*Lester B. Pearson College of the Pacific
Victoria, B.C., Canada V8X 3W9*

Abstract—Research in the outer islands of Yap state has demonstrated the widespread importance of the following organizational principles: matrilineal descent, sibling solidarity and primogeniture; a maritime and horticultural economic system within which male/female complementarity and opposition are emphasized; a hierarchical political order; and an ideology of dualism. This paper suggests how these principles may be reflected in the archaeological record, particularly with respect to changing settlement patterns and burial practices.

Introduction

Ethnological research in the outer islands of Yap State (Ulithi to Satawal) has demonstrated that most of these societies possess:

- 1) A lineage-based system, usually matrilineal, within which primogeniture and sibling solidarity are emphasized and cross-sibling sets are given ritual prominence.
- 2) A subsistence system based on exploitation of both marine and horticultural resources. Men devote the bulk of their labors to fishing while women are the primary horticulturalists. Trade and exchange are integrated into these activities at all levels, from estate to interisland.
- 3) A political system within which power is vested in ranked land-holding groups and their representatives. Ranking appears to derive from order of settlement (parallel to the principle of primogeniture) but is also determined by conquest, defense of custom, and possession and exercise of specialized knowledge.
- 4) A religious system embracing gods, ghosts, and patron spirits. “Local” supernatural beings are frequently classified separately from “off-island” ones.
- 5) A dualistic ideology reflected in the organization and structure of all of the above.

A review of the Micronesian literature (as well as that for other areas of the Pacific) shows the principles underlying the organizational constructs and their physical manifestations in the outer islands of Yap State are similar to beliefs widely distributed in Oceania and therefore probably possessed by founding immigrants (Benedict 1975, Shutler & Marck 1975, Goldman 1970, Lane 1977, Douglas 1979, Lindstrom 1984). The differences frequently emphasized between Polynesia and Melanesia (Sahlins 1963) probably do not derive from fundamental differences in principles of organization but rather in the

way such "Austronesian" principles are manifested, emphasized, and combined in the respective culture areas. We believe the ethnographic evidence from Micronesia supports this generalization (e.g., Alkire 1972, 1977, 1978, McKnight 1960, Force & Force 1961, Riesenbergs 1968, Lingenfelter 1975, Labby 1976, Marshall 1981, 1984, Peoples 1985). In this paper we will limit our discussion to such themes in the outer islands of Yap. We believe an understanding of their emic importance, of their various physical manifestations and of their hypothesized past behavioral bases will prove useful to archaeologists and culture historians.

Themes and Principles in Outer Island Sociopolitical Organization

PRIORITY AND PRIMOGENITURE

Folktales concerning the settlement of the outer islands state, or imply, that founders divided *all* of a discovered island among themselves (e.g., Burrows and Spiro 1953, Lessa 1961, 1966, 1980, Grey 1951). Subsequent colonizers necessarily received land from these first settlers or their descendants and, as a consequence, were placed in a subservient position. The first to arrive founded the "chiefly" clans or lineages. Later immigrants and members of junior descent lines held "non-chiefly" or "commoner" rank unless or until they conquered, annihilated, or replaced earlier settlers (Alkire 1965, 1984).

SIBLINGSHIP AND AFFINITY

Folklore and ethnographic reports further single out founding brothers, sisters, husbands and wives for special mention (Alkire 1984, 1988, Lessa 1961, Marshall 1981, 1984, Peoples 1985, Labby 1976, Burrows & Spiro 1953). Islands discovered were divided between siblings (establishing senior and junior descent lines) or between the two clans represented by husband and wife pairs. The uterine links important in matrilineality promote a lasting brother/sister solidarity. A man's rights to land depend on descent from his mother but, for much of his adult life, after he has taken up residence with his wife and after his mother has died, access to lineage land is monitored by his sister who continues to reside upon it. This cross-sibling set is a fundamental building block of the society, and it coincides with a basic male/female complementarity and opposition within the culture.

FEMALE/MALE AND LAND/SEA SYMBOLISM

Conceptually, land (and most particularly the interior of an island) is a female domain. Women are gardeners who work the interior *bwol*, taro swamp, in itself the epitome of land. Every founding lineage possesses some sacred taro land (*bwonnapp*) centrally located in the interior. The lineage and its land form an "inseparable" *bwogot*, estate. The seat or senior dwelling (*erao*) of a founding lineage has superior rank over all others (Alkire 1965, 1968a, 1968b, 1987). The importance of male/female complementarity for another area of the Pacific is emphasized in Hocart (1952) and Sahlins (1976).

Most dwellings, at least conceptually, are located toward the interior. The dwelling and its associated structures — a cook-house, a drying and smoking rack, a utility house

and on some islands a menstrual house — are centers of female activity. Food is prepared by the women of the lineage in and around the cookhouse. Their looms are set up within the dwelling or nearby utility house. There they also have a rack for airing and drying spare *tur*, skirts. From the dwelling a path leads farther inland to the taro fields. Near the dwelling, or on a high ranking associated piece of land, are the graves of deceased lineage members.

Married men sleep at their wife's dwelling while unmarried men sleep either at their mother's house (where they grew up) or at a men's house or canoe house bordering the shore. Men carry out their day's work in and around canoe houses, and on the reef, lagoon, and sea. The canoe house is the place where fishing equipment, spare loincloths, and magical paraphernalia are stored.

Coconuts are an exception to the two-domain gender-linked ideology. They are "of the land" but are tended and harvested by men. Coconut trees are distributed over the whole of an island but are scarce within taro swamps. Conceptually, those found along the shore and in the vicinity of canoe houses are the most important. Every canoe house has one or more sacred palms nearby which are used in divination and navigation rituals by taboo men (*maletabw*). Coconut palms symbolize male power. The tree is occasionally mentioned as a euphemism for the phallus and its uppermost vertical frond (*ubwut*) can symbolize a chief or a god.

DUALISM AND EXCHANGE

The Micronesian world view, like that of many Austronesian-speakers, emphasizes dualistic oppositions, quadripartite divisions and mid-points as loci of control and mediation (Alkire 1970, 1977, 1978, Lessa 1950; related data from Melanesia can be found in Eyde 1983 and Mosko 1985). The most important examples of this are the polities of the outer islands which are divided into two or three units. Folktales state these divisions were established at the time of settlement and they may derive from the requirements of efficient resource use and exchange. Since exchange based on individual negotiations is time-consuming (and often short-lived), collective arrangements have greater efficiency and predictability and are favored throughout the outer islands. Exchange requires a minimum of two parties and a degree of reciprocity if it is to be relatively conflict free. In the outer islands an attempt is made to define all exchanges as involving two parties. Dualistically balanced districts and lagoons are examples of this. When more than two units occur, they frequently derive from earlier dualistic divisions that have been further subdivided into quadripartite units. David Eyde (1983) has named a similar tendency in Melanesia *recursive dualism*.

MEDIATION

Dualism may regularize exchange but as the participating parties increase in size, their interests inevitably diverge. Fissioning, as just noted, is one consequence of this growth. Another possibility is the emergence of mediating or adjudicating offices. On the larger and more densely settled outer islands one finds, for example, North, Middle, and South, or East, Middle, and West districts (Alkire 1965, 1970, 1987). The historical pre-

cedence of a two district system, however, is suggested by the ritual opposition emphasized between two of the set and the special or mediating role assigned the third.

DUALISM IN SPECIALIZATION AND MATERIAL CULTURE

A dualistic ideology is manifested in many spheres of outer island culture. It is a guiding principle in such specialized domains as divination, medicinal preparation, navigation, carpentry, and construction (Alkire 1970, 1980, 1982, Lessa 1959, Gladwin 1970, Riesenberg 1972). In knot divination (*bwe*) the diviners derive omens from series of knots tied in sets of four in two pairs of coconut frond pinnae. In medicinal divination omens are drawn from the pattern of floating oil on the surface of the halves of a container of liquid medicine. Medicines are prepared from recipes and administered in regimens where combinations and sequences of twos, fours, and eights prevail. The extensive navigational knowledge of outer islands' *pelu* is organized utilizing dualistic and quadripartite models. The star compass (*pafus*) and star charts (*wofalu*) are coded as rising and setting halves oriented upon a pre-eminent middle star (*mailap*) in a series of 32 compass points.

Houses and canoes are constructed using a halving principle. The typical rectangular core of an outer island house is half as wide as it is long, its kingpost is one-half the house's width, and its rafters (which number seven or nine) are spaced on the main plate utilizing a complex halving procedure. Halving is equally important in controlling proportions and setting reference points in canoe construction.

In summary, these principles permeate so many spheres of outer island life that archaeologists are well advised to keep them in mind when selecting or excavating sites and interpreting materials recovered.

Some Archaeological Implications

Stone houseposts of former men's houses are usually the most striking archaeological remains on the outer islands. In earlier years the widespread distribution of stone ruins led many to speculate about their origins and function (Christian 1899, Hambruch & Eilers 1936, Sarfert 1919–1920). Whatever the explanation for similar ruins on neighboring high islands, their presence on low islands is probably explained quite prosaically. In the initial decades of settlement (and indeed, during later periods of dense settlement) large trees suitable for timber were probably too scarce to use in house building. Such trees were more valuable in canoe construction where no substitutes were possible. In men's house construction, where large and durable houseposts are a necessity, beach rock is a locally available and nearly indestructible substitute for logs. Quarrying and transport requires a greater initial investment of labor but once in place, stone pillars rarely have to be renewed. We believe, however, such ruins are more significant for their location than their constituent materials. Their siting suggests a pattern in the growth of atoll settlement.

SETTLEMENT PATTERNS

Atoll settlement patterns are usually lineal. Residents do not like being far-separated from others, primarily out of fear of ghosts, and at the same time they prefer direct access

to the lagoon. If the dualistic ideology was important to early residents (as we believe the evidence indicates), settlements were probably divided into two locally defined districts (*tabw*) or villages (*gapalam*), separated by a ritual center. The men's house or canoe house is the main structure of this ritual center. Figure 1 is a schematic representation of this *basic dualistic settlement pattern* as it might appear on a hypothetical atoll island. Ethnographic evidence concerning the early settlements on Falalus, Woleai and Elato are instructive in this regard. On Falalus the ruins of the men's house (Galingagu) are found

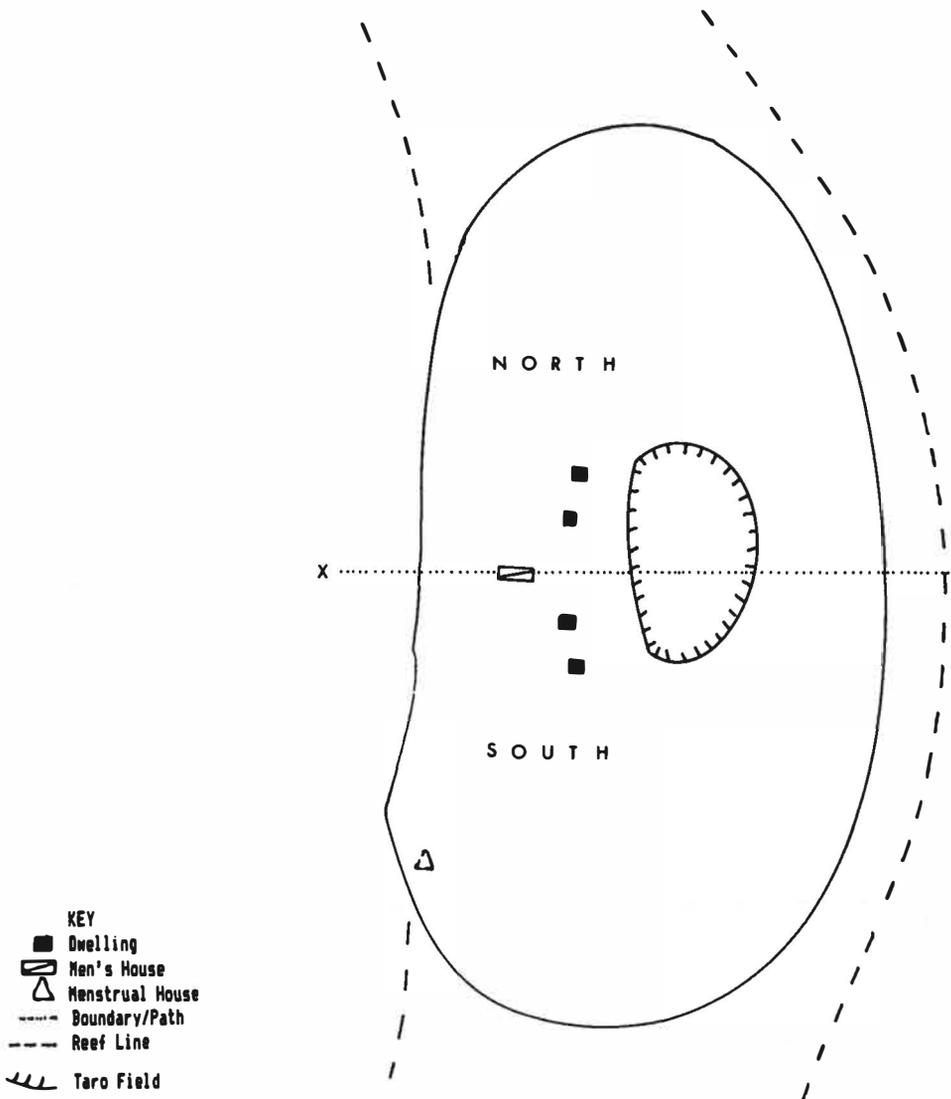


Figure 1. Basic dualistic settlement pattern in Yap outer islands.

on the boundary between the Eastern and Western districts. On Elato even today the boundary separating the main land holdings of the two chiefly clans bisects Olipi, the highest ranking canoe house of the island. A second feature common to the center is a cross-island path constructed along this border. The path (X) links the lagoon shore with the interior (and its taro fields) and the ocean side of the island. A second path runs parallel to the shore linking the residences of the opposing districts. These paths intersect near the men's house. When the outer islander "male/female" ideological principle is superimposed here, one finds the second path marks the boundary between gender-defined spheres. The developed dualistic pattern therefore is one where settlement divisions are opposed across one axis (X) and sexes across the other (Y). The conjunction of these dualistic principles results in a quadripartite division. We label this configuration the *developed dualistic or quadripartite settlement pattern* (Figure 2).

Evidence of the importance of these oppositions is seen in various ritual exchanges. Within a district men often ceremonially present fish to women in exchange for taro. On other occasions the men of an entire island may engage in a similar exchange with all the women of the island. In both, a simple sexually based dualistic exchange occurs; one in which products of the sea/men are exchanged for products of the land/women across the Y axis. A comparable simple territorial exchange is one in which the residents of one village or district exchange goods or labor with the residents of the other—an exchange across the X axis. A third more complex quadripartite possibility is one in which there are two sets of exchanges. The men of opposing districts engage in one transaction while the women simultaneously complete another.

As the population of an island increases settlements are extended farther out along the Y axis. In consequence of larger populations secondary ritual centers emerge sited in outlying canoe houses. These outlying centers are controlled by the land holding clans of the district, perhaps diluting the power of the men's house center and increasing the competitive opposition of the island's districts. Under these circumstances the men's house "center" may emerge as a mediating and adjudicating force. On the larger more populous islands the center can thereby evolve into a mediating or buffer *district*. We label this an *evolved dualistic settlement pattern* (Figure 3).

ESTATES

The structures of an estate (*bwogot*) on most of the outer islands are built at ground level. The site selected for a dwelling is raised slightly to promote drainage away from the structure. Coral gravel collected from the beach is spread over the floor and surrounding yard. As this gravel is worn into the underlying ground or is weathered, it is replaced with fresh basketsful. On Eauripik, Faraulep, Ulithi, and Fais one finds some platform structures, a form that probably diffused from Yap. In some cases these rectangular platforms may be as much as a meter above the surrounding ground-level. They are commonly composed of gravel faced with vertical fitted coral-block walls. Dwellings do not have an invariable orientation but generally one end faces the lagoon. They are constructed following the "halving" formula already defined. Therefore the distance between any two houseposts can provide a reasonable estimate of the structure's overall size.

The artifacts that might be found in the vicinity of a dwelling are likely those used

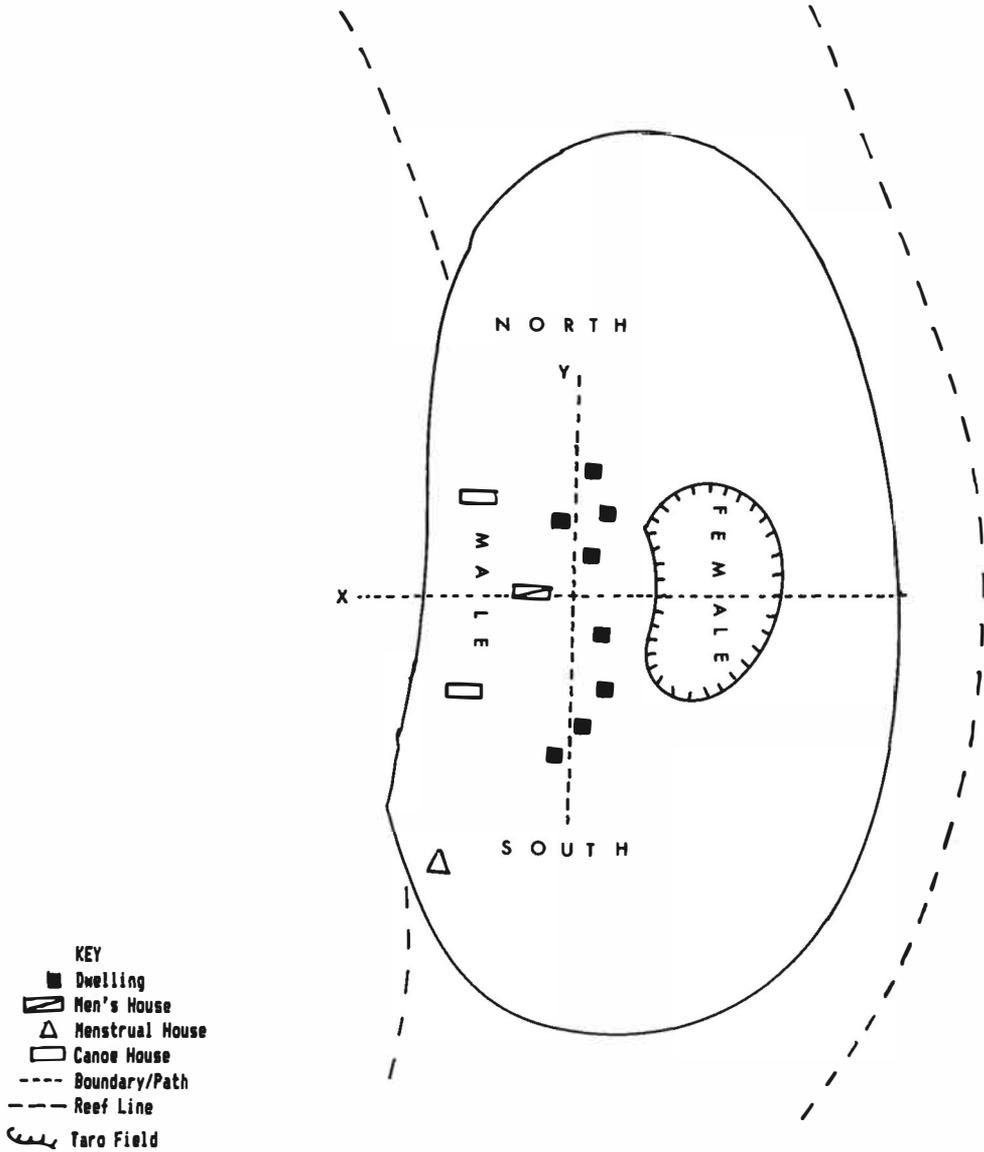


Figure 2. Developed dualistic or quadripartite pattern.

and lost or discarded in its construction (e.g., adze blades) and those associated with female and domestic activities (e.g., scrapers, shell pots, weaving artifacts, ornaments, etc.). Religious or ritual artifacts in a dwelling are limited to those associated with a lineage shrine. This shrine was frequently fixed to the kingpost of the dwelling and was composed of an orangewood (*huruhur*) stick and a container of coconut oil and turmeric.

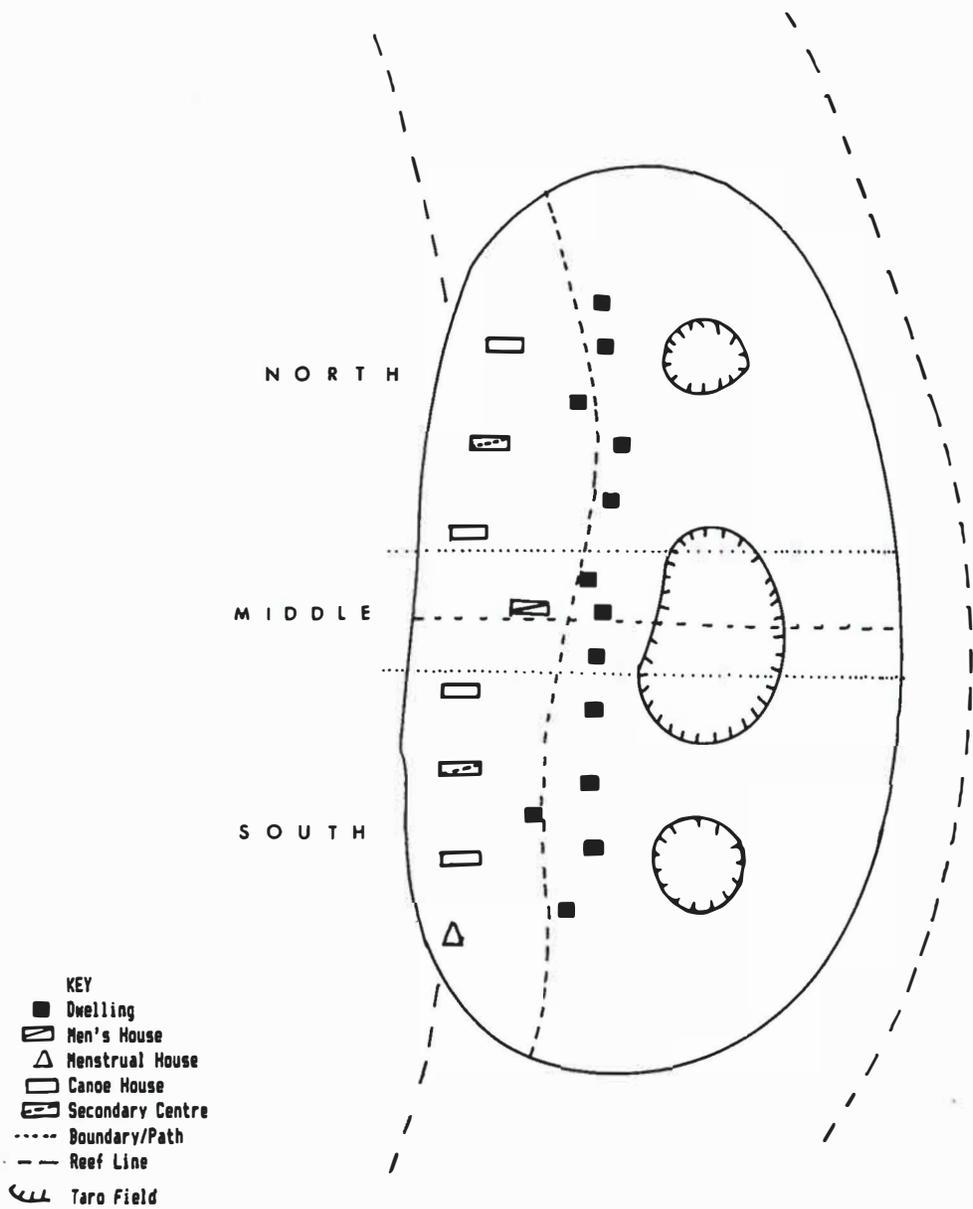


Figure 3. Evolved settlement pattern.

BURIALS

Our Lamotrek excavation experience suggests early residents followed a general Austronesian pattern and buried deceased lineage members on lineage lands. Quite often this probably occurred beneath the dwelling itself. In our 1976 work we uncovered one such burial at a Bolipi estate house site (Fujimura & Alkire 1984: 88–97). These skeletal remains were apparently those of a female aged 14–16 (Hall 1984). The necklace and bracelets found with the skeleton support this identification, but the large tridacna shell adze blade (a man's tool) that pillowed the skull did not. Why should this tool be buried with a female? One of the principles mentioned above may provide an explanation. The size of the blade (27.6 by 7.6 cm.) suggests an implement of ritual rather than practical importance. As it was found with a house-site burial we assume this individual was an important lineage member. The adze could be symbolic of lineage continuity, of male/female complementarity, and perhaps of cross-sibling solidarity.

We suggest burial practices on these atolls *may* have changed through time. The Bolipi burial is probably typical of the earliest pattern, when all (or important) lineage members were buried beneath dwellings. In some instances the dwellings were then abandoned or destroyed. Confirmation for such a set of practices therefore might be indicated by sub-dwelling burials and a proliferation of house remains on estate lands even though there is an absence of evidence of significant population growth.

A later pattern is marked by multiple burials in a single grave. This is a logical development of an ideology emphasizing lineage solidarity in conjunction with land shortages deriving from population growth. On Lamotrek in 1976, for example, a woman was buried in the same grave as her mother who had died several years earlier. The grave was opened and the mother's bones removed. The daughter's body was wrapped in shrouds (*tugatug*), placed in a coffin, and lowered into the grave. The mother's remains were similarly wrapped and placed on top of her daughter's coffin and the grave was filled. The practice affirms continuity of the matrilineage and unity of the estate, i.e., people and land (and it has obvious implications for archaeology when interpreting burial stratigraphy).

A still later practice, if the ethnographic evidence is accurate, should be marked by a scarcity of graves because of a shift to sea burials. This was the stated preference at the time of early European contact. Burial on land apparently resumed following Jesuit missionization (the effective date of this influence varies from island to island). However, the burial patterns of this period may have been more complex. Given the strong male/female : sea/land symbolic identification it is possible some females continued to be buried on land demonstrably maintaining lineage ties with estate holdings. Although there is no direct ethnographic support for this, there certainly is an ideational orientation that could have resulted in such a practice. It is a hypothesis only archaeology can verify.

Infant burials are a final and separate analytical class. They can mark the former locations of birth and menstrual houses. In the outer islands a woman moves from her dwelling to a birth or menstrual house shortly before the expected birth. On most islands this is a communal structure used by all women of the village or island, located near the shore where bathing was convenient for menstruating and post-parturient women and, at the same time, separated from canoe houses and the men's house. A woman and her infant

remained in this structure for a number of weeks (usually four months) before returning to the lineage dwelling. If the infant died during this period it was buried nearby.

In post-contact times grave boundaries are visibly demarcated by inverted rows of bottles with necks inserted in the ground. There is some evidence that in precontact times coral cobbles, slabs, or helmet shells may have been used for the same purpose (Fujimura & Alkire 1984: 88–97).

MEN'S HOUSES AND CANOE HOUSES

The men's house site we excavated on Faraulep atoll returned fewer artifacts than dwelling sites on Lamotrek. Certainly, the kinds of activities carried out in the vicinity of a dwelling are probably more numerous and varied than those undertaken at a men's house. The men's house is primarily a council chamber and bachelors' dormitory. Much of a man's work is accomplished in and around canoe houses. Consequently, artifacts of such activities are likely to be recovered there, just as the artifacts of female and domestic activities would more commonly be found near dwelling sites. Some types of artifacts may *only* be found in canoe house or men's house sites because taboos prohibit their use or storage in dwellings. Fishing equipment (nets, lines, hooks, spears and traps), canoes and canoe parts (including old hulls and strakes saved for future use in coffin construction), and most magical paraphernalia are of this type.

The proportions of a canoe house are the same as those of a dwelling. It is rectangular with four houseposts. It is half as wide as it is long and it has seven or nine rafters on each main plate. It also has three ridgepoles arranged one above the other. The orientation of the canoe house is more predictable than a dwelling. It is always oriented facing the water, thereby facilitating moving canoes in and out. There are a number of associated structures or features found near most canoe houses. These include any or all of the following: a ground oven site, a freshwater well for bathing, a rack for drying fish nets, a fish smoking rack, and a divination site of one or two sacred coconut trees.

GHOST HOUSES AND SACRED SITES

The location of ghost and spirit houses is less predictable. Some are located in less frequented parts of an island where a ghost once was observed and, in the case of patron spirits, in the vicinity of a canoe house or an estate. In some cases a ghost house may be constructed over the grave of a recently deceased individual whose spirit continues to frequent the island. Within ghost houses, offerings of fabric, coconut oil, flowers and other items were presented to ancestral, local, or patron spirits. We excavated one such site on Falalus and found a single artifact—a bonito fishing lure—which may or may not have been directly associated with the sacred character of the site.

OTHER VILLAGE AND ISLAND FEATURES

Paths, horticultural, and fishing areas may be archaeologically identified. We have already discussed the importance of paths as boundary-markers for settlement patterns. Main paths are a meter or more in width. They are lined by stones and in highly travelled

areas have sanded surfaces. In some cases they may be paved with fitted stones although there is some evidence that this was a practice introduced by the Germans, who encouraged outer islanders to extend paths around the perimeter of all inhabited islands to facilitate harvest and transport of copra. Secondary paths are numerous but less easily identified since they are not stone-lined, sanded, or paved.

One should remember that the lagoon or sheltered side of an outer island is the preferred residential area. Therefore few structures are located near the ocean or windward side. Of those that are sited there, ghost houses are the most important and permanent. Others include work sheds where copra, coconut husks, and firewood are stored and dried. These structures rarely leave significant evidence of their former presence. However on Lamotrek, at least into the 1960s, there were some rather obvious coral stone walls of former structures on the ocean side of the main island. Informants stated these were remains of air-raid shelters built at the suggestion of the Japanese during World War II.

Evidence of horticulture will probably be limited to artificially constructed and enlarged taro plots since tree cultivation rarely requires altering the natural topography. On most outer islands taro cultivation probably began in natural swamps, some of which are quite extensive. But in most cases swamps were improved and enlarged as populations grew and the need for taro increased. Evidence of conversion and reclamation may be most obvious on the smaller islands. Eauripik is one such example where all taro is grown in artificial depressions excavated to the level of the fresh-water lens, perhaps a meter or more deep. This may once have been the case on the smaller islands of Woleai and Lamotrek, as well as Olimarao which has been uninhabited for the last 100 years. Taro plots of this type can be identified by the disturbed stratigraphy and berms thrown up during their excavation.

Remains of coral stone fish weirs and traps may exist along the reef flats of some islands. However, most atoll reefs are more narrow than those of neighboring high islands and therefore subject to damage by storms and high surf. Unless such weirs were frequently repaired, any evidence of them has probably been lost.

INTERISLAND EXCHANGE

High island products have been recovered in outer islands excavations (Craib 1983, Fujimura & Alkire 1984). The central Carolinians were linked to Gagil, Yap, in a formal exchange system, the *sawei* (Lessa 1950, Alkire 1965, 1970, 1977, 1978). In pre-contact times they may also have regularly voyaged to Palau, the Marianas, and Truk (Spoehr 1954, Gladwin 1970, Riesenberg 1972). The outer islanders found it necessary for survival to establish these links while the high islanders welcomed trade because it frequently increased the status and prestige of participants within their own polities (Lingenfelter 1975, Alkire 1980). In the outer islands resources from overseas or "exterior" areas (in conformity with the sea/land ideology) were frequently of greater prestige than those from "interior" areas or domestic production. In the outer islands evidence of this could include ceramics, clay, volcanic stones, bamboo, and earth pigments. Some ghost houses in the outer islands are dedicated to off-island spirits (e.g., the Ulithians Rongala and Marespa are two such examples on Lamotrek). The possibility exists that these shrines might be identified by the variety and type of off-island artifacts recovered from them.

Summary

Ethnological research has demonstrated that a number of important principles are incorporated and reflected in material items and spatial arrangements in the outer islands of Yap State. Foremost among these are proportional measurements based on a halving principle. In some architectural and navigational contexts this principle is doubly invoked resulting in quadripartite divisions. In others (as construction or spatial demarcation) a dualistic division is separated by a pre-eminent mid-point or centre. A sexual principle is manifested in the concentration of male structures in littoral areas and female ones in the interior.

Lineage and sibling solidarity are suggested by localized burial and estate plans. Graves and houses can occupy single sites while close lineage ties and population growth are reflected in single grave multiple burials. Domestic ghosts that continue as active participants in lineage affairs have houses and shrines in proximity to house sites (e.g., Goodenough 1974, Alkire 1989). In contrast, ghost and spirit houses, often dedicated to "off-island", regional and patron spirits, ghosts, and gods, are sited well away from residential areas.

We expect additional hypotheses relevant to these outer island principles of organization will emerge from more intensive archaeological research in the future.

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