Man and Fish on Tobi: Culture, nature, and the sea's bounty in a western Caroline society

Peter W. Black George Mason University Fairfax, Virginia

Prepared for Symposium LIII.2, Ecological problems of the traditional societies of the Pacific region: the persistence of exchange systems as adaptive mechanisms in ecological change.

Convened by R. Force and Y.V. Maretin

XIV Pacific Science Congress Khabarovsk, U.S.S.R. August 1979

Draft: Please do not quote without author's permission. Written in 1977. Lightly edited in August 2005.

Note: Descriptions of Tobian daily life, society and culture contained in this paper refer to the period between the end of the Second World War and the end of the 1970s. Today most Tobians do not live on the island of Tobi and no longer subsist on food they catch and grow themselves. Portions of this paper have appeared in slightly different form in my 1977 dissertation Neo-Tobian Culture:

Modern Life on a Micronesian Atoll; a chapter called Fishing for Taro on Tobi (in Persistence and Exchange, Roland Force and Brenda Bishop, eds., pp. 25-36, Honolulu: Pacific Science Association, 1981), and the unpublished paper Notes on a Tobian Dance.

Introduction

Theoretical and practical considerations indicate that the relative neglect of fishing as a human activity by anthropologists and other scholars should be reversed through the adoption of a holistic perspective. Ideally this perspective should incorporate a wide variety of ecological, social, and cultural variables. The best way for such an approach to develop is through detailed ethnographic accounts of fishing in specific societies. Accounts of this nature, giving unified pictures of the role of fishing in the lives of particular peoples, will provide the basis for a more developed understanding of fishing's place in human adaptation. They will also allow discussion to proceed on technical issues which have arisen out of partial analyses already completed. These partial analyses tend to be severely restricted to small sets of variables which are typically technological or economic in nature. In my estimation they need to be placed in context. No matter how desirable it might be, however, a full scale ethnography of fishing is not possible here. I therefore shall take up what I consider to be neglected issues in the study of fishing. I shall discuss primarily expressive and symbolic variables because in my opinion they are the contextual elements most missing in the bulk of the work which has been done so far.

Throughout the long (if minor) tradition of anthropological concern with this topic the great majority of scholars have focused on either the technologies for catching fish or the social arrangements for their use. These are admittedly important considerations. My point is simply that it is also necessary to take up the less material side of the activity. Fishing, like all human pursuits, is an inescapably cultural activity.

This means, among other things, that its symbolic potentials are elaborated into conceptual systems. Fishing produces food for the mind as well as for the body.

In this paper I briefly examine some of the understandings about fishing to be found in the works of general theorists in anthropology as well as in the several subdisciplines of archaeology, human ecology, and the new field of maritime anthropology. I indicate where I think a symbolically enriched understanding of fishing might be helpful. Next, as an illustration of the kind of thing I am talking about, I present a partial analysis of data drawn from Tobi, a Micronesian island. Here, I draw special attention to the way that fishing as a male activity plays a very important role in the relations of exchange between Tobian men and women. Finally I return to the theoretical and practical concerns mentioned in the first sentence. I indicate ways in which the symbolic aspect of fishing is important not only for further anthropological research but also for other maritime disciplines. The paper is part of a developing integrated analysis of the Tobian fisheries and is offered primarily as a partial corrective to the general trend of treating fishing solely in techno-environmental terms.

Fishing and the Anthropologists

Part of the reason for the relative neglect of fishing (a neglect specially evident in general theory) is the recalcitrance which it shows to efforts to locate it within a general typology of subsistence activities. W. Leap, for example, in a recent important paper on the topic, finds fishing on the whole to be best considered a form of hunting (1977:252). F. Keesing, on the other hand, noted that some aspects of fishing have elements in common with herding (1959:127). Widespread agreement exists that the collection of shell fish is a kind of gathering. Others have pointed out the similarity between annual

harvests of dependable fish migrations and agricultural harvests. At the same time "modern" fishing is often said to be a kind of industrial activity, utilizing "factory ships" of great technological complexity. Of course, fishing splinters into a variety of categories in this way because there is a great deal of empirical variation. Different societies, with different degrees of socio-cultural complexity take sustenance from the waters in different ways. But this refusal of fishing to remain in one piece under the classifier's scrutiny raises some interesting theoretical difficulties.

How are we to consider those societies in which fishing is a way of life and in which the seas provide the great bulk of protein? Decisions about their classification can only be based on theoretical grounds (whether or not clearly specified). When theoretical interests lead us to treat all such societies as belonging to the same class it is a little disconcerting to find that they are nowhere treated as things unto themselves but only as imperfect members of a variety of other "realer," categories. I am interested in the fact that our land dwelling species occasionally forms groups which derive critical and substantial parts of their diets from the waters. I shall call such groups "fishing societies." I am particularly interested in the symbolic potential inherent in such situations and any commonalities which may appear. Put another way, I wish to understand the symbolic properties of differing fishing complexes defined as the knowledge, equipment and skill involved with extracting food from marine environments, the uses (material, social and cultural), to which those resources are put and associated constellations of feelings and attitudes. It seems to me that in fishing societies the fishing complex will likely provide much of the dynamic for crucial cultural processes.

Such societies exist and I think, probably have existed throughout much of human history.

As early in the history of anthropology as Lewis Henry Morgan's **Ancient** Society and as recently as Marvin Harris's latest book Cannibals and Kings, grand theorists have assigned fishing a crucial role in the development of human social systems (even if these two do it in atypically understated fashion). Morgan gave the invention of fishing (along with the related and much more widely heralded discovery of fire-making) great explanatory weight in his reconstruction of human history. It was the crucial event for him in the evolution of society from lower to middle savagery. This, in turn, was a critical passage in our social ascent. Once the two related technologies of fish catching and fire-making had been achieved, humanity was free to begin its long, slow spread across the face of the earth, following river banks and shorelines. Humanity was also free to begin the even longer and slower progress toward upper savagery, barbarism and finally civilization (Morgan 1964:16, 25). Now 102 years after the publication of **Ancient Society** Marvin Harris has taken up many of the same issues. He relates how, after the collapse of upper paleolithic cultures based on the hunting of the famous pleistocene megafauna, humans began to depend on fishing as part of a broad spectrum mesolithic adaptation. Of course Harris takes a much less sanguine view of social development than does Morgan. Nevertheless it is interesting to note how both of them place the development of fishing at the critical interval in human prehistory. Neither considers the activity in much detail and both regard it in purely material terms.

In some respects Morgan's early, undeveloped speculations on the importance of fishing have been validated by archaeological work. From sites as remote as Southeast Asia (Saur 1952) and coastal Peru (Mosley 1975) the evidence is that fishing played an important role in the early cultural history of large areas of the globe. To date no general synthesis of this new material has been achieved and no modern general statement of the role of fishing in human history attempted. One of the things which may be responsible for this lack (along with whatever biases are inherent in the fact that anthropology developed in continental societies) is the lack of good detailed ethnographic accounts of fishing in subsistence economies. The same lack may be hampering interpretation of the many physical traces of fishing activities recovered by archaeologists and collectors. Taking examples just from Oceania: Anell (1955), Beasley (1928), Emory et al. (1959), Hjarno (1967), Skinner (1942), Best (1929), Buck (1926), Davidson (1967), Trotter (1965), and Balfour (1913) are only some of the scholars who have published on one historical aspect or another of the technology of Pacific fishing. An appraisal of their contributions and the construction of theoretical models both would be enlivened if rounded accounts of the subsistence activities of flesh and blood fishermen were available. It would be even more productive to have those accounts furnished by researchers working in the exciting new tradition of living archaeology being developed by Gould and others.

In a recent review of Pacific archaeology Clark and Terrell remark that "the evolution of effective subsistence strategies for dealing with the problem of survival in an island world has long held the attention of oceanic archaeologists and anthropologists" (1978:307). Fishing is clearly of great importance in many island

subsistence strategies and no doubt was equally if not more important in the past. A greater appreciation of this fact, and its integration into theoretical models would be useful. For example speculation about the settlement history of the Pacific has been rampant for a long time. I do not wish to add to the confusion, but I do want to note that the initial settlement of either high or low islands could very well have depended on the successful exploitation of the sea. Many islands were only habitable at historically recorded densities because of profound alterations in their ecosystems carried out by humans. During the period in which those alterations were being made the colonists were very likely dependent on foods that they could gather from the land and harvest from the sea. In fact, F. Reinman has speculated that settlement of parts of Oceania may have waited on the development of techniques for deep sea fishing (1967, 1970) while M. Groule has hypothesized that the spread of people throughout the Southwest Pacific was undertaken as a result of a heavy concentration on maritime resources by a lagoon and shore dwelling population. If there is anything to all this (and the lack of good ethnography makes it difficult to be sure) the fishing complex probably played a very important role in the formative period of many island cultures. The implications of this for our understanding historic and contemporary cultural processes in Pacific societies should be explored.

One difficulty with reconstructions based in whole or in part on the material traces of fishing is that, as E.B. Tylor recognized in the few comments he made on the topic, fishing gear tends to remain quite stable over very long periods of time (1881).

Other aspects of material culture and technology may faithfully reflect increasing enlightenment (or at least socio-cultural complexity) but fishing gear often does not.

Furthermore, even when the gear changes, the way it is used may stay the same. Writing of Tikopian fishing circa 1966, Raymond Firth noted that: "Although the materials of fishing equipment had been largely replaced by imports, fishing techniques had not altered to any comparable degree" (1971:56). Given these observations, there may be a conservative bias associated with culture history built on archaeological or ethnographic records of fishing.

Nevertheless, it seems indisputable that the culture history of the Pacific will have to take into account the spread and development of fishing. Thus it is disappointing to note the degree to which it has been neglected. For example Spoehr in his important post-war statement on the prehistory of what he chose to call Micro-polynesia does not mention fishing when he speaks of the adaptation which made settlement possible (1952). I have already mentioned Reinman's work in which he points out the key role which the development of deep sea fishing techniques and gear (especially hooks) may have played in the successful occupation of certain areas of the Pacific. Although often cited (e.g., in Golson 1972:16, 23) no one to my knowledge has taken the next step and examined in depth the role of the development of fishing technologies in the settlement of the Pacific. Much work has been done on the crops of the early settlers and much more with their pottery or lack of it. Even the preliminaries still need to be done on fishing. For example, little has been done so far to work out the design characteristics of fishhook assemblages as they relate to actual functioning.

A proper appreciation of the possible role of fishing also does not seem to inform the work of ecologists, geographers and others who have recently contributed more synchronic studies of Pacific man. To sample just work relating to atolls, Fosberg, in an

early important qualitative description of an atoll, paid little attention to human fishing (1961). This is impressive because fishing would seem to be one of the major ways in which energy is transferred from the marine to the terrestrial components of inhabited atoll ecosystems. R. Murphy (1950) in a description of Mokil also paid very little attention to fishing. M. Marshall has published a very comprehensive paper on the ecology of Namoluk atoll (1975). Yet, aside from a few comments on turtle harvesting and the use of sea shells, he does not discuss fishing. Vitarelli (1975) paints an idyllic picture of a fishing atoll culture but this seems clearly a case of persuasion outrunning reality. Bayliss-Smith (1977a and 1977b) gives, I think, insufficient attention to fishing as an important component of atoll human ecology. In many ways the most comprehensive treatment of fishing in the atoll environment is that of K. Knudson (1970).

Of course fishing has not been totally neglected. In fact, its material side at least is really only understudied when it is compared to other extractive systems. There is a large body of literature on the economics of fishing. I do not wish to survey this work, but there are two studies which need mentioning.

R. Critchfield, in a widely read report on four third world economies includes a fishing village in Mauritius as one of his case studies. Although criticized in some quarters, Critchfield's work at least attempts to present the situation from the point of view of a fisherman. He tries to give a reasonably rounded picture and succeeds in avoiding what Brookfield has labeled the "calorific obsession" (1972:46). This obsession seems to dominate much work in the analysis of non-western ecosystems and its omission from Critchfield's work is notable.

Even more ambitious (and much more substantial) is a recent work by F.L. Prvor (1977). In it he uses a sample of 60 societies to test propositions drawn from economic theory. He includes two "fishing" societies in this sample (the Kwakiutl of the North Pacific Coast of North America and the Callinago of the Caribbean). He classifies these two societies as fishing societies because they draw more than 50 percent of their foodstuffs from the water in ways which he considers non-hunting and non-gathering. Thus fishing as a unitary phenomenon fails to survive his classification. He includes both river and ocean fishing in his definition but excludes the hunting of large aquatic mammals (which he labels as hunting), and the gathering of clams and other shell fish (which he labels as gathering). Nowhere in his scheme is there a place for lacustrine societies exploiting such watery environments as the North American great lakes or the even greater lakes of East and Central Africa. Neither is there any way to go from his study to a general statement about the role of the earth's waters in providing sustenance to human societies. Furthermore by using the 50 percent mark as a criterion for classification and calling societies in which 50 percent or more of the foodstuffs come from cultivated crops "agricultural" none of the societies in his sample from the insular Pacific (including such places as Fiji, Truk, Tikopia and the Trobriands) are classified as having fishing economies. Nevertheless, Pryor is one of the few general theorists to offer a category of "fishing societies." His most general finding on the topic is that fishing societies rank at the second of four levels of economic development and in this at least he reflects both Harris and Morgan.

There is now a respectable and growing body of recent anthropological literature devoted to the study of fishing as a type of economic activity. Much of it goes under the

name "maritime anthropology." Recent surveys can be found in Nishimura (1973), Andersen and Wadel (1977), Leap (1977) and Smith (1977b). The research has primarily been on the commercial aspect of small scale commercial fishing. The paradigm seems to have been established with Davenport's early and influential game theory analysis (1956). It seems to me that these studies tend to be so restricteds to economic variables that they offer us little insight into the kinds of questions I have raised here. This is not to say that such studies are not badly needed, only that they are insufficient in and of themselves (just as this paper is in its way) to be the foundation for a general theory of fishing. Nor is this to say that there are not exceptions such as M. Orbach's recent study of San Diego tuna fishermen (1978). Also notable are Nishimura's paper (1973) and Boeri and Gibson's book (1976). The former gives an account of the evolution of a fishing technology's integration into a culture. The latter gives an excellent account of the way a fishing subculture fits into a complex society. Nevertheless, few studies of subsistence fishing economies have been by maritime anthropologists, and even fewer, if any, of societies built around such economies.

If we look beyond the borders of maritime anthropology we find Titcomb's work on Hawaiian fishing and fishermen (1977), Nordhoff's classic paper on Tahitian fishing techniques (1970) and Best's (1929) partial study of Maori fishing (with good coverage of eel fishing and not much else). All these works are important for the light they shed on indigenous Oceanic fishing, as are more general studies by Firth (1965) and Handy (1932) but none of them is a holistic study. We come closer to that goal in the work of G.R. Lewthwaite who in 1966 published a lively yet comprehensive survey of much of the ethnohistorical literature on Tahitian fishing. In addition to good technical

description of the mechanics of Tahitian fishing, he gives much information on a variety of topics such as navigation, trade and politics.

From the North American Pacific Coast come two other exemplary works. L. Landberg, combining ethnohistorical and archaeological materials, provided a masterly analysis of the fisheries of the inhabitants of the coastal islands of California (1973). Erik Erikson, in a still unequaled tour de force, demonstrated in relatively few pages how certain characteristics of the fisheries of the river bank dwelling Yurok of Northern California ramify throughout the entire culture and even have profound consequences for personality development (1963:166-186). Clearly, a society's dependence on fishing can have consequences far beyond the strictly techno-environmental. To understand those consequences, and thus to fully grasp fishing as a phenomenon, I think it is necessary to operate with a much broader conception of fishing than has usually been the case up to now. I think we need a concept such as "fishing complex." I shall demonstrate what I mean with ethnographic material after I present some necessary background.

Tobi Island

Tobi is a coral island with a dry land area of approximately 60 hectares. Since its greatest natural elevation is less than four meters it can with justice be classified as a "low island." It is located in the extreme southwest of the U.S. Trust Territory of the Pacific Island at latitude 3° 00′ 50″ north and longitude 131° 10′ 37″ east.

Tobi lies in what may be among the most productive of Micronesian seas.

Knudson reports that "Basic marine productivity in Micronesia . . . (has) . . . a bimodal distribution, with highs in the east (somewhere between 140° and 170° latitude) and the

west (near the Asiatic mainland)" (1970). Although lucky in their location which, in addition to relatively productive waters, places them in an area of moderate to high rainfall. Tobians are unlucky in not possessing a lagoon. Their home is thus one of the simplest and most symmetrical land forms known, a low coral island totally encased by a fringing reef. A schematic drawing of the island shows it to be composed of a series of five concentric circles. At the center is a fresh water swamp, partially converted to taro paddy and crossed by an elevated causeway. Next is an area of higher ground. covered with an intermixed growth of scrub, useful hardwoods, medicinal plants, and coconut plantations. It is here that the majority of the island's buildings are found. The only exceptions are a few rough shelters in the taro grounds, and the canoe houses which are located on the beach side of a narrow strip of slightly higher land that separates the beach area from the interior. A fine sand beach encircles the island, broken only in the north by a few meters of coral rubble. Last is the reef itself, which follows and exaggerates the contours of the land. The island lies on a north-south axis, and (being roughly triangular in shape), can be said to resemble a footprint, with the big toe pointed almost due north, the little toe toward the northwest and the heel toward the south. The village is situated on the southwestern shore along the "instep." In 1969 it was composed almost entirely of thatched structures which are now gradually giving way to plywood and tin. It is here that the reef is narrowest and, in an area of generally northeasterly seas, it is here that the ocean is usually calmest. For these reasons the Japanese, during the years in the 1930s when they mined phosphate on the island, constructed a pier and accompanying channel out across the reef to the open sea. The pier is now all but gone, a victim of storms and American bombs, but the channel,

partially sanded in, remains. It provides a useful access to the sea but it is a source of concern as well since Tobians worry that it may erode their island in half.

The Japanese occupation which began in the 1920s was the most sustained contact the Tobians had experienced with non-Tobians. Until then the island had apparently been as remote socially as it is physically, and its physical remoteness is considerable.

The nearest land to Tobi is a tiny islet only a few tens of meters long, 75 kilometers east on Helen Reef, a large and seldom inhabited reef. Other than Helen Reef the next nearest land is over 200 kilometers distant. Until the advent of the 20th century Tobi was quite isolated. In the typology developed by William Alkire for classifying coral islands, it formed a coral isolate (1978).

The closest affinities to Tobian language and culture were found on Sonsorol, Pulo Ana and Merir, small islands lying to the northeast about half way between Tobi and Palau. All these islands seem to be linguistically and culturally related to the low island societies of the so-called Yap empire (Alkire 1977). It is reasonable to suppose that the ancestors of the present populations of the southwest islands of Palau (Tobi, Sonsorol, Merir and Pulo Ana) originated on one or more of the low islands to the east.

Present day Tobian society is located in two settlements, one on Tobi itself and the other in Palau. The Palau settlement was born in the early years of this century, and has come to assume a greater and greater importance for Tobians. Most people spend some time in Palau during the course of their lives and an increasing number of people spend almost all their time there. Communication between the two settlements is dependent on the small government copra steamer which visits Tobi and the other

Southwest islands three or four times a year. In this paper I focus on the settlement on Tobi, with its shifting population of 60 or so people.

The society is composed of six, unranked matrilineal exogamous clans which serve to regulate marriage. Land is owned in most cases by individuals although a few plots are jointly owned by siblings. The reef is held in common. Leadership rests with the chief, who leads by moral persuasion and example and with the magistrate (elected in accordance with the wishes of the Americans), who serves in most cases as a spokesman for the chief. There is a school with the first six grades and a small dispensary, but no store or other commercial establishment. What little cash income exists is acquired from copra, which is sold to traders who come on the government ship three or four times a year and sell the few items of manufactured goods the islanders purchase. The island is still self-sufficient in food. In fact it is a net exporter as with every ship which leaves Tobi after its four or five hour stay, baskets of taro are sent north to relatives in Palau.

Contemporary Tobian society exhibits a number of cleavages. Three adult generations each have had remarkably different experiences in life and all three have very different orientations toward the present and the future. The existence of both nuclear and extended families divides and subdivides the population through descent and marriage. Two political factions contest every leadership and salaried position available and dispute the control of other valued resources. Furthermore, due to the persistence over a number of generations of long term, unresolved interest conflicts over land, women and political office (conflicts which cross-cut one another in bewildering profusion), virtually every adult Tobian is at the same time both allied and

opposed to everyone else. The most profound of all the cleavages which divide Tobian society is, I think, that which exists between men and women. It has fundamental importance for the functioning of Tobian society, the organization of Tobian personality and the integration of Tobian culture.

Man and Woman on Tobi

Tobian society is characterized by a rather stringent sexual division of labor,

Tobian personality by a widely shared aversion to depending on anyone, especially a

member of the opposite sex, and Tobian culture by a conceptualization which opposes
the sphere of the male to that of the female.

The productive labor of men and women tends to occur with others of the same sex. Women garden together and men fish, either alone or in small groups. The division of labor is not as rigid in practice as it is in other Pacific societies. Men are not forbidden to garden (although I have never known any to do so). Women gather clams from the reef, take part in community-wide fish drives, help their husbands in spear fishing (they walk along the reef edge at low tide and their husbands toss speared fish to them to carry) and join turtle hunting patrols on the beach at night. Only men fish from canoes, use spears, and fishing poles. Women spend their time gardening, tending children and cooking, men spend their time fishing, making coconut toddy, and tending fishing gear, especially canoes. Both sexes share responsibility for the many chickens and few pigs which are raised. Furthermore, there is a pervasive, if muted sexual stratification on Tobi. Men, all agree, run the place. This is rationalized through the Tobian understanding of human (or at least Tobian) nature. First of all (and simplifying matters considerably) they hold that learned fear is crucial in self control.

Self control is, in turn, important in face of the great number of antagonisms between people that are known to exist, in this small and mutually dependent society. They feel that only people who have demonstrated great maturity by accumulating a history of self control (which translates into the maintenance of a pleasant surface under any and all provocations) are competent to manage their own lives. Everyone else is a potential danger to themselves or their society. Thus everyone else has someone "in charge" of them. This **hosuar** or guardian system is quite complex and I shall not elaborate on it here except to note that it places every women in a subordinate position. Each has some adult man as a monitor of her behavior. Women, along with children, young and senile men, are simply too volatile (which to a Tobian translates as being the same as "foolish") to be allowed to run their own affairs. Thus on the cultural level there is a clear cut hierarchy of the sexes. On the social level, that is the actual relations existing among the Tobians, the hierarchy is much less clear cut and there are many exceptions. The system as it is lived is rife with hypocrisies and pretense, but as it is thought it is quite clear.

The contrast is one between ideology and practice and arises out of the demographic and other constraints under which Tobians live. The point here is that although all Tobians strongly value independence and personal autonomy, only a small class of people (the adult men) is granted them. Only they are conceived to have the requisite amount of the necessary characteristics of self control and "true intelligence." It is not surprising then that women resent men, especially when the flagrant disconfirmation of the ideology is a daily fact of life. Senior, competent women manage their affairs with only the most cursory reference to their male "guardian." On the other

hand, this same "in charge" system also is responsible, I think, for a large part of the resentment which men feel toward women. This is because Tobians tend to resist being forced into nurturative roles. They often fear that somehow advantage is being taken of them. However, at the same time, genuine dependency needs, also with roots in early childhood, continually draw people together. Close emotional relationships are therefore often brief and intense. They generally are fragile attempts to construct emotionally rewarding situations which fail as each partner attempts to achieve a dominant, non-nurturative role (in short as each tries to be "in charge") while avoiding having to depend on a basically unknowledgeable and untrustworthy other. These statements are generalizations which hold true to a greater or lesser degree for all Tobian dyads. They are most true, I think, for cross gender relationships, especially lovers and spouses. The sexual violence characteristic of such societies as Truk (Swartz) for one and the Gusii of East Africa for another (Levine 1959) is not present on Tobi. A kind of emotional warfare between the sexes, bitter and protracted, does exist and is exacerbated by contradictions at the cultural level. The "in charge" ideology proclaims men masters of self control and thus free to pursue personal autonomy and independence. However beliefs about nutrition and the sexual division of labor combine to subvert this self image. Indeed, these beliefs force all Tobians into complementary roles of both nurturance and dependence. The underlying reality is that no Tobian, either male or female, can escape relations of fundamental mutual reliance with people of the opposite sex.

Tobians believe that it is necessary for one's health that a full meal be eaten at least once a day. Tobian eating patterns are typically Micronesian. In the morning,

yesterday's food is eaten on the way to garden or sea. During the work day, light snacks of whatever is available are eaten. In the late afternoon or evening a meal of a variety of foods is consumed. This large meal is almost always eaten in the company of others. It is the only kind of eating which counts as "real eating." Such a meal, once a day, is thought to be necessary for good health. It must consist of at least symbolic amounts of the two food groups. One of these is called **tariye** and includes all food from the flesh of living creatures. The other is called **munga** and includes all vegetable foods. The act of eating the former is **hochoch**, and the latter **munga**. Tobians believe that people who are unable to achieve "real meals" on a regular basis run the risk of becoming ill. A central social fact of Tobian life is that each sex only produces one of the needed food groups. The men produce **tariye** and the women **munga**. Good health and life itself, Tobians think, depend on these two being brought together. This bringing together takes place at the kitchens and is presided over by the women.

The kitchen area of a house site includes a ground oven, a small hut for shelter, a cleared area for pounding taro, and a place for the cleaning of fish. Depending on who is on the island and who is in Koror, different kitchens are in operation at different times. There are always fewer kitchens being used than there are house sites occupied. Households where kitchens are being used daily become centers of sociability and influence, drawing in **tariye** and **munga** from a large number of people. This social organization of production and consumption is culturally reflected in Tobian public ideology and civic morality. Ignoring as anomalies such exceptions as net casting women and taro gardening men, the point is made again and again in speeches, songs, myths and dances: "**Men Bring Fish and Women Bring Taro**." This

statement obviously carries with it a whole train of associations. It resonates with all the various components of male/female relations discussed in this section. This in turn means that fishing, the source of the male half of a "real meal" can not be understood solely in material terms.

In the next section of this paper I attempt to demonstrate this fact in reference to two items of material culture central to the fishing endeavors of the men. I then present material on the techniques for catching three kinds of **tariye**. Each of these three is symbolically important in different ways and in different degrees and I present them in order of symbolic complexity. The third one both refers to and transcends many of the issues discussed in this section. Therefore, I shall again be taking up the relations between men and women.

Canoes and Hooks

On Tobi the combination of no lagoon and productive waters leads to a stress on deep sea fishing. Out of 42 named techniques, 35 call for fishing either on the outer reef slopes or beyond. By far the bulk of the fish which are taken are caught in one of these two places.

The dependence on open sea fishing in turn leads to dependence on outrigger canoes. Such canoes are major pieces of capital equipment. Three types of these craft are used, each for a different range of fishing. They are built by master craftsmen. These men and their helpers work in exchange for food provided as payment every day by the women folk of the prospective fishermen. By virtue of this a canoe is said to belong to the woman who makes (or at least supervises) this food. In an everyday sense this ownership appears to make little difference to anyone. Men use canoes with

little reference to the fact that they are owned by women. Nevertheless the fact that women are "in charge" of the canoes is important in various ways. For example, some one who is temporarily without a canoe, arranges to borrow one through his female kin. The distribution of a catch always includes a portion for the woman who is "in charge" of the canoe. When a person dies he or she is buried in a canoe provided by a mother, sister or daughter. Furthermore female ownership of canoes looms large in the Tobian creative products of song, dance and story. From the time it is carved until the time it is buried, then, canoes carry a symbolic load equally as real as their material ones.

Fishhooks are another important part of the material side of Tobi's fishing complex. Twelve basic patterns are present, each of which can be elaborated and varied in a number of ways. The hooks are what Beasley (1928) called "marvels of stone age technology." They are highly specialized and they seem designed to meet the particular requirements of a wide variety of fishing. One hook is particularly interesting since it is specially designed to catch a fish whose symbolic importance far outweighs its slight nutritional contribution to the islanders' diet. The hook is called haufong and is used to capture a number of species of trigger fish (balistide) which are found on Tobi's reef. These fish are very difficult to catch on a hook. In fact the Hawaiians (who used them as a fuel) caught them in covered baskets filled with a bait of cooked pumpkin or sweet potato (Titcomb 1977:81). R. Johannes, a marine biologist who has worked with Tobian informants provides the following (personal communication):

Triggerfish have very small mouths with strong, sharp teeth. Because they take tiny bites, they seldom take bait of normal size into their mouths whole. Instead, they nip pieces off the bait until what remains falls off the hook. They are, in consequence, notorious bait-stealers. If a very small hook is used with a small

piece of bait they will take the entire hook into their mouths but often snip the line to which it is attached with their teeth.

The **Haufong** or **fong**-hook was invented to circumvent these problems. The terminal two or three millimeters of this metal hook are bent sharply inwards. A very small portion of bait is placed on the hook so that it just covers this bent tip or **fong**. Because the bait is small the triggerfish takes it into his mouth in one piece along with the **fong** within it. When the fisherman pulls on the line the fish tries to spit the hook tip out, but the **fong** catches in the roof of its mouth and is then driven through it.

Tobians take great pride in these hooks and spend considerable effort in making them.

They also spend considerable effort fishing for triggerfish with them even though many people do not particularly care for them as food.

Trigger Fish and Tobian Identity

The Tobian term which includes all species of trigger fish is **bub**. This term is also used to refer to any parallelogram and is the name of the constellation Southern Cross. In pre-Christian times one species of trigger fish was one of the fish religiously reserved for the use of certain spiritual specialists. One of the Tobian clans is named **Hauorobuh**, a name which some informants thought probably originally carried some reference to trigger fish. All these things indicate a greater importance for trigger fish in the culture than merely as an item of rather unattractive protein.

I have yet to completely explore this topic with informants but as a first approximation to an analysis it can be noted that the ability to catch trigger fish is one of the things that Tobians think marks them off most sharply from other peoples. Tobians take a good deal of satisfaction in the fact that among the islands of Palau District, they are known as the ones who are the best trigger fishermen. Since Tobians consider trigger fish one of the most difficult of all fish to catch, their ability to do so stands, I think, for their ability as fishermen. And since the fishing complex plays such a large

role in their society's self definition, fishing skill in turn has come to stand for the society. "We are the people who can catch trigger fish," they say with pride. As well as feeling a sense of rivalry with other islands, Tobian men feel intensely competitive toward one another. The former competition is expressed through fishing for trigger fish. The latter receives one of its greatest expressions in tuna fishing.

Tuna Trolling

Tobians go after tuna (called **Tahu**) in their sailing canoes if the wind is up and from paddling canoes if it is not. They fish in the early morning and late afternoons.

Most tuna are caught on chicken feather lures, pulled along 20 or 30 fathoms behind a 6 or 7-meter sailing canoe manned by one or two fishermen. The islanders know of other techniques. However, they no longer use poles to catch tuna and only rarely attempt drop line fishing for them.

The canoes are sailed back and forth along the length of the island. In the morning they gradually work their way eight or nine kilometers out to sea before breaking off about 9:00 a.m. and coming in. In the evening they stay closer in to the reef. In addition to several kinds of tuna (yellow tail and skip jack primarily) other pelagic fish such as barracuda, dolphin fish, various kinds of jacks and marlin also sometimes hit the lure.

An intense and (for Tobi) overt competition exists between tuna fishermen. The main consideration is the number of fish caught on any given expedition. Many rules on Tobi reduce and minimize direct competition and some of these relate to fishing. It is considered extremely impolite, for example, to meet canoes coming in from fishing. In fact, when canoes are sighted approaching shore, all must leave the beach. The

rationale given for this by Tobians is that anyone present when a canoe lands is obliged to help the fisherman carry it up to his canoe house. In his turn the fisherman would be obliged to present the helper with some of his catch. The helper thereby loses prestige, finding himself gossiped about as an incompetent fisherman, reduced to feeding his family from another man's catch.

I think the rule is valued primarily because it serves to help keep secret how many fish are being caught by each fisherman. Against this background some of the practices involved with tuna fishing are really striking.

Fishermen attempt to keep secret their ideas of the best place to fish for tuna on any given day. There is no one area where tuna are always to be found. People make daily predictions about where to troll. These predictions are primarily based on observations made during the previous day's fishing. For other kinds of fishing people gladly pass such information back and forth.

When a tuna fisherman returns to the island, everyone politely leaves the beach. If he has been lucky and has caught more than ten or twelve fish, he might broadcast his return in an unusual manner. This is done by drawing his plywood hatch cover slowly across his canoe's gunwales, producing a loud, low groaning sound that, if it is rightly made will echo across the island. Each canoe produces its own sound, and all can recognize this signature. To make this sound during the day is mildly impolite and it is never done except to mark an exceptional tuna catch.

Nothing makes a returning tuna fisherman happier, I think, than calling some passerby over and modestly requesting that one of his dependents be sent for to help carry an overload of tuna up from the beach. Like the use of his canoe as a resonator,

this is a public way of announcing his success. As he and his helper haul the tuna along the path toward their home kitchen everyone in the vicinity cannot help but note his success.

At each house site that contains a kitchen there is a spot reserved for the tuna fisherman's catch. One household uses an old bed spring, another uses the cement top of an old water catchment. All of them are conspicuously located in full view of the main path. The controlled swagger of a successful tuna fisherman, and the dejected slouch of the unsuccessful, as they approach their tuna display area are very evident to the practiced eye. These postures are not so evident when men return from other kinds of fishing.

There are other ways in which tuna fishing is unique. For example, it is only in reference to tuna that people will inquire of the rumor network for information on catch size. Finally I want to mention that the only time I ever saw anyone dance on his canoe was while fishing for tuna. That dance was unmistakably a mocking and defiant proclamation of manhood and pride directed at all who witnessed it. Taken together, all of the above indicates the way in which tuna trolling is much more than a simple technique for obtaining fish protein. It provides a vehicle through which antagonisms between men can find acceptable expression and by which individual manhood can be affirmed. A much more complex symbolic vehicle, one which serves to both express and resolve a whole range of oppositions even more fundamental than those between fishermen, are found in large sea turtles.

Turtles

Tobians claim that four kinds of turtles visit their waters. Two of these are of moderate size and are found in association with the logs which occasionally are sighted off the island drifting along from some other place. I have never seen either of these two types. They are called **hameuor** and **fareyoroung**. The former is said to have a smooth back and the latter a rough one. Once I wondered aloud whether these two might not be the young to the other two kinds. These other turtles, which occasionally are caught on shore, are considerably larger than the drifting log types and they are also divided into those who have smooth and rough carapaces. They are called **uor** and **hachap** respectively and I have no hesitation in identifying them as the green and hawksbill turtles. My question about the relationship between the small and large kinds was answered as follows: "The big ones that come on shore are not the parents of the smaller ones near the logs because the small ones have eggs inside when caught."

It is significant that Tobians refer to the female's reproductive capacity and make cognitive use of this evidence of sexual maturity. The turtle has many sexual connotations for Tobians. It is the only sea creature about who sex life much is "known."

Green turtles (**uor**) frequently mate within sight of shore. When Tobians sight them they are very careful to avoid pointing them out for fear of so shaming them in their mating that they will flee. Instead, if the person who spots the turtle is a man, he quickly makes his way to notify four others. All hurriedly slip down to the beach. If the spotter is a woman or child, they quietly pass the word to a favored man. Sometimes more than one person spots the turtle and a very subtle race is run. The first team to

assemble at the beach gets to try to catch the turtle. The others don't even launch their canoes.

The canoe is swiftly paddled out to sea and as rapidly and quietly as possible is brought within range. Under the direction of the turtle catcher, who is now standing erect in the bow, the paddlers carefully ease the canoe closer to their prey. The turtle catcher has a loop of rope tied over his chest and one shoulder. The trailing end is coiled in the canoe behind him. When he feels a turtle is close enough, he plunges out of the canoe onto its broad back. As the crew pulls on the rope, and the turtle tries to escape, the fisherman holds onto the shell with all his might. The crew hauls on the rope until, arms straining and lungs bursting, the turtle catcher and (if all has gone well) the turtle are brought alongside. These turtles are too large to be loaded inside the canoe so loops of line are thrown over it and it is lashed fast to the side. There it stays as the canoe heads back toward a very interested crowd of onlookers, its plastron flush against the side of the canoe, its head and forequarters out of the water and its slow gasps echoing in the ears of the paddlers.

There are several things which in addition to the rule about pointing at turtles serve to set this activity apart. Nothing metal and nothing washed by women is supposed to be worn. On the way down to the beach after the turtles have been spotted the men shed their watches, sunglasses, shirts and all other outer clothes if they are wearing any. They try to go after turtles clad only in loin cloths. Failing that they wear underwear or swimming trunks. These are all things which men wash for themselves. There is little doubt that in pre-Christian times men went after turtles completely nude. Another interesting restriction on the men is that no one whose wife

or girl friend is pregnant may go out after turtles. This last rule also applies to another technique for catching turtles.

At night during turtle season parties of young people, both men and women, walk the beaches looking for nesting turtles. Pregnant women, along with men whose wives are pregnant do not join such groups. If turtles are found which have already laid their eggs, they are turned over at once, in which position they cannot escape. If the turtle has not laid her eggs yet, she is allowed to do so before being turned over. In either case the turtles are left where they are until morning as the turtle hunters excitedly make their way along the beach to the village. These turtle hunting parties are very languid and relaxed affairs when compared to the other technique for catching turtles. They are also guite sexually charged events. By this I do not mean that overt sexual activity between couples necessarily takes place every time they go out looking for turtles (although it often does). But as they stroll through the fragrant night, around the sleeping village, normal restraints loosen and in a much more unconstrained fashion than usual people joke and laugh with members of the opposite sex. A temporary ethos of pleasant sexuality arises and, especially if a turtle is located, it may find direct expression.

Turtles are sea dwellers whose females come in across the reef to lay eggs.

Tobians are land dwellers whose males go out across the reef to get food. The two symbolically complement one another as do the two methods of capturing turtles.

Tobian expressive involvement with turtles is organized out of the recognition of this complementarity. Thus it contains a sexual element. The rules and practices relating to turtle capture make sense if this sexual element is recognized.

As a symbol, turtles mediate between a whole series of opposed dyads. On the one hand there is the wild, open sea, the source of male foods and the site of male competition. On the other there is the tamed, closed island, site of female domesticity and woman's food. Between them lies the reef and across the reef comes the female turtles to lay eggs. Laden with meat and fat they are captured on the beach, the thin margin between land and reef, by sexually active groups of people. It is no wonder that they are potent, liminal symbols. It is also no wonder that a consideration of their capture leads us back to the relations between men and women. This time, however, my attention shall be on relations of symbolic exchange.

Fishing for Taro

Nowadays anyone can eat any fish or turtle but it is considered polite to give the biggest and best fish to the women, just so they give men the biggest and best taro. (Black nd:1212)

This statement was made by an informant in reference to the abandonment of numerous prohibitions which in the past restricted the consumption of certain catches to special kinds of people. His words reflect on fundamental attitudes underlying the whole Tobian fishing complex. As I pointed out in a previous section, it is only through the combination of men's food with women's food that Tobians achieve what they deem to be an adequate diet. In this section I briefly indicate some of the ways the fishing complex structures the relations of symbolic exchange between men and women on Tobi. A good way to begin is with the following quotation from Marshall Sahlins:

Consider the Moalan opposition "land/sea." More than a discourse on the interaction between social groups or between men and women, it signifies the cultural organization of a natural distinction. Actual relations of production on land and sea are constituted in agreement with the structure of reciprocity among the categories so designated and through this sea and land as natural elements are given order. (1976:37)

I think Sahlins and my Tobian friend each in his own way are talking about the same thing.

A number of symbolic or semiotic approaches to the understanding of the sexual division of labor have recently appeared. Once more restricting ourselves to Oceania, the papers in Brown and Buchbinder (1976) are good examples as is Weiner's (1976) reappraisal of the Trobriands and D. Smith's recent dissertation on Palau (1977). In them we can see a considerable advance over earlier work such as that reported in Meggitt (1964). Regardless of the reasons for its origins (and Judith Brown's 1970 hypothesis about the relation between breast feeding, infant tending and female avoidance of dangerous and far ranging occupations fits the Tobi data as well as any) the distinction between men and women in any society is phrased in terms meaningful to that society. Each person thinks and feels about their own and the other sex in terms offered by his or her society. Symbols are used to think about the relations between the sexes and symbols are passed back and forth between them as ways of expressing what people hold to be truths about cross-gender relationships. It is fruitful to view social life as being composed of exchange relations between individuals and groups if it is born in mind that the items of exchange acquire their meaning and thus value, from the society within which they are exchanged. I think relations between Tobian men and women can best be understood from this perspective. Furthermore it seems to me that the Tobians themselves take a similar view.

The Tobian quoted above certainly knew full well that there are many alternative sources of vegetable food other than women-controlled taro. Neither he nor anyone else really has to be totally dependent on a person of the opposite sex for a complete

diet. Men can eat rice for example, purchased from the trading ship. Women can eat chicken raised by themselves. There are breadfruit and pandanus and other tree crops which a womanless man can harvest himself. W omen can always get meat from the reef, and men can even grow their own taro. At the very least anyone can always obtain complementary (in both senses of the word) food through a simple request to his or her kin network. This man was speaking about the ideology of sexual relations, not just about the exchange of material commodities.

It is very difficult for Tobians to speak unmetaphorically about this (or any other) emotionally laden topic in an abstract way. Most such discussions take place in a highly ritualized context and in a very metaphorical way. I have already indicated the hostility and resentment which tends to characterize people's feelings about the opposite sex. If a man simply said one day that all women were greedy and grasping, everyone nearby would think of his female kin—his wife, mother, or sisters. Everyone would wonder what had gone wrong in his relationships with those particular women, and soon word of the statement would reach them. If his relations with them were not tense, they soon would be. If the man were to dance that idea, however, he could express the same sentiments with impunity. In performing one of the dances in which hostility toward women is an element offered him by his culture he is merely following the rules.

Tobian society utilizes this fact. Twice a year at Christmas and New Year a set of dances are performed. In them several series of such statements are made, now by the women dancing their dance, then by the men dancing theirs. These series culminate in a thinly disguised dialogue between the sexes in which the full consequences which Tobians feel would result from a breakdown between the sexes is

symbolically discussed. The final dance is the only one in which people of both sexes take part. With fishhooks, cakes of soap, packs of cigarettes, small packages of cooked food (of both types) and even on occasion a live rooster dangling from their waists, the women form an inward facing circle, and dance. They sing a song while dancing in which they mock the pretensions of the men and demean their contribution to the island. At the same time the men, exaggerating the effects of whatever alcohol they have managed to consume, call out insults to the women, defaming their beauty and chastity and generosity. The women's song labels the men lazy, stealing, louts. Here is the closest people come to expressing the negative component of their feelings about the opposite sex. The people are not left long to face each other across this wall of hostility and resentment. As the women's dance gets bolder and bolder and more and more sexually explicit, the men, one by one, break loose from their group on the sidelines and run up behind the dancing women. If the man is particularly bold he may continue his catcalls. He begins to mock the dancing of the woman behind whom he has placed himself. As the song of the women reaches a crescendo the two begin to fit their motions to one another. All the while he is "mocking" and she is seemingly oblivious to his presence. The man then reaches out to the woman and while still "parodying" her movements carefully unties one of his "presents." That is why this dance is called "the present dance"—the items hanging from the women are presents for the men. And while he unties the gift his partner (for that is what she, no longer the victim of his parody, has become), pretends he is not there. Film analysis reveals that she in fact subtly lifts her arms if they are in his way, slows down a bit for him, and in general helps him to free his present. One after another the men come out until all the presents are

gone. The hostility and resentment is shown to be only a part of the relations between men and women, and the truth of men's dependency on women, and the cooperation of both sexes in it, brought home. The whole "conversation" is placed in italics, as it were, by being danced.

Another way such sentiments can be italicized and set apart is by reversing the ordinary flow of events. For example, once a year women engage in canoe races. This is the only day of the year they are allowed in canoes. The races take place at high tide, close to the shore and are occasions of much hilarity. Even women who in their ordinary lives in Koror are expert paddlers in their daily commute from the Southwest island hamlet to the main town, on this day, at Tobi, are totally incompetent paddlers. Near collisions take place, canoes go round and round, and one after another they capsize, as the women frantically try to paddle their way to the finish line. Women may own the canoes, the event seems to say, but they certainly need men to "man" them. This statement stands out because it is made in a situation of reversal.

Another, much more evocative, event also occurs. This one speaks about, among other things, the role of exchange in cross-gender encounters. Its statements also stand out because of the "unnatural" context in which they are made. In the course of making them a number of the rules of ordinary life are violated.

Once in a while, more frequently in the past than now, when the men are known to be likely to catch fish in unusually large numbers and in circumstances which will lead all the canoes to come in at the same time and place (fishing for flying fish meets these criteria best) the women as a group plan a surprise for the men. They carefully prepare small baskets of food, each one a complete meal, and gather out of sight near the

landing place. As the men sail up in their fish laden canoes, the women burst out from cover, spring down the beach and into the shallows and grapple with the men, wrestling them out of their canoes. The women overcome the men's resistance and, leaving the baskets of food in the canoe, flee with the fish, laughing and yelling.

This practice is called **hou hou**, and I only witnessed it once. The circumstances were unusual. The people had decided that we should film the event, but this led them to modify it. First of all the men knew it was coming and in fact went out specifically to get as many fish as they could for the upcoming **hou hou**. On the other hand the women decided it was too risqué to wrestle with the men so when they ran down to the water to meet them they began to bargain instead. The substitution of the bargaining for the wrestling is very revealing. Both are reversals of accepted behavior, both are normatively disvalued in ordinary circumstances. People of the opposite sex are extremely circumspect in public about touching one another. Even people in the throes of a publicly known love affair never publicly touch, not even to the extent of hand holding. The intimate body contact in the shallows is thus a kind of shocking reversal of ordinary civility.

The bartering for fish with baskets of food is even more shocking in its way. The relations of exchange between the sexes on Tobi verge on being a classic example of what is known as generalized reciprocity. In such systems direct demand for payment, let along bargaining, violates every canon of good taste. In ordinary life the attempt to haggle would be an insult to the exchange partner and self-demeaning. In **hou hou** it is fun.

Expression of many of the elemental truths of Tobian existence is found in **hou hou**, the canoe dance, and the present dance. At the center of those events we find traces of fishing. The catcalls of the men about the women's appearance ("skin like a turtle!" they yell out) and the untying of the trigger fish hooks hanging from the women's waists in the present dance; the excitement with which women seize fish from men in **hou hou** and race canoes against each other on their one day of water borne fun, all testify to the central role which the fishing complex plays in the island's culture.

In earlier sections I showed how an understanding of Tobian culture is necessary to an understanding of Tobian fishing. In this section I have attempted the reverse. I have tried to show how an understanding of Tobian fishing helps us to understand Tobian culture. In the conclusions I want to illustrate why such findings may be important.

Conclusions

A good reason to adopt a holistic approach to fishing is that it can help to make clear things that would otherwise remain mysterious. For example, T. Gladwin, in his widely read and influential study had a good deal of difficulty explicating one aspect of the navigational system of Puluwat. The sailing directions of these central Caroline islands mention various species of sea creatures which are used as reference points by navigators. These creatures are classed as "sea life" and, along with star tracks, wave patterns, birds and other features of the natural world are used by highly skilled navigators as they make their way from one Micronesian island to another.

Gladwin was not quite sure how to explain "sea life." It strikes him as unlikely that the events predicted with such specificity in the navigational directions will actually

occur. That is, he does not think it very probably that at a given point in the ocean the canoe will encounter particular creatures. His skepticism may be justified but that does not mean that the sea life parts of the sailing directions do not contain a good deal of information. I do not know enough about Puluwat to fully develop this point, but it seems to me that if in this preliterate society the navigators take so much trouble to learn information it must have some meaning. If it cannot be explained in purely rationalistic terms (as Gladwin does the rest of the system) then perhaps that is because its meaning is hidden. Perhaps sea life directions refer to the socio-cultural order. For example, they could be references to the expected state of the relations among the crew, or they may indicate the time for some religious performance.

The raising of these kinds of explanatory possibilities is one of the virtues of an approach to fishing which includes both material and symbolic orientations. It must be recognized that in societies which live from the sea, fishing can come to play the same role as, for example, cattle herding does among the Nuer or bison hunting did among the Cheyenne. In such cases all of socio-cultural life comes to be organized around fishing and it becomes the medium for the expression of culturally structured reality. This means that there is no more reason to expect the fishing (or navigational) habits of such a people to be any more "rational" than, for example the lawn mowing habits of suburban Americans. Therefore the beginning of an anthropological response to the cross-disciplinary initiatives of several marine scientists also depends on a holistic approach to fishing.

Certain maritime scientists have called for the utilization of folk knowledge of maritime resources in planning for the conservation and use of those resources. In the

Western Pacific such statements have been made by R. E. Johannes (1975, 1978), M. McCoy (1977), and P. Wilson (1969) among others. With respect to the islands of the Western Carolines their call makes initial and perhaps intuitive sense. The islanders are, after all, the human population with the most familiarity with the ecosystems which contain those resources. It is not possible to respond to that call however without addressing issues of great moment in contemporary anthropological theory. Before deciding whether or not the call makes sense certain issues having to do with the status of knowledge in human social systems must be dealt with. For example, many Pacific populations place taboos (ritual prohibitions regulating production and consumption) on various species of fish. Marine biologists may wish to appropriate such a taboo, "rationalize" it and then recommend its incorporation in legislation as a conservation device based on the islanders' superior knowledge of the species in question. But to take this approach toward that bit (or any other) of "ethno-knowledge" or technology derived from it is to take a stance in one of the most hotly debated theoretical disputes in contemporary social science. From M. Harris's writings on the sacred cows of India to M. Sahlins's pronouncements on the "sacred dogs" of the U.S.A., the disagreement over the correct understanding of such taboos is sharp and fundamental. The disagreement has this character because it is part of the hotly contested discussion between materially and symbolically oriented explanations of human social action. In that dispute, food production in both its technological and intellectual aspects plays a central role.

In this paper I have taken it as self evident that the material side of fishing is important and deserving of study. I have tried to show how a consideration of fishing's

symbolic side is at least equally important. Bringing the two together into an integrated approach, which can be used to produce a fully rounded understanding upon which answers to cross-disciplinary questions can be given, remains to be done.

References

Alkire, W. H.

1968 Porpoises and Taro. Ethnology 7:280-289.

1977 An Introduction to the Peoples and Cultures of Micronesia. 2nd edition. Menlo Park: Cummings Publishing Co.

1978 Coral Islanders. Arlington Heights, IL: AHM Publishing Corp.

Allen, J., J. Golson, and R. Jones

1977 Sunda and Sahul Prehistoric Studies in Southeast Asia, Melanesia and Australia. New York: Academic Press.

Andersen, Raul and C. Wadel

1977 Comparative Problems in Fishing Adaptations. **In** North Atlantic Fishermen: Anthropological Essays on Modern Fishing. R. Andersen and C. Wadel, eds. Newfoundland Social and Economic Papers, No. 5, Institute of Social and Economic Research, Memorial University of Newfoundland, Toronto, University of Toronto Press.

Anell, B.

1955 Contribution to the History of Fishing in the Southern Seas. Upsala: Studia Ethnographica Upsaliensia 9.

Bates. Marstin

1965 Natures Effect On and Control of Man. **In** Man's Place in Island Ecosystem. F.G. Fosberg, ed. Honolulu: Bishop Museum Press.

Bayliss-Smith, T. and R. G. Feachem, eds.

1977 Subsistence and Survival: Rural Ecology in the Pacific. New York: Academic Press.

Bayliss-Smith, T. P.

1977a Human Ecology and Island Populations: the Problems of Change. **In**Subsistence and Survival: Rural Ecology in the Pacific. T. P. Bayliss-Smith and R. G. Feachem, eds. New York: Academic Press.

1977b Energy Use and Economic Development in Pacific Communities. **In**Subsistence and Survival: Rural Ecology in the Pacific. T. P. Bayliss-Smith and R. G. Feachem, eds. New York: Academic Press.

Beasley, H. G.

1928 Pacific Island Records: Fish Hooks. London.

Befu, Harumi

1977 Social Exchange. B. Siegel, ed. Annual Review of Anthropology, Vol. 6. Palo Alto CA: Annual Reviews Inc.

Bell, F. W.

1978 Food From the Sea: The Economics and Politics of Ocean Fisheries. Boulder CO: Westwood.

Best, E.

1929 Fishing Methods and Devices of the Maori. Dominion Museum Bulletin 12. Wellington, New Zealand.

Black, P. W.

n.d. Fishing Lore of Tobi.

1977 Neo-Tobian Culture: Modern Life on a Micronesian Atoll. Ph.D. dissertation. University of California San Diego.

Boeri, David and James Gibson

1976 Tell it Goodbye, Kiddo: The Decline of the New England Offshore Fishery. Camden ME: International Marine Publishing Co.

Brand, Donald O.

1967 Geographical Exploration by the Spaniards. **In** The Pacific Basin: A History of Geographical Exploration. H.R. Friis, ed. American Geographical Society Special Publication No. 38. New York.

Brookfield, H.

1973 The Pacific in Transition: Geographic Perspectives on Adaptation and Change. New York: St. Martin's Press.

Brown, Judith K.

1970 A Note on the Division of Labor by Sex. American Anthropologist 72:1074.

Brown, Paula and G. Buchbinder

1976 Introduction. **In** Man and Woman in the New Guinea Highlands. P. Brown and G. Buchbinder, eds. Special Publication No. 8. Washington: American Anthropological Association.

1976 Man and Woman in the New Guinea Highlands. P. Brown and G. Buchbinder, eds. Special Publication No. 8. Washington: American Anthropological Association.

Browning, R. L.

1836 Notes on the South Sea Islands by R. L. Browning, Lt. U.S.N. Board the Ship Vincennes Circumnavigating in 1835-1836, J. H. Aulick Comm. **In** Browning Family Papers, Library of Congress Box 141, 405 A-012, 4, 224.

Bryan. H. E.

- 1970 Land in Micronesia and Its Resources: An Annotated Bibliography. Honolulu: Pacific Science Information Center.
- 1971 Guide to Place Names in the Trust Territory of the Pacific Islands (the Marshall, Caroline and Mariana Islands). Honolulu: Pacific Science Information Center, Bishop Museum.

Buck, D. H.

1926 The Maori Craft of Netting. Transactions of the New Zealand Institute 56:597-646.

Bustard, Robert

1972 Sea Turtles. New York: Taplinger Publishing Co.

Carlquist, Shervin

1974 Island Biology. New York: Columbia University Press.

Casteel, R. W. and G. I. Quimby

1973 Maritime Adaptation of the Pacific. The Hague: Mouton.

Caughey, John

1977 Fa'a'nakkar: Cultural Values in a Micronesian Society. Philadelphia: University of Pennsylvania Press.

Clark, Jeffrey and John Terrell

1978 Archaeology in Oceania. In B. Siegel, ed. Annual Review of Anthropology Vol.7. Palo Alto CA: Annual Reviews Inc.

Clarke, William G.

- 1973 The Dilemma of Development. **In** The Pacific in Transition: Geographical Perspectives on Adaptation and Change. H. Brookfield, ed. New York: St. Martin's Press.
- 1977 The Structure of Permanence: the Relevance of Self-Subsistence Communities for World Ecosystem Management. **In** Subsistence and Survival: Rural Ecology in the Pacific. T. P. Bayliss-Smith and R. G. Feachem, eds. New York: Academic Press.

Clutter, R. I.

1971 South Pacific Islands: Reef and Lagoon Productivity. Report to Fisheries Development Agency Project, FO FI: SF/Sop/Reg/102.

Couper, Alastair

1973 Islanders at Sea: Change and the Maritime Economies of the Pacific." **In** The Pacific in Transition: Geographical Perspectives on Adaptation and Change. H. Brookfield, ed. New York: St. Martin's Press.

Coutte, Peter J. F.

1973 Marine Fishing in Archaeological Perspectives: Techniques for Determining Fishing Strategies. **In** Maritime Adaptation of the Pacific. R. W. Casteel and G. I. Quimby, eds. The Hague: Mouton.

Cowan, Ian McT.

1975 Micro-Ecosystems in Sharper Focus. **In** Impact of Urban Centers in the Pacific. R. Force and B. Bishop, eds. Honolulu: Pacific Science Association.

1976 Biota Pacific 2000. In Mankind's Future in the Pacific. T. F. Scagel, ed. Vancouver: University of British Columbia Press.

Critchfield, R.

1973 The Golden Bowl Broken: Peasant Life in Four Cultures. Bloomington: Indiana University Press.

Cushing, D. H.

1975 Marine Ecology and Fisheries. London: Cambridge University Press.

Davenport, Wm.

1956 Jamaican Fishing: A Game Theory Analysis. **In** Yale University Publication in Anthropology No. 57-64. S. Mintz, ed. New Haven, CT: HRAF Press.

Davidson, J. H.

1967 An Archaeological Assemblage of Simple Fish-Hooks from Nukuoro Atoll." Journal of the Polynesian Society 76(2):177-196.

Emory, K. P., W. J. Bank and Y. Sinoto

1959 Hawaiian Archaeology: Fishhooks. Bernice P. Bishop Museum Special Publication 47. Honolulu: Bernice P. Bishop Museum.

Erikson, E. H.

1963 Childhood and Society. 2nd edition. New York: W. W. Norton Co.

Faris, James G.

1977 Primitive Accumulation in Small-Scale Fishing Communities. **In** Those Who Live From the Sea. M. E. Smith, ed. St Paul, MN: West Publishing Co.

Firth, Raymond

1965 Primitive Polynesian Economy. 2nd edition. New York: W. W. Norton Co.

1971 Economic Aspects of Modernization of Tikopia. **In** Anthropology in Oceania: Essays Presented to Ian Hogbin. L. R. Hiatt and C. Jayawardena, eds. San Francisco: Chandler Press.

1975 Malay Fisherman. 2nd edition (1st published 1966). New York: W. W. Norton Co.

Firth, Rosemary

1943 Housekeeping among Malay Peasants. Monographs on Social Anthropology No.7. London: University of London.

Force, R. and B. Bishop, eds.

1975 Impact of Urban Centers in the Pacific. Honolulu: Pacific Science Association.

Fosberg, F. R.

1961 A Qualitative Description of the Coral Atoll Ecosystem. Atoll Research Bulletin 81

1965 Man's Place in the Island Ecosystem. (Ed.) Honolulu: Bishop Museum Press.

Frazer, James (Sir)

1918 The Golden Bough. 3rd edition. London: Macmillan and Co.

Gladwin, Thomas

1970 East is a Big Bird: Navigation and Logic on Puluwat Atoll. Cambridge: Harvard University Press.

Golson, J.

1972 The Pacific Islands and Their Prehistoric Inhabitants. **In** Man in the Pacific Islands: Essays on Geographical Change in the Pacific. R. G. Ward, ed. Oxford: Clarendon Press.

Guthrie, D. A.

1971 Primitive Man's Relationship to Nature. Biological Science 21:167-169.

Hamilton, A.

1908 Fishing and Seafoods of the Ancient Maori. Dominion Museum Bulletin 2. Wellington, New Zealand.

Handy, E. S. C.

1932 Houses, Boats and Fishing in the Society Islands. Bernice P. Bishop Museum Bulletin 90:111.

Harris, Marvin

1977 Cannibals and Kings: The Origins of Cultures. New York: Random House.

Heider, Karl

1979 Grand Valley Dance: Peaceful Warriors. New York: Holt Rinehart and Winston.

Hiatt, L. R. and C. Jayawardena, eds.

1971 Anthropology in Oceania: Essays Presented to Ian Hogbin. San Francisco: Chandler Press.

Hirth, H. F.

1971 South Pacific Islands: Marine Turtle Resources. Report Fisheries Development Agency, FAO FI-SF/SOP/Reg/102/2.

1971 Synopsis of Biological Data on the Green Turtle. Rome: FAO.

Hjarno, J.

1967 Maori Fish-Hooks in Southern New Zealand. Records of the Otago Museum, Anthropology 3, Dunedin, New Zealand.

Isaccs, John D.

1976 Sanity and Other Factors in Aquatic Resource Development. **In** Mankind's Future in the Pacific. R. F. Scagel, ed. Vancouver: University of British Columbia Press.

Johannes, R. E.

1975 Exploitation and Degradation of Shallow Marine Food Resources in Oceania. **In** Impact of Urban Centers in the Pacific. R. Force and B. Bishop, eds. Honolulu: Pacific Science Association.

1978 Traditional Marine Conservation in Oceania. Annual Review of Ecological Systems.

Kaeppler, Adrienne

1978 Dance in Anthropological Perspective. Annual Review of Anthropology Vol. 7. B. Siegel, ed.

Kapferer, Bruce

1976a Transactions and Meaning. (Ed.) Philadelphia: Institute for the Study of Human Issues.

1976b Introduction: Transactional Models Reconsidered. **In** Transactions and Meaning. B. Kapferer, ed. Philadelphia: Institute for the Study of Human Issues.

Keesing, F.

1958 Cultural Anthropology. New York: Holt, Rinehart and Winston.

Klee, Gary

1976 Traditional Time Reckoning and Resource Utilization. Micronesia 12(2):211-246

Knudsen, K. E.

1970 Resource Fluctuation, Productivity and Special Organization on Micronesian Coral Atolls. Ph.D. dissertation. University of Oregon.

Laboratory of Human Cognition

1978 Cognition as a Residual Category in Anthropology. Annual Review of Anthropology Vol. 7: 51-69.

Landberg, Leif G. W.

1973 Fishing Effort in the Aboriginal Fisheries of the Santa Barbara Region, California: an Ethnohistorical Appraisal. **In** Maritime Adaptation of the Pacific. R. W. Casteel and G. I. Quimby, eds. The Hague: Mouton.

Langness, L. L.

1976 Discussion. **In** Man and Woman in the New Guinea Highlands. Paula Brown and G. Buchbinder, eds. Special Publication No. 8. Washington: American Anthropological Association.

Lasaga, I.

1973 Geography and Geographers in the Changing Pacific: An Islander's View. **In**The Pacific in Transition: Geographic Perspectives on Adaptation and Change.
R. Brookfield, ed. New York: St. Martin's Press.

Leap, W.

1977 Maritime Subsistence in Anthropological Perspective: A Statement of Priorities. **In** Those Who Live From the Sea. M. E. Smith, ed. St. Paul MN: West Publishing Co.

Levine, Robert A.

1959 Gusii Sex Offences: A Study in Social Control. American Anthropologist 61(6).

Lewthwaite, G. R.

1966 Man and the Sea in Early Tahiti. Pacific Viewpoint. Vol. 7:28-53.

Linton, Ralph

1955 The Tree of Culture. New York: Alfred A. Knopf.

Lowie, R. H.

1934 An Introduction in Cultural Anthropology. New York: Farrar and Rhinehart.

McArthur, Margaret

1977 Nutritional Research in Melanesia: A Second Look at the Tsembaga. In Subsistence and Survival: Rural Ecology in the Pacific. T. Bayliss-Smith and R. G. Feachem, eds. New York: Academic Press.

McCoy, M. A.

1973 Fish—Something Old. Micronesian Reporter 21(2):11-14.

1974 Man and Turtle in the Central Caolines. Micronesia 10(2):207-221.

Malinowski, B.

1925 Magic, Science and Religion. In Science, Religion and Reality. J. Needham, ed. New York: Macmillan. Reprinted in B. Malinowski. Magic, Science and Religion and Other Essays. Garden City NY: Doubleday.

Marshall, Mac

1968 The Natural History of Namoluk Atoll, Eastern Caroline Islands. Atoll Research Builletin No. 189:53.

Mason, Leonard

1968 The Ethnology of Micronesia. **In** Peoples and Cultures of the Pacific. A. Vayda, ed. Garden City NY: Natural History Press.

Mead, M.

1973 Changing Styles of Anthropological Work. Annual Review of Anthropology 2:1-26. Palo Alto CA: Annual Reviews Inc.

Megaitt, M. J.

1964 Male-Female Relationships in the Highlands of Australian New Guinea. **In** New Guinea: the Central Highlands. James B. Watson, ed. Special Publication of the American Anthropologist Vol. 66, Part 2, No. 4:204-224.

Morgan, L. H.

1964 Ancient Society. Leslie A. White, ed. (1st published in 1977). Cambridge: Harvard University Press.

Mosley, Michael

1975 The Maritime Foundation of Andean Civilization. Menlo Park: Benjamin/Cummings.

Mullen, Patrick B.

1978 I Heard the Old Fisherman Say: Folklore of the Texas Gulf Coast. Austin: University of Texas Press.

Murdock, G. P.

1934 Our Primitive Contemporaries. New York: Macmillan.

Murphy, Raymond

1950 The Economic Geography of a Micronesian Atoll. Annals of Association of American Geographers 40(a):58-83.

Murphy, Yolanda and R. Murphy

1974 Women of the Forest. New York: Columbia University Press.

Nason, James

1975 The Effects of Social Change on Marine Technology in a Pacific Atoll Community. **In** Maritime Adaptation of the Pacific. R. W. Casteel and G. I. Quimby, eds. The Hague: Mouton.

Nishimura, A.

- 1973 Cultural and Social Change in the Modes of Ownership of Stonewares. **In**Maritime Adaptation of the Pacific. R. W. Casteel and G. I. Quimby, eds. The
 Hague: Mouton.
- 1973 Preliminary Report on Current Trends in Marine Anthropology. Occasional Papers of the Center of Marine Ethnology, No. 1. Tokyo: Waseda University Center of Marine Ethnology.

Nordhoff, C.

1970 Notes on the Offshore Fishing of the Society Islands. Journal of the Polynesian Society 39:137-173 and 221-262.

Orbach, M. K.

1978 Hunters, Seamen and Entrepreneurs: The Tuna Seinermen of San Diego. Berkeley: University of California Press.

Otobed, Demai

1975 Conservation Priorities in Micronesia. **In** The Impact of Urban Centers in the Pacific. R. Force and B. Bishop, eds. Honolulu: Pacific Science Association.

Parsons, J. J.

1962 The Green Turtle and Man. Gainesville: University of Florida Press.

Peterson, J. F. and W. Peterson

1977 Implications of Contemporary and Prehistoric Exchange. **In** Sunda and Sahul Prehistoric Studies in Southeast Asia, Melanesia and Australia. J. J. Allen, J. Golson, and R. Jones, eds. New York: Academic Press.

Poggie, J.

1978 Deferred Gratification as an Adaptive Characteristic for Small-Scale Fisherman. Ethos 6:114-123.

Poggie J. and C. Gersuny

1972 Risk and Ritual: An Interpretation of Fishermen's Folklore in a New England Community. Journal of American Folklore 85:66-72.

Poggie, J. and R. Lynch, eds.

1974 Modernization: Anthropological Approaches to Contemporary Socio-Cultural Change. Westport CT: Greenwood Press.

Pollock, Nancy J.

1973 The Risks of Dietary Change: A Pacific Atoll Example. **In** Maritime Adaptation of the Pacific. R. W. Casteel and G. I. Quimby, eds. The Hague: Mouton.

Pollnac, R. and J. Poggie

1978 Economic Gratification Orientations Among Small Scale Fishermen in Panama and Puerto Rico. Human Organization 37:355-67.

Pollnac, R. C. Gersuny, and J. Poggie

1975 Economic Gratification Patterns of Fishermen and Millworkers in New England. Human Organization 34: 1-7.

Pryor, F. L.

1977 The Origins of the Economy. New York: Academic Press.

Reinman, F. M.

1967 Fishing: An Aspect of Oceanic Economy: An Archaeological Approach. Fieldiana: Anthropology. Vol. 56, No. 2. Chicago.

1970 Fishhook Variability: Implications for the History and Development of Fishing Gear in Oceania. **In** Studies in Oceanic Culture History. R. Green and M. Kelly, eds. Honolulu: Bishop Museum Pacific Anthropological Records.

Ritchie, James

1975 The Honest Broker in the Cultural Market Place. **In** The Impact of Urban Centers in the Pacific. R. Force and B. Bishop, eds. Honolulu: Pacific Science Association.

1977 Cognition of Place: The Island Mind. Ethos 5:187-194.

Ryther, John

1969 Photosynthesis and Fish Production in the Sea. Science 166:72-76.

Sahlins, Marshall

1976 Culture and Practical Reason. Chicago: University of Chicago Press.

Scagel, R. F., ed.

1976 Mankind's Future in the Pacific. Vancouver: University of British Columbia Press.

Schwimmer, Erik

1973 Exchange in the Social Structure of the Orokaiva. New York: St. Martin's Press.

Shawcross, W.

1973 Influences of Prehistoric Human Predation on Marine Animal Population Dynamics. **In** Maritime Adaptation of the Pacific. R. W. Casteel and G. I. Quimby, eds. The Haque: Mouton.

Skinner, H. D.

1942 A Classification of the Fish Hooks of Murihiku. Journal of Polynesian Society 51(3):208-221.

Smith, DeVerne R.

1977 The Ties that Bind: Exchange and Transactions in Kinsmen in Palau. Ph.D. dissertation. Bryn Mawr College.

Smith, M. Estellie

1977 Introduction. **In** Those Who Live From the Sea. M. Estellie Smith, ed. St. Paul MN: West Publishing Co.

Spate, O. H. K.

1973 Forward. **In** The Pacific in Transition: Geographic Perspectives on Adaptation and Change. R. Brookfield, ed. New York: St. Martin's Press.

Spoehr, A.

1952 Time Perspective in Micronesia and Polynesia. Southwestern Journal of Anthropology 8:457-65.

Steager, Peter W.

1972 Food in its Social Context on Puluwat, Eastern Caroline Islands. Ph.D. dissertation. University of California Berkeley.

Strong, Maurice F.

1976 Environment and Man's Future in the Pacific. **In** Mankind's Future in the Pacific. R. G. Scatel, ed. Vancouver: University of British Columbia Press.

Tayama, Risaburu

1952 Coral Reefs of the South Seas. Hydrographic Office Bulletin. Vol. 11, Pub. 941. (Three volumes in Japanese and English).

Thomas, William L.

1965 The Variety of Physical Environments among Pacific Islands. **In** Man's Place in the Island Ecosystem. F. R. Fosberg, ed. Honolulu: Bishop Museum Press.

Titcomb, Margaret

1977 Native Use of Fish in Hawaii. (1st published in 1952). Honolulu: University Press of Hawaii.

Trotter, M. M.

1965 The Barbed Fish Hook: Its Place in the Murihiku Cultural Sequence. Journal of the Polynesian Society 74:347-354.

Tylor, E. B.

1881 Anthropology. Ann Arbor: University of Michigan Press.

United States Trust Territory of the Pacific Islands

1957 Notes on the Present Regulations and Practices of Harvesting Sea Turtle and Sea Turtle Eggs in the Trust Territory of the Pacific Islands. Anthropological Working Paper No. 1. Office of the Staff Anthropologist. Agana, Guam.

Vayda, A.P., ed.

1968 Peoples and Cultures of the Pacific. Garden City: Natural History Press.

Vayda, A. P. and Bonnie J. McCay

1977 Problems in the Identification of Environmental Problems. **In** Subsistence and Survival: Rural Ecology in the Pacific. T. Bayliss-Smith and R. G. Feachem, eds. New York: Academic Press.

Vitarelli, Wm.

1975 Nonplanning and Social Imbalance in a Marshall Island Community. **In** The Impact of Urban Centers in the Pacific. R. Force and B. Bishop, eds. Honolulu: Pacific Science Association.

Wagner, Roy

1977 Scientific and Indigenous Papuan Conceptualizations of the Innate: A Semiotic Critique of the Ecological Perspective. **In** Subsistence and Survival: Rural Ecology in the Pacific. T. Bayliss-Smith and R. G. Feachem, eds. New York: Academic Press.

Ward, R. G.

1972 The Pacific Beche-de-Mer Trade with Special Reference to Fiji. **In** Man in the Pacific Islands. R. G. Ward, ed. Oxford: Clarendon Press.

Weiner, Annette B.

1976 Women of Value, Men of Renown: New Perspectives in Trobriand Exchange. Austin: University of Texas Press.

Wiens, Harold D.

1962 Pacific Island Bastions of the United States. Princeton: Van Nostrand.

Wilson, Peter T.

1969 Trust Territory of the Pacific Islands. **In** The Encyclopedia of Marine Resources. F. E. Firth, ed. New York: Van Nostrand Reinhold Co.

Yngvesson, Barbara

1978 The Atlantic Fishermen. **In** The Disputing Process: Law in Ten Societies. L. Nader, ed. New York: Columbia University Press.