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PACIFIC STUDIES

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THE POLITICS OF TRADITION: PROBLEMS FOR POLITICAL LEGITIMACY AND DEMOCRACY IN THE SOUTH PACIFIC

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> Tradition is the living faith of the dead, traditionalism is the dead faith of the living . . . it is traditionalism that gives tradition such a bad name.
>
> --Jaroslav Pelikan

In many parts of the South Pacific, appeals to a reified concept of "tradition" as a political legitimator have been common for some time.[1] As in parts of Africa, colonial systems of indirect rule tended to make a virtue of necessity in establishing political order on the basis of what were perceived to be existing hierarchies or methods of political and social organization. The language of colonial administration, earlier modes of political sociology and anthropology, and schools of thought associated with "modernization" has produced an image of "tradition" that is construed conceptually in direct opposition to that which is thought to be "modern" or "Western." In the 1980s and 1990s there has been a noticeable growth of "traditionalism" in which images of the distant, precontact, and definitely non-Western past have been evoked in terms of what Callick describes as the ultimate Pacific cliché--"paradise lost" (1991:22).

Appeals to "tradition" emanate from a number of sources and are used in different ways to serve a variety of purposes. Some of these appeals can be seen as a reaction to the negative and racist images of Pacific peoples and their ways of life projected by Western colonialism. Such an appeal is part of the ideology behind the "Pacific Way," said to

have been launched on the international stage by Fiji's prime minister, Ratu Sir Kamisese Mara, during an address to the United Nations General Assembly in 1970 (Crocombe 1976:1). In elaborating the purposes of the slogan, Crocombe says that the colonial experience "left a common unpleasant taste in the mouths of islanders: a common humiliation, a common feeling of deprivation and exploitation" that promotion of and identification with the Pacific Way can help to ameliorate (1976: 13). Similarly, the notion of a "Melanesian Way" has emerged as another specifically reactive force that, in the words of its foremost proponent, provides a basis for identity such that it is "unnecessary for [Melanesians] to be perfect Englishmen or Americans" (Narokobi 1983: 9). These movements share many similarities with the Negritude movement that in the Caribbean and, later, in Africa sought to inspire a regeneration of African values to counter the legacy of oppression and racism left by the colonizers (Nursey-Bray 1984:97). Although Aimé Césaire's original idea of "negritude" represented a wholesale rejection of essentialism, the influence of later figures like Leopold Senghor is said to have transformed it into "a backward-looking idealism, a falsely naturalized, consistent African mentality that tends to reinscribe the categories of a romantic, sometimes racialist European ethnography" (Clifford 1988:177-178).

Some would argue that similar thinking pervades discourses about tradition and cultural identity in the Pacific. Keesing, for example, suggests that these discourses, despite the countercolonial character of their claims, are themselves derived from Western ideologies. He points to the apparent incorporation of Western structures, categories, and premises of thought in the so-called counterhegemonic discourse espoused by those in the business of promoting idealizations of the precontact past (Keesing 1989:22-23). Although it is arguable whether these structures, categories, and premises really are peculiarly or uniquely Western and have no counterpart in indigenous structures,[2] there is little doubt that a reactive process has been at work to elevate the value of select elements of cultural traditions "as symbols of the contrast between those traditions and Western culture" (Keesing 1989:28).

A rather obvious dichotomy between "traditional" and "Western" ways is produced in this process, in which Western values, practices, and institutions often become a major focus of traditionalist criticisms. But this criticism can be a very selective process in which not all Western values and institutions are targeted. Further, liberating ideals are but one ideological component of such constructs as the Pacific Way, which can also be employed as instruments of control by indigenous

elites. One commentator notes that Mara's articulation of the Pacific Way places strong emphasis on the virtues of stability, tradition, and, by implication, "traditional" chiefly rule (Howard 1991:7). As I shall discuss below, the traditionalist emphasis on chiefly rule in Fiji is an important ideological component of contemporary politics and has been used to counter the development of more democratic norms of political conduct and organization.

It is therefore essential in any study of tradition in a political context to observe closely the motivations of those who invoke tradition. And, although the postmodern fashion is to grant a privileged status to so-called insider accounts, there is no reason that these accounts should be immune from "outsider" critiques and no reason to believe that there is only one "inside" view (Keesing 1991:9). Indeed, the last account that should be privileged is that of an entrenched elite. But before we consider such aspects of the politics of tradition, it is necessary to set out clearly some basic ideas about tradition and traditionalism. The distinction between these is an important one, not least because critiques of traditionalism can all too easily give rise to the impression that tradition per se is the major target. It is also important to understand the extent to which tradition is an ineluctable element of all social life, not simply a residual, inert, and "primitive" category of belief and behavior.

Tradition and Traditionalism

The idea of tradition has long been recognized as an important source of political authority and therefore of legitimacy. Despite the assumptions implicit in much of the literature that tradition is related almost exclusively to the underdeveloped world, the idea applies to the West no less than other parts of the globe. Just as anthropologists now recognize that all people and all communities are equally "cultured" (Horigan 1988: 15), so must it be acknowledged that the West (however that may be defined) is equally "traditional."[3] The idea of tradition is, in fact, an important part of the classical heritage of Western democratic thought. At the end of the sixth century B.C. when the people of the Athenian polis adopted the word *nomos* (custom) to denote the law (Maddox 1989:53), they demonstrated explicitly that the precepts of living traditions and patterns of customary social behavior would play an important part in determining the basis of authority and legitimacy in the polis. This endorsement of tradition could scarcely be said to have precluded innovation and experimentation in political life--as the subsequent development of Athenian democracy in the following century so

clearly attests. As with the Pacific Way, however, there was another side to this development, for although the adoption of *nomos* was originally seen as a charter of freedom from the arbitrary rule of despotism, it came to be recognized as another possible type of tyranny--"a series of customs and conventions imposed upon [people] who might not always wish to conform to them" (Sinclair 1951:40).

In post-Enlightenment thought, Weber's influential formulation of three major categories of authority and legitimacy--traditional, charismatic, and legal-rational--brought about a significant change in the perception of "tradition." The manner in which Weber contrasted traditional authority with authority derived from legal-rational sources relegated tradition to the realm of the intrinsically "irrational" and placed it in direct opposition to ideas about "modernization" (1948:56-57, 296). Thus writers like Walzer have drawn explicitly on Weber in describing as "traditional" the Western medieval worldview in which political order was conceived as hierarchical, organic, and unchanging, with an emphasis on personal and particularistic relations that undermined any sort of "independent political aspiration or initiative" (Walzer 1974:8). In commenting on Walzer's position, Pocock points out that the conceptualization of "traditional society" in this way--as the inert and prepolitical antithesis of "modernization'‘--is bound to dichotomize our thinking on the subject, no matter how carefully we try to refine it (1975:338). Pocock, however, is by no means prepared to defend a stance on political order and change that could be described, in Weber's sense, as "traditionalist." In terms of democratic or republican politics, he emphasizes that citizens (as opposed to subjects) are, virtually by definition, involved continuously in the process of public decision making and must therefore acquire the cognitive capacity to go beyond the precepts of hierarchy and tradition (Pocock 1975:50).

Writers like Pocock, who are critical of the traditional-modern dichotomization, are no more prepared to give normative endorsement to a society that lives only by these precepts than Walzer is to his version of "traditional society." To take the objection to Weber's account to its logical conclusion invites criticism of the notion that whatever is "traditional" in social and political life is, in some normative sense, opposed antithetically to something we call "modern." For this antithetical treatment of the concepts has given rise, inter alia, to the entirely mistaken idea that as everything that comes under the rubric of "modern" is, practically by definition, "rational," so everything that can be categorized as "traditional" is "irrational" or at best nonrational. More generally, the dichotomization of tradition and modernity has given an implicit positive evaluation to almost any kind of innovation, on the one

hand, while, on the other, it automatically ascribes "a negative connotation of backwardness and unthinking conservatism" to tradition (Smolicz 1988:387). In a similar vein, Wilson draws attention to the way in which the dichotomization has been rigidly empiricized so as to present an undialectical image of two "sides" of the world--one standing for the rational, innovative West, and the other for the primitive, traditional Third World (1984: 100). Furthermore, he points out that terms such as "tradition" and "the primitive" form the key concepts associated with our conceptualization of "otherness" and "the other" (Wilson 1984:133), a form of conceptualization against which Said directed his passionate condemnation of "Orientalism" (Said 1978).[4]

The dichotomous treatment of the concepts described above also invites criticism in relation to limitations imposed at the most basic level of inquiry. As Gould points out, the very idea of dichotomy gives rise to a restrictive iconography that depicts two ends of a single continuum as representing polar opposites (1989:50).[5] Elsewhere Gould acknowledges, although in a qualified fashion, the usefulness of some dichotomous thinking insofar as it helps to organize thought around simplified models. But he does urge a more expansive approach capable of incorporating further possible renditions of conflicting or oppositional concepts to "provide an amplitude of space without forcing us to forgo our most comforting tool of thought" (Gould 1987:8-9). Many writers have sought to expose the false or at least misleading nature of the tradition-modernity dichotomy and, especially, to demonstrate that neither tradition itself nor its function as a source of authority and legitimacy is necessarily divorced from or at odds with rational or reasoned processes. Friedrich, for example, has argued that the very bases of reasoning and rational argument are in fact grounded largely in tradition (1972:13). Similarly, Popper has shown in his work on scientific method that traditions, like scientific theories, are the means "by which we try to bring some order into the chaos in which we live so as to make it rationally predictable" (1972:131). In another context, Jarvie (1970) demonstrates that cargo cults can be understood as rational attempts, within their frame of reference, to achieve their particular aims. And as MacDonald and Pettit point out, the famous Hopi rain dances, although "manifestly ineffective in bringing about precipitation," may nonetheless function "rationally" to consolidate group identity and promote social activity (1981:38).[6] On a different level altogether, it is evident that the program of rationalization envisaged by the modernization school of development studies for the now not so "new" states of Africa and Asia has been spectacularly unsuccessful in many vital respects.[7]

The consignment of all that is "traditional" to the realm of the irratio-

nal has also, and in some ways deservedly, attracted scathing criticism and condemnation from proponents of conservative political philosophy. Oakeshott, for example, describes the Rationalist as "the enemy of authority, of prejudice, of the merely traditional, customary or habitual,"[8] who commits the facile error of "identifying the customary and traditional with the changeless" (1962:1, 4). That this latter view had a profound impact on the way in which earlier schools of anthropology mistakenly viewed their subject societies can scarcely be doubted; so-called traditional societies were not "prisoners of the past" but had their own dynamics of change (Balandier 1970:172). Oakeshott's attack on rationalism in politics of course echoes Edmund Burke's classic dicta on the evils of radicalism and the more innovative styles of politics generated by the ideas of the Enlightenment that he so deeply abhorred. For Burke, tradition was to be exalted both politically and epistemologically as the most reliable embodiment of knowledge and practice, representing as it did the progressive experience of the species and the wisdom of the ages (Freeman 1980:29). But innovative thinking and political action have never required abandonment of the so-called partnership between present and past. They merely require that we recognize that tradition, or any particular tradition, is not immutable, permanently fixed, or immune from criticism or change. Quite apart from this, it is ridiculous to suppose that we can completely escape the past or free ourselves from its formative influences--even if it was thought desirable. Popper makes this point clearly:

> [W]e could not live in the social world, did it not contain a considerable amount of order, a great number of regularities to which we can adjust ourselves. The mere existence of these regularities is perhaps more important than their peculiar merits or demerits. They are needed as regularities and therefore handed on as traditions, whether or not they are in other respects rational or necessary or good or beautiful or what you will. There is a need for tradition in social life. (1972:130-131)

Popper goes on to suggest that, in dealing with tradition, two main attitudes are possible. The first is to simply accept it uncritically--which very often means that there is little or no awareness associated with such acceptance (Popper 1972:122). This attitude is close to what some anthropologists describe as "simply living" a culture or way of life. The second attitude is critically aware not only that something is a tradition, but also that it is subject to change. This awareness may result in acceptance, rejection, or compromise, but at the very least the tradition

is thought about consciously. According to Popper, it is only when this level of critical awareness is reached that we are able to free ourselves from the "taboos" of a tradition, even if we can never entirely loosen its more generally encompassing bonds (1972: 122). But at this point it also becomes possible to reify, objectify, invent, or consciously construct tradition, to appeal to tradition, and to use the concept of tradition as a political legitimator. It is at this point, then, that a doctrine of "traditionalism" can emerge and take on an explicitly ideological character that lends itself readily to instrumental manipulation. Rather than ameliorating or expunging the taboos of tradition, it can reinforce them and also create new ones.

The purpose of the present discussion, then, is not to mount an attack on tradition per se, but to make a critical distinction between tradition and what Friedrich calls the "normative theory of the importance of tradition" (1972:114), which underscores the ideological and instrumental functions that the concept can serve. These themes can scarcely be held up as novel ones in the literature--Friedrich's study was published about twenty years ago. At much the same time, Eisenstadt located the ideological rendering of tradition in the context of transitions to modernity, in which he saw questions of authenticity or "true traditions" arising frequently as adequate legitimators were sought for new patterns of social and political behavior.

> As a reaction to the possibilities of erosion, the tendency known as "traditionalism" can develop, preparing the soil for potential dichotomy between "tradition" and "traditionalism". Traditionalism is not to be confused with a "simple" or "natural" upkeep of a given tradition. Rather, it denotes an ideological mode and stance oriented against the new symbols; it espouses certain parts of the older tradition as the only legitimate symbols of the traditional order and upholds them against "new" trends. Through opposing these trends, the "traditionalist" attitudes tend towards formalization on both the symbolic and organizational levels. (Eisenstadt 1973:22)

Several years later, Colson noted that in colonial Africa anthropologists had found "traditional" rules "being invented on the spot to legitimate a course of action desired by the very realistic manipulators of the local scene" (1975:75). The context in which this took place is especially interesting, for the success of many of these appeals to tradition was apparently due largely to the resonance they struck with the British style of conservative thought that pervaded the colonial service.

> An appeal to tradition against impinging authority, of course, is effective only if those in authority are prepared to recognize the validity of other ways of life. It was a highly effective device in British colonies which were administered by officials who came from a country with a long tradition of common law, a respect for inherited position, and dominated by a Burkean belief in gradualism. It had less force in the French colonies. It had almost none in the United States with its policy of cultural assimilation where effective power was in the hands of the upholders of a particular tradition to which others were expected to conform. In Africa, therefore, we find local communities legislating under the guise of an appeal to tradition and also keeping at bay attempts to foist new programs upon them by arguments that the programs were alien to their traditions.[9] (Colson 1975:83-84)

In the decade after Colson made these remarks, Keesing and Tonkinson edited a special issue of the journal *Mankind* titled "Reinventing Traditional Culture: The Politics of *Kastom* in Island Melanesia" (Keesing and Tonkinson 1982), and Hobsbawm and Ranger published their provocative collection of essays on the invention of tradition (1983). Like Colson, Ranger found that in colonial Africa invented traditions often received official endorsement because the colonizers thought that they were respecting age-old African customary practices (Hobsbawm and Ranger 1983:250). But the colonizers went further, introducing something that was not in accordance with traditional practice--the rigid codification of what were assumed to be customary laws, land rights, and political structures. The consequences of this were far-reaching.

> Codified tradition inevitably hardened in a way that advantaged the vested interests in possession at the time of its codification. Codified and reified custom was manipulated by such vested interests as a means of asserting or increasing control. . . . Paramount chiefs and ruling aristocracies . . . appealed to 'tradition' in order to maintain or extend their control over their subjects.[10] (Hobsbawm and Ranger 1983:254)

In some more recent studies, the notion that invented traditions have been used for politically instrumental purposes has informed further analyses of contemporary power struggles in the Pacific (for example,

Keesing 1989; Lawson 1990, 1991). But the issue of "invention" insofar as it implies inauthenticity has provoked responses from anthropologists who are concerned, inter alia, with the contrast that is necessarily drawn between "tradition as inheritance from ancestors," on the one hand, and tradition as the "manipulative rhetoric of contemporary politicians," on the other (Jolly 1992:49). Jolly objects to this contrast because of its tendency to promote an essentialist view of Pacific cultures, because it implies that only the advent of the West brought real social and economic change, and because authenticity is equated with unself-consciousness and, as a logical corollary, inauthenticity with self-consciousness (1992:49). A strong sense of self-consciousness, however, is now seen as incumbent on all those whose studies concern "others." Keesing, for example, urges more self-reflexivity in scholars of the Pacific, arguing that they should recognize as problematic "the implications and epistemology of our projects and representations" and noting that the "frame of certainty that surrounds scholarly expertise--like mythical history--is less solid than it seems" (1989:37). But this does not imply immediate surrender to the relativist void in which critique becomes almost impossible. It simply entails the recognition that no one epistemic position is especially privileged and that no observer can claim to have captured the Archimedian vantage point from which the essence of Truth can be grasped--and this applies to "insiders" no less than to "outsiders." With respect to the latter, Keesing addresses an issue that impinges on the whole question of "epistemological imperialism."[11]

> [S]pecialists on the Pacific do not best serve the interests of a less hegemonic scholarship or best support the political struggles of decolonizing and internally colonized Pacific peoples by suspending their critical judgment or maintaining silence--whether out of liberal guilt or political commitment--regarding mythic pasts evoked in cultural nationalist rhetoric. Our constructions of real pasts are not sacrosanct, but they are important elements in a continuing dialogue and dialectic. (Keesing 1989:37)

On a related theme, many anthropologists have drawn critical attention to some of the logical consequences of anthropology's revered doctrine of cultural relativism. Burling points out, for example, that although this doctrine rightly insists, among other things, that judgments about other cultures cannot be cast simply in terms of ethnocentric American or Western standards, the eagerness to counter vulgar

assumptions of cultural superiority can all too easily lead to the permanent suspension of judgment about almost any activity or practice and to the doubtful conclusion that "all human customs are equally defensible" (1974:9). Gellner's warning that we can be so blinded by an "excessive indulgence in contextual charity" that we are unable to discern "what is best and what is worst in the life of societies" is similarly apposite (1970:42).[12] Returning to the specific problem outlined by Keesing, Jolly agrees that it is hardly fruitful to suspend critical judgment, maintain one's silence, or be denied the right to speak at all. But she does propose the abandonment of styles of writing that presume that "we" have certain truths whereas Pacific politicians are in the business of "perpetrating illusions or self-delusions," urging scholars to turn their attention to more productive avenues of inquiry and analysis in the processes surrounding symbolic constitutions of tradition.

> Then our questions might cease to be those of persistence versus invention, of whether tradition is genuine or spurious. We probably cannot readily resolve the political conundra about whether and when to speak and write about Pacific traditions. But we might at least stop using the language of inauthenticity.[13] (Jolly 1992:63-64)

But the question of authenticity *is* relevant to the politics of tradition in the Pacific. It is relevant not merely to "outsiders" (whether these be academicians, aid workers, diplomats, or foreign-policy makers) but also to Pacific leaders and Pacific people generally in the conduct of their political activities. Take, for example, the following statement from Vanuatu's Prime Minister Lini.

> Traditional custom and culture, which are important and vital influences in our society, provide another challenge for us. Some people, mainly politicians, have used culture, custom, and custom chiefs for their own aims. . . . People have used the idea of "custom" to totally contradict the idea of development and democracy in this country. On Santo and Tanna custom has been carried to extremes by people who incorrectly claim they respect traditional ways. It has become a political weapon and this has made it into something that is not Melanesian at all. (Quoted in Weisbrot 1989:86-87)

Whatever we might say about the accuracy of Lini's claims and accusations here, questions of authenticity and inauthenticity are clearly

important to certain aspects of politics in Vanuatu. Further, it is Lini who is using the language of inauthenticity--not an "outside" academic commentator. In other words, the specter of inauthenticity does not figure exclusively in the language of "outside" experts or commentators--it features regularly in the discourse of Pacific islanders and clearly has a political salience. Furthermore, it may plausibly be argued that the language of inauthenticity is perfectly acceptable in countering certain kinds of political rhetoric that attempt to use demonstrably false or misleading accounts of "tradition" in order to enhance political power. As we shall see shortly, it is especially relevant to the context of political developments in Fiji, where traditionalist rhetoric and the ideology of traditionalism have played an exceptionally significant role in shaping perceptions of national politics. So although we may well be advised to cease using the language of inauthenticity where it is clearly irrelevant, inappropriate, or otherwise unwarranted, to abandon it altogether is to deny its utility in understanding, analyzing, and criticizing important categories of political phenomena.

Before exploring these issues further, it is important to spell out more precisely what is meant by "tradition" or "traditional" in the specific context of Pacific politics. Tradition is usually taken to denote continuity with the past. In most parts of the Pacific, however, it is often taken to imply the precolonial or at least precontact past, and this meaning is generally reflected in academic references as well.[14] The prevailing notion among both Pacific islanders and outside commentators is that the genuinely (or authentically) traditional or customary is that which is unpolluted by Western influences. This notion attributes a certain pristine quality to traditional life that accords well with aspects of the "fatal impact thesis" (Moorehead 1987).[15] In this context, "tradition" becomes a value-laden term--carrying with it a positive connotation of what is "good" (in social and political life) in specific opposition to that which is Western (which can be another way of saying "modern")--and so the evaluative images of the dichotomy depicted earlier are inverted.[16]

Although the evocation of indigenous values in opposition to those of the West as well as idealizations of precolonial or precontact pasts can be regarded sympathetically as appropriate responses to the negative images engendered by the colonial experience, these acts must also be recognized as devices by which some political leaders can legitimate their own authority while at the same time suppressing political opposition. I have argued elsewhere that traditionalist appeals can often involve the retrospective homogenization of what were (and still are) quite diverse collections of communities. A homogenized or unitary

image of the traditional way of life is then held up as a suitable standard for contemporary political practice (Lawson 1993). Viewed in this way, there is not so much a bringing of "the past into the present"[17]--that is, resurrecting past practices and making them meaningful in the contemporary sphere--as a projecting of some current state of affairs back into the past and seeking to legitimate it by invoking the traditionalist refrain "it has been this way since time immemorial." The past thus becomes something of an organic paradigm of the present, and its relevance as a serious political factor is dependent on its authentic reflection of the *Volkgeist* (Al-Azmeh 1991:482). As with classic conservative ideology and political romanticism, the idea of tradition here is linked closely to the "natural order of things," which is upset only at great risk to the very fabric of society.[18] Nowhere has this been more clearly apparent in the Pacific than in the case of Fiji.

The Politics of Tradition in Fiji

Fiji is home to approximately 700,000 people, just under half of whom are the descendants of predominantly Melanesian settlers who arrived in successive waves of migration from about 1500 B.C. European contact in the seventeenth century was eventually followed by British colonization in 1874, and although there was nothing intrinsically static about Fijian societies before this time, there is no question that the changes wrought by colonization were unprecedented and profound. For one thing, the diverse peoples of Fiji were brought together under a single political entity as a crown colony, and institutions designed to reflect the new "national" character of the island group were created as much for administrative convenience as for any other reason. One such institution was the Great Council of Chiefs, the Bose Levu Vakaturaga, now regarded widely as one of the foremost symbols of "Fijian tradition." Although there had been some gatherings of chiefs in the precolonial period (mostly in the east), the Bose Levu Vakaturaga is a colonial artifact, brought into being under colonial rule. Since it has existed now for over one hundred years, it can be called traditional in some sense--just as a material object of a certain quality may be called an antique after a similar period has elapsed. But it is certainly not traditional in that pure, pristine, precolonial sense described earlier, nor has it existed since "time immemorial."[19]

The Bose Levu Vakaturaga raises a number of. issues, one of which is whether it really matters if something that is regarded as traditional (in the "since time immemorial" or precontact sense) is in fact of relatively

recent origin or if its origins are Western, indigenous, or whatever. It raises again the question of the relevance of authenticity. Jolly, for example, asks, "Why shouldn't church hymns, the mass and *bislama* be seen as part of Pacific tradition, alongside pagan songs and indigenous languages" (1990:4). In these particular examples, it seems clear enough that questions concerning origination, authenticity, and so forth are largely irrelevant, inappropriate, or simply beside the point--at least in the political context with which the present discussion is concerned. Furthermore, developments in religion and language of this kind can be viewed as part of the continuous growth of social institutions and as part of a "living tradition." In another study, I have agreed that the exposure of certain traditions in Fiji as inauthentic in the sense that they are not age-old practices at all, but have been developed through colonial design or practice, is in itself unremarkable. But I have argued also that the relevance of the issue is contextually determined and can be especially important where political authority and legitimacy are at stake (Lawson 1992:61-84). In other words, it is the objectification of tradition and its ideological rendering in the form of traditionalism that makes it politically salient and therefore relevant to the study of political power in Fiji.

Another profound change brought by the colonizers was the introduction to Fiji of its second major population group, initially imported from India to serve as a labor force for the colonial plantation economy. The two major population groups, the indigenous Fijians and the Fiji Indians, together make up over 90 percent of the present population, with small numbers of Europeans, part-Europeans, Chinese, and other Pacific islanders making up the remainder. This kind of demographic composition is frequently described in terms of classic plural society theory,[20] the tenets of which endorse essentialist notions about the internal unity, boundedness, and exclusivity of cultures.[21] The application of plural society theory to the analysis of race or ethnic relations in Fiji has tended to depict each of the major ethnic groups not only as internally homogeneous, bounded units, but also as mutually and inevitably antagonistic. This analysis translates clearly and directly into political terms, thereby giving rise to the superficially plausible (but quite erroneous) impression that the military coups of 1987 were prompted largely, if not exclusively, by ethnic or racial tensions.[22] The details of the events and circumstances surrounding the coups have been described quite exhaustively in the literature and need not be recounted here. However, it is important to note the extent to which the idea of Fijian tradition was used by those who sought the overthrow of the

elected government, the abrogation of the constitution under which it came to power, the effective return to power of the old chiefly elite, and the promulgation of a new constitution designed permanently to entrench Fijian political supremacy.

The conventional view of Fijian tradition is that portrayed by Fiji's most powerful political leaders, the paramount chiefs from the eastern regions of the island group.[23] **A** number of ethnographic studies have highlighted the relatively hierarchical structures of chiefly power and control in these regions, which more closely approximate the Polynesian model, and have contrasted them with the lower level of stratification found in the central and western areas of Fiji's largest and most populous island, Viti Levu.[24] Arguments about the contextual significance of these differences in sociopolitical structures, especially in terms of their importance in analyzing the events of 1987 and subsequent developments, have been canvased in more recent literature with writers like Scarr attributing no special political importance to intra-Fijian cultural differences (1988:3). This view accords with the tendency of plural society theory, noted above, to treat the broader categories of ethnic groups as internally homogeneous. Others recognize that there has been considerable resentment amongst Fijians from the central and western areas of Viti Levu concerning the predominance of eastern chiefly power and that this resentment is related to differences in "traditional society" (Norton 1990:61). In another study, I have argued that an overarching impression of cultural homogeneity, which emerged and developed in the colonial era (largely through the system of indirect rule) and was carried forward as a powerful unifying political device into the postindependence era, has obscured much of the diversity in Fijian society in terms of both the present and the past (Lawson 1990). But the most important element of this analysis, at least for the present purposes, concerns the extent to which the homogeneous or unitary version of Fijian society has allowed a similarly homogeneous version of "tradition" to be promulgated by those who command the authoritative high ground on interpretation and whose legitimacy in the contemporary era has been largely dependent on this interpretation, namely, the eastern chiefly establishment.

The unitary view of tradition that underscores eastern chiefly power comprises several different strands or themes. One of the most important of these themes concerns the concepts associated with *vanua* (literally, "land"). Traditionalist interpretations of ideas about *vanua,* which incorporate a host of mystical values as well as more practical aspects, have developed strong normative links with eastern chiefly authority

and have come to constitute a powerful political symbol subject to intense, conscious manipulation. In a seminal work on this subject, France traces the development of colonial orthodoxies that link many of the important concepts associated with land to chiefly legitimacy (France 1969; Lawson 1991). In another recent study, these concepts have been explored more specifically in relation to "Fijianess"--"constituting identity and authenticity in Fijian culture" (Williksen-Bakker 1990:232). In a classic statement on the link between the land and Fiji's leading chiefs that was reported by the local press during the 1987 election campaign, the Alliance deputy prime minister, Ratu Sir David Toganivalu, charged the opposition with attempting to destroy the inseparable link between the *turaga* (chiefs) and the *vanua,* while at the same time warning of the dire consequences that this would have for the future of all Fijians: "The *Turaga* and the *Vanua* were one--one could not exist without the other--the chiefs were a bulwark of security for all and custodians of Fijian identity, land and culture . . . to remove chiefs would pave the way for instability" (*Fiji Times* 1987:1).

Through rhetoric of this kind, the chiefly leaders of the Alliance have portrayed themselves as the embodiment of a unified Fijian tradition; they have sought, in effect, to represent the very essence of the Fijian way of life and on this basis have laid claims to the exclusive mantle of political authority and legitimacy. The chiefly establishment has thereby effectively denied any political legitimacy to opposition forces, whether these consisted of Fiji Indians or other indigenous Fijians. In the aftermath of the May 1987 coup and, later, in the process of constitutional change, eastern chiefly monopolization of authority came under challenge from other actors in the drama. The military, under the control of coup leader Rabuka, sought a much more influential role in the political process as did leaders of the fundamentalist nationalistic Taukei movement, which had been instrumental in orchestrating unrest during the period leading up to the military takeover. Both relied on an appeal to tradition, but in the end their success was limited. It was evident that the symbolic resources associated with this sort of appeal were linked too closely with the eastern chiefs to be appropriated by any other group. As Norton notes, "ultimately it was the chiefs and their councils who controlled the most politically potent 'cultural capital', the power of legitimation" (1990:151).[25]

Let us now return briefly to the process of molding or constructing an "authentic" Fijian identity --a process that is linked closely to the idea of tradition. The general idea that cultural identity is something that is frequently constructed in opposition to "another" is not new, and it has

been observed in many contexts. Thomas (1992), for example, argues that the self-representation inherent in this process cannot take place in isolation--it must always be constituted by way of contrast with a tangible externality or difference. But this is only part of the story. A major theme discerned in most studies of the phenomenon is the attribution of a range of negative qualities to the "other'‘--which provides a suitable contrast for those positive qualities assumed to characterize the group in question.[26] This practice is especially common in ethnic stereotyping, which, as Hall observes, reveals much less about the groups subjected to this kind of definition than it does about the group that produces it. In her particular case study, Hall argues that ancient Greek writing about barbarians was usually an exercise in self-definition insofar as the barbarian was constructed in negative oppositional contrast to the ideal Greek (1989:ix).[27] In much the same way, a constant stereotyping of Fiji Indians (and vice-versa) has accompanied the process of building a "Fijian identity"--which of course is equally stereotyped. This stereotype of Fijian identity is necessarily a homogenized, unitary one--that is in the nature of a stereotype.[28] And, most important, it is grounded firmly in the idiom of chieftainship as exemplified by the eastern chiefly establishment, and it is supported strongly by an equally homogenized image of "tradition."[29] Thus *all* Fijians are placed under the aegis of eastern chiefly authority via a mechanism that treats them as a cultural whole for this particular political purpose.[30]

The homogenization of a diverse collection of people through these sorts of mechanisms for political purposes is hardly unique to Fiji. Nor is the ease with which dominant groups can impose their version of traditional orthodoxy. One example is the idea of a "Great Tradition" propagated by Brahmans in India, who, in maintaining their position of privilege, "engaged in a gigantic 'cut and paste' job, attempting to continually revise and propagate an orthodox version of *the* Great Tradition" (Miller 1966:27). Other examples abound in the homogenizing processes evident in the development of one-party ideology in Africa, where many indigenous political leaders have evoked images of a unitary, precolonial society in order to legitimate one-party rule as a reflection of "authentic" African political practice (Lawson 1993: 197-198). Ibingara's critique of this practice is especially pertinent to the present discussion:

> If any leader were to claim to be practicing the one-party system as an indigenous African system, he should candidly and

> logically answer the question, *which one?* For instance, what type of African one-party system, assuming one existed, did Obote impose on Uganda? If he were to base his concepts in the Langi traditions of his kinfolks, he would automatically alienate the majority of his countrymen whose systems . . . differed from his. Which one-party system did Nkrumah, a Nzima, operate in Ghana among his diverse nationals? The claim of the legitimacy of one-party states as based on Africa's past, therefore, is impossible to substantiate. (Ibingara 1980:253)

Returning to the Fijian case, the idea of a single, overarching Fijian tradition that can be articulated or expressed only through a single institution--namely, "traditional" eastern chiefly authority--leaves little room for any effective claim to political legitimacy by opposition groups, whether these contain Fiji Indians, other indigenous Fijians, or any combination of these or other ethnic groups. I suggested earlier that the critical level at which something is recognized as a tradition is also the level at which questions concerning objectification, invention, authenticity, and so forth can arise, and I noted further that the "language of authenticity" features in the discourse of Pacific islanders themselves--not just in academic papers on the subject of tradition or traditionalism. In the context of Fiji's postcoup politics, debate about the interpretation of "real" tradition has become a hotly contested issue --especially with respect to the new constitution, which, before its promulgation, received official endorsement by the reconstituted Bose Levu Vakaturaga. This body claims that many important aspects of the document reflect legitimate traditional political ways: indeed its own legitimacy is premised on its "traditional status," and it has been accorded a fairly powerful position as the Upper House under the new constitution. But in the wake of the coups and the promulgation of the new constitution, claims of the kind made by the Bose Levu Vakaturaga have attracted criticism in Fiji on the basis that they are not founded on genuinely traditional practices. A booklet issued by the former National Federation Party-Fiji Labour Party coalition is replete with accusations that the new constitution violates all understanding of tradition in Fiji. Its authors claim that

> The present regime has distorted Fijian custom and tradition, particularly as represented in the Constitution. The Constitution is contrary to Fijian traditional constitutional values which

> are based on the principles of consensus and the accountability of traditional chiefs. (National Federation Party and Fiji Labour Party 1991:5)

And, they add,

> The civilised principles of modern democracy were inherent in Fijian culture and tradition, but these are not reflected in the Constitution. It reflects more the traditional authoritarian militaristic values inherited from western dictatorships than the true values of Fijian Christianity and traditional ethics of chiefly leadership. (Pp. 5-6)

As with the earlier example concerning Vanuatu, the accuracy of interpretation is in some senses irrelevant. The point is that "tradition" and the practices that it is used to legitimate are contested ground among Fijians themselves--at least in the sphere of national politics and power. There are many Fijian traditions or customary practices associated with other spheres of life that are valued almost universally and endorsed for what is regarded as their intrinsic merit, regardless of their historical continuity or "authenticity." As argued earlier, however, the political salience of an issue is contextually determined, and the politicization of tradition in Fiji has been grounded largely in a struggle for the retention of political power and control by a group of chiefs seeking to make exclusive claims to national political legitimacy. In this case, questions of authenticity are clearly important for participants in the drama.

The implications for democratic politics of a singular claim to political authority and legitimacy are clear enough and can be illustrated by reference to one of the most basic tenets of democratic theory, that political power cannot be claimed as the permanent and exclusive preserve of any one person or group. It is always open to contestation, and it is therefore only held temporarily and conditionally.[31] It may seem odd, then, that the new constitution contains many high-sounding references to "democracy" when it is evident that the intent of those responsible for its promulgation, including the Bose Levu Vakaturaga, is to deny genuinely democratic opportunities to opposition forces competing for political power.[32] But the international political environment demands that lip service be paid to a moral vocabulary in which the word "democracy" unquestionably takes pride of place. The constitutional fig leaf provided by an elected parliament and the choice of name for the

Sovereign Democratic Republic of Fiji are signs that the chiefly regime feels the need to secure external respectability and legitimacy--which could hardly be achieved by adopting some more accurately descriptive title such as the "Autocratic Chiefdom of Fiji."

Another point to be considered concerns the manner in which elements of both "tradition" and "Western ways" are selectively praised or condemned, honored or repudiated, depending on the particular issue at stake, for one of the keys to understanding a system of thought is to ask about the selectivity of its interpretation of tradition (Pelikan 1948:15-16). With respect to Fiji, this selectivity is best illustrated by reference to religious practices and political institutions. Among indigenous Fijians, the beliefs and practices of the wholly Western religion of Christianity have become widespread. Indeed, a much higher percentage of Fijians, and Pacific islanders generally, can be described as practicing Christians than is the case for the populations of most Western nations (if we take church attendance and other external signs of devotion as indicators). The practice of Christianity in Fiji is one example of a tradition that is clearly postcontact and is also widely endorsed as having significant intrinsic merit. In contrast, many of the Western values that support the practice of democratic politics have been rejected by some elements of the Fijian polity on the explicit grounds that they are alien and therefore contrary to the "Fijian way of life."[33] It is further suggested that democracy as a form of government lacks legitimacy vis-à-vis those traditional forms of political authority that are manifest in the chiefly system--and most especially in the chiefly system that characterizes eastern Fiji. In short, the rhetoric suggests that democracy as a form of government is both inappropriate and illegitmate in Fiji because it is Western and not a part of Fijian tradition.

But claims of this kind raise other issues and prompt certain questions. We should ask, first, as Ibingara has of Uganda and Ghana, which Fijian "tradition" supports the political order now in place in Fiji, and, second, what gives this order its legitimacy. A third question concerns the issue of interpretation. In this context, it is obvious that "tradition" does not speak for itself. It must be both activated and articulated by an authoritative and legitimate voice. At the same time, any other voice raised in opposition is necessarily denied legitimacy and authority. Further, the selection and interpretation of certain aspects of tradition, rather than the wholesale promotion of all that is reputedly traditional, implies a purposive motive that we are entitled to call instrumental. Finally, it is worth noting that although a "tradition," a "custom," or a "folk way" may well reflect the popular character of a

practice, it does not exclude the "indubitable truth" that "a folk-way may be the way of the folk in power" (Hamnett 1975:15).

Conclusion

In considering the case of Fiji, the concept of tradition has reached the level of awareness at which it can be treated critically or reflexively. But this is, as I suggested earlier, the same general level of consciousness at which it can be appealed to in those normative terms that promote the importance of tradition. In the national political context of Fiji, this kind of appeal has a strong political motivation and is clearly instrumental in terms of legitimating chiefly authority, In other parts of the world, including postcolonial Africa, it has been used as a repressive device to legitimate authoritarian political structures such as the one-party state. Such an ideological or doctrinal rendering of tradition demands conformity with its precepts and prescriptions and is aimed at conserving a particular political order. Further, its ideological purity depends, at least implicitly, on the construction of the same dichotomy between "traditional" and "Western" that has been so roundly condemned in anticolonial literature but that has now been inverted in the rhetoric of those who denounced it in the first place. This rhetoric produces the same false essentialism that seduced past generations of scholars into believing that there are determinate characteristics of Western and non-Western "minds" (Bernstein 1991:93).

It is also useful to consider traditionalism in terms of a self-contained discourse that functions to unify a particular field of thought in such a way as to exclude alternative modes of thinking--or at least to de-legitimate them. The particular function of traditionalist discourse in the context described above is to present a simple unitary view of an "authentic," precontact past (it must be precontact to ensure its pristine quality, and it must be depicted as authentic to ensure its validity). This view is then used to identify the "legitimate" locus of political power (namely, a chiefly system), which in turn ascribes legitimate political power and authority to a particular class of people (namely, chiefs). The logical exclusion of alternative sources of authority and legitimacy makes especially problematic the task of mounting an effective political opposition, which in turn undermines efforts to develop more effective democratic political practices and institutions.

Traditionalism is a method of idealizing the past and of judging and molding the present by the assumed standards of a past era. The selective nature of representations of the past and the apparent ease with

which these selections can be made by those who command the requisite symbolic resources make it especially flexible in fashioning contemporary political agendas.[34] Although often camouflaged by a variety of romanticized images, traditionalism can operate at the crudest level of instrumental propaganda in seeking to legitimate some current state of affairs. And in those cases where political power is seen as the God-given right of an exclusive group who occupy the apex of the "natural order," the "invention" of a tradition that supports this order can readily be justified in its own terms. It is thus fitting to conclude with Orwell's observation on the nature of propaganda and historical revisionism:

> The primary aim of propaganda is, of course, to influence contemporary opinion, but those who rewrite history do probably believe with part of their minds that they are actually thrusting facts into the past. . . . More probably they feel that their own version *was* what happened in the sight of God, and that one is justified in re-arranging the records accordingly. (Orwell 1965:167)

NOTES

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1. "Tradition" is used in a broad sense here and incorporates kindred concepts such as "culture" or "custom." Its Latin root denotes several meanings that include the passing on of knowledge and doctrine from one generation to the next, and its general understanding in English is related to this process. See Williams 1976:268.

2. I shall not pursue this issue here but note in passing that it is all too easy to confuse substantive differences for those that are simply idiomatic. This point was made many years ago by Horton (1967:50).

3. This point is especially relevant to the idea of "ethno-Occidentalism," which concerns "essentialist renderings of the West by members of alien societies" (Carrier 1992:198).

4. However, as Clifford points out, an oppositional critique of "Orientalism" can scarcely avoid falling into "Occidentalism" (1988:258). Carrier describes Occidentalism in terms of an "essentialist rendering of the West by Westerners" (1992:197), but there is no reason to suppose that an equally essentialist view of the West cannot also be constructed by non-Westerners.

5. Cf. the point made by Carrier that the two essentializations of Orientalism and Occidentalism define two ends of an evolutionary continuum and, equally, define each other dialectically because they are generated as opposites of each other (1992: 197).

6. I might add that a local news program in the New England area of Australia in 1991 showed the congregation of a country church praying for rain on behalf of the farmers of the district. We can hardly claim that the character of the Hopi activities differs significantly from that of some elements of the so-called modern (Western) society that inhabits the northern slopes and plains of New South Wales. The difference here seems to be largely one of idiom.

7. Contemporary literature on Third World development--or underdevelopment--is replete with critiques of modernization theory, but for a conservative account that deals explicitly with the notion of tradition and the "rationalism" of modernization theory, see Shils 1981.

8. Cf. Hayek 1973, especially pp. 8-34.

9. Cf. Kaplan 1989:349-371. Kaplan notes that for Fiji's first governor, Sir Arthur Gordon, the chiefly system had a moral resonance as an ordering system.

10. For a critical discussion on the attempted transformation of custom to legal creed in a Melanesian context, see Aleck 1990.

11. For a partial critique of this phenomenon, see Magno 1987:30.

12. Judgments about what is "best" and "worst" are obviously problematic, being ultimately colored by the vantage point of the observer, whether an "insider" or an "outsider." But again, a surrender to relativism means that nothing can be said at all. For a critical discussion on the postmodernist promotion of culture-centric analysis and its relativistic implications, see Friedman 1987:161-170. Issues of this kind have a number of implications for ethical relativism, especially with respect to democratic theory and practice, but they are beyond the scope of the present article, and so it must suffice to emphasize the importance of maintaining a sharp edge to our critical faculties lest we become "anthroapologists."

13. See also the introduction in Tonkin, McDonald, and Chapman 1989, where it is suggested that oppositions between fact and fiction, history and myth, reality and symbol, and so forth, have just about reached the end of their useful analytic life (1989:9-11).

14. See, for example, Douglas 1979, where it is specified that "traditional" refers to "pre-European contact" (p. 2n).

15. As Linnekin notes, this thesis implies also that change and innovation in Pacific societies originated only after European contact (1991:10).

16. Cf. Aleck: "For the purposes of contrasting law and custom in Papua New Guinea, Western law (that is to say, the introduced and adopted Anglo-Australian common law) is typically understood and represented in dichotomous formulations as the complete inversion of virtually all features by which Melanesian custom is generally characterized' (1990:51). See also Keesing 1990b: "[Reified culture] provides an ideal rhetorical instrument for claims to identity, phrased in opposition to modernity, Westernization, or neocolonialism" (p. 14). Manifestations of this phenomenon are also evident in anti-Western Islamic fundamentalism, where contemporary conditions of degradation are viewed as

corruptions of an "original cultural essence" that can only be retrieved by "a return to the pristine beginnings which reside in the early years of Islam" (Al-Azmeh 1991:471).

17. This refers to the title of one of Roger Keesing's papers, "The Past in the Present: Contested Representations of Culture and History" (1990a).

18. Acton says: "The supporters of tradition have believed in a 'natural' order of society to which men should piously conform" (1952: 1). But Acton is really referring to "traditionalism" in the sense described earlier.

19. Williams suggests that although it may only take, say, two generations to make something traditional and that this time frame accords with the sense of tradition as an active process, the word "tradition" nonetheless "moves again and again towards the *age-old* and towards ceremony, duty and respect" (1976:268-269). This movement underscores the ideological dimension that lends it its exhortatory or ratifying use.

20. First formulated by J. S. Furnivall, especially in Furnivall 1948.

21. Plural society theory also implicitly endorses the Romantic view of cultural uniqueness (as opposed to the Enlightenment conception of a universal reason), which also accords with Johann Herder's idea of the radical disjunction between culturally constituted worlds of meaning (Larsen 1987:2).

22. This interpretation forms the basis of Deryck Scarr's (1988) analysis and echoes coup leader Rabuka's own justification, which has been set out in a semibiographical account by Dean and Ritova (1988). However, it has been largely rejected in most other analyses, which include Lal 1988, Robertson and Tamanisau 1988, Norton 1990, Howard 1991, and Lawson 1991.

23. It is a commonplace observation that the hereditary position of a chief is especially privileged when it comes to the interpretation of tradition and customary matters (Hamnett 1975:15).

24. The sociopolitical typology based on the Polynesia-Melanesia division was first set out explicitly by Sahlins (1963). It has since been criticized on a number of grounds. See, for example, Thomas 1989 and the *Current Anthropology* discussion that follows. Marcus sets up a "kingly/populist continuum" for Polynesian chieftainship, which he says "effectively collapses the chief/bigman distinction used by Sahlins" (1989: 180). Despite these criticisms, the basic distinction between political types remains useful to the analysis of politics in Fiji (Lawson 1990, esp. 801-802).

25. This accords with Martha Kaplan's observation that "custom" in Fiji has come to be defined in terms of chiefly rule (1989:364).

26. This is a central theme in Said 1978. However, see note 4 above.

27. In another South Pacific study, Hanson develops a similar theme: "The present image [of Maori culture] has been invented for the purpose of enhancing the power of Maoris in New Zealand society, and is largely composed of those Maori qualities that can be attractively contrasted with the least desirable aspects of Pakeha culture" (1989:897). There are no grounds for believing, however, that this practice is unique to contemporary non-Western contexts. Collingwood records, for example, the circumspection of Vico of Naples, who long ago noted the prejudice and "conceit of nations" in generating "magnificent opinions concerning antiquity" and the inclination to recall only favorable histories. Col-

lingwood adds caustically that English histories written by and for English people "do not enlarge on military failures" (1961:68).

28. This general process is another form of dichotomization and a prime example of the type objected to by Gould and others.

29. This discussion should not be taken to imply that some Fiji Indian political leaders and many Fiji Indians generally have not likewise resorted to stereotypical exercises in defining themselves in opposition to indigenous Fijians.

30. Ironically, this practice accords with a particular anthropological tendency to treat cultures as wholes. See Goldsmith 1990:6.

31. This argument is elaborated in greater detail in Lawson 1991, especially chapter 1, and Lawson 1993.

32. This has been achieved through a variety of mechanisms. including the rigid allocation of communal seats, discriminating against Fiji Indians, as well as gross malapportionment within Fijian constituencies designed to bolster the support of the eastern chiefly establishment at the expense of the majority of "commoner" Fijians. For further details, see Lawson 1992.

33. These arguments appear throughout Dean and Ritova 1988.

34. This observation has been made in similar terms by Linnekin 1991:6.

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MADRICH: OUTER ISLANDERS ON YAP

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Demographic changes in Yap State have been discussed in some detail in this journal by L. J. Gorenflo and M. J. Levin (1991:97-145). Their findings were primarily derived from the data of government censuses conducted between 1920 and 1987, and one of their conclusions, mentioned in several different contexts, was that internal population movement has played a "limited role" in the demographic history of this region (1991:113, 121, 124-125, 130, 134). They conclude (1991:138) that Yap state is therefore unusual in the overall context of Micronesia and, as the work of others has also suggested, certainly atypical of the insular Pacific as a whole (Spoehr 1960, 1963; Force and Bishop 1975; Shuster 1979; Chapman and Prothero 1985).

I propose to provide some additional data on this topic, derived from field censuses and related observations on Yap and the outer islands.[1] Since Gorenflo and Levin were analyzing official censuses that did not disaggregate the data below the district level, several of their conclusions are understandably tentative. My own work focused on a community of outer islanders settled on the southern outskirts of Colonia, the sole port town of the Yap Islands. I believe these data provide a more detailed cultural and social context that helps clarify why migration thus far has been limited. They further offer some support for Gorenflo and Levin's tentative conclusion (1991:130) that most of the movement that has occurred between the outer islands and Colonia until very recently can be classed as "circulation" or, as I prefer to term it, "sojourning," rather than permanent movement.[2] I believe the explanation for this particular pattern lies in the cultural differences and

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hierarchical structure that traditionally ordered outer islander-Yapese relations.

The Setting: Yap and Colonia

Outer islanders have long had ambivalent attitudes toward Yap. On the one hand, many are attracted to Colonia as the closest port town where trade goods, wage labor, varied entertainment, specialized training, advanced medical facilities, and transportation to the outside world are available. On the other hand, owing to traditional Yap-outer islands hierarchical relations, as encoded in the *sawei (sawey)* economic exchange and tribute system (described below), Yap also has strong negative cultural meaning for many. It is an island to which outer islanders once submitted tribute and where they were subject to discrimination and sometimes abuse.

Colonia is an unpretentious port town. Its 1968 estimated population of between 617 and 750 people had grown by 1980 to some 1,500 people, approximately 28 percent of the population of the Yap Islands proper at that time. The rate of growth since 1980 can only be roughly estimated until the next official census, which is scheduled for 1993.

The town is dispersed around a harbor area of inlets, islets, and peninsulas, several of which are linked by causeways and bridges (Figure 1). Its structures are primarily built of a mixture of concrete, frame, and sheet metal. Most of the larger buildings house government agencies, retail stores, hotels, bars, and warehouses. Other structures of importance include three missions (two Christian and one Baha'i), a public market and handicraft center, and a small soap factory.[3] On the outskirts of the main town are a hospital (approximately two kilometers north) and the water works, high school, power plant, and airport (all between two and six kilometers to the southwest).[4]

Three classes of dwellings can be found within the town. First, there are those that belong to the government and are assigned to its employees. Most of these are single-family structures, but a few are multiunit apartments or dormitories. Some were constructed during Japanese times (1914-1945) and are therefore solidly built of bulletproof concrete. Government housing has long been allocated by employee rank, and at one time the majority of these units were occupied by Americans. Now, however, most expatriate employees have been replaced by Micronesians and the housing correspondingly reassigned.

The second class of residences comprises those belonging to missions. The Catholic mission is the oldest on the island, dating from Spanish

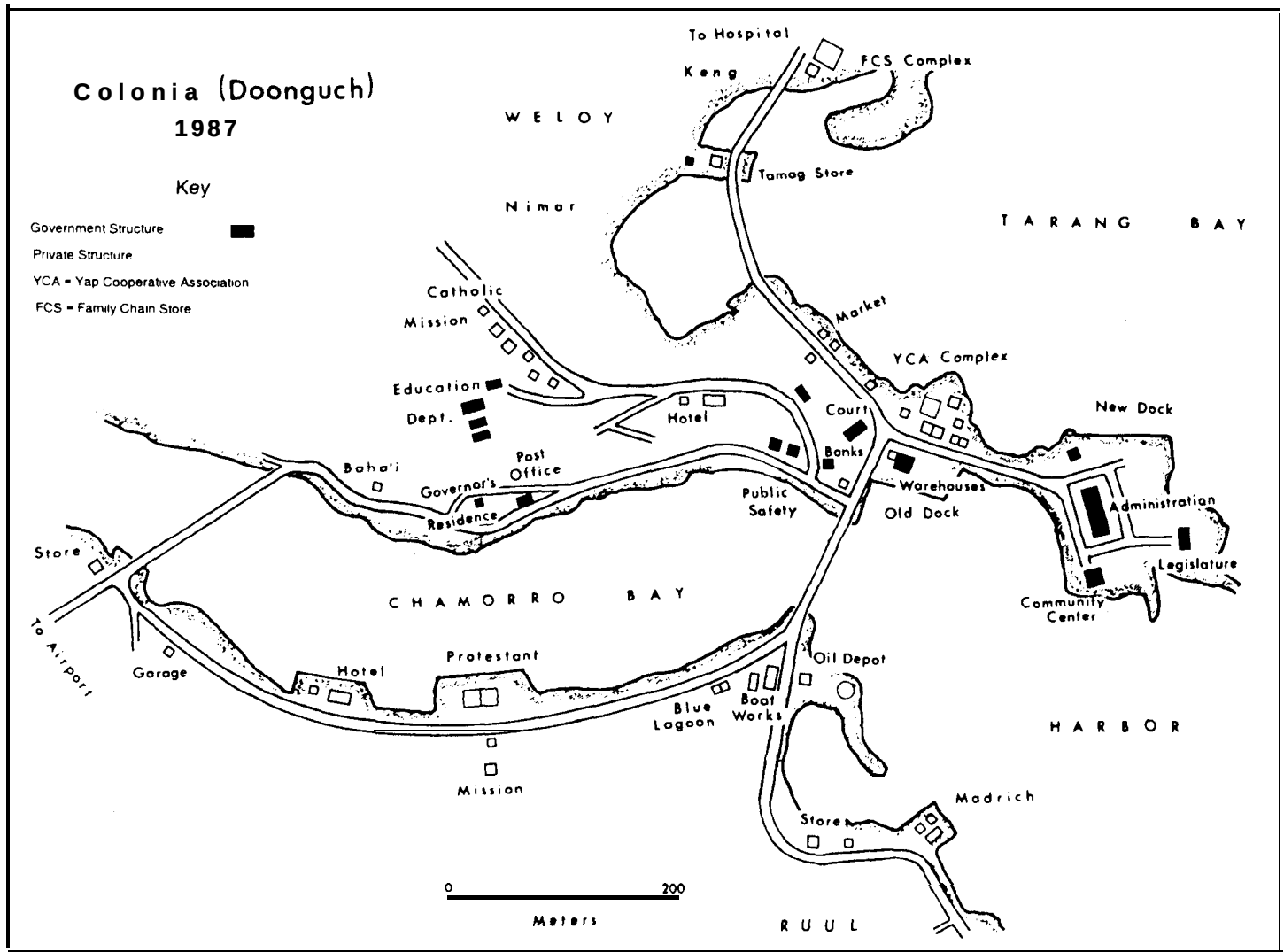

FIGURE 1. **Colonia.**

times (1885-1899), and it houses Jesuit priests, nuns, and lay workers (see Hezel 1991: 1-47). The Liebenzell Protestant mission (established after World War II) also has a number of dwellings occupied by missionaries and workers. The Baha'i mission is a single structure built in the late 1970s to house its workers and visiting converts.

The third and least pretentious class of dwellings includes those owned or occupied by ordinary Yapese or other Micronesian migrants to the town. These are scattered along the roads, shorelines--some on pilings over the bays and inlets--and hillsides of the town.

The Yapese themselves comprise the largest number of town dwellers and undoubtedly some of their housesites date from pre-European times. The largest number of Yapese, however, live in recently settled areas on the northern and southern fringes of the town, the largest of these being the northern ward or village of Keng.

Colonia is the only place on Yap where one finds concentrations of off-island non-Yapese migrants. The largest of these is the Palauan (Belauan) community. Most Palauans arrived as Trust Territory government employees and subsequently transferred to state government offices when the Trust Territory was terminated (officially in 1986 but operationally in the mid and late 1970s). Some of these Palauans were given access to government housing, but most leased small parcels of land from Yapese and built dwellings and sometimes small shops. Smaller groups of Americans, Pohnpeians, Filipinos, Japanese, and Koreans are also settled in and around Colonia. Today the majority of the Americans (who probably number between 35 and 40) work either as missionaries or as advisers to or technical specialists for the various levels of government, Most of the Filipinos, Japanese, and Koreans, in contrast, are employed as contractors and laborers on various construction projects.[5]

Outer islanders--that is, people from the ten outlying coral-island groups that reach from Ulithi to Satawal (Figure 2)--comprise the final significant group of Colonia residents. They are primarily localized at a residential site called Madrich.[6] This site was chosen by the outer islanders for a number of historical and cultural reasons that derive, in large part, from the traditional patterns of Yapese-outer islander interaction, as detailed below.

A History of Yapese-Outer Islander Relations

Traditional outer islander-Yapese relations have been described in some detail by a number of authors (Born 1904:176-180; Müller 1917:287-

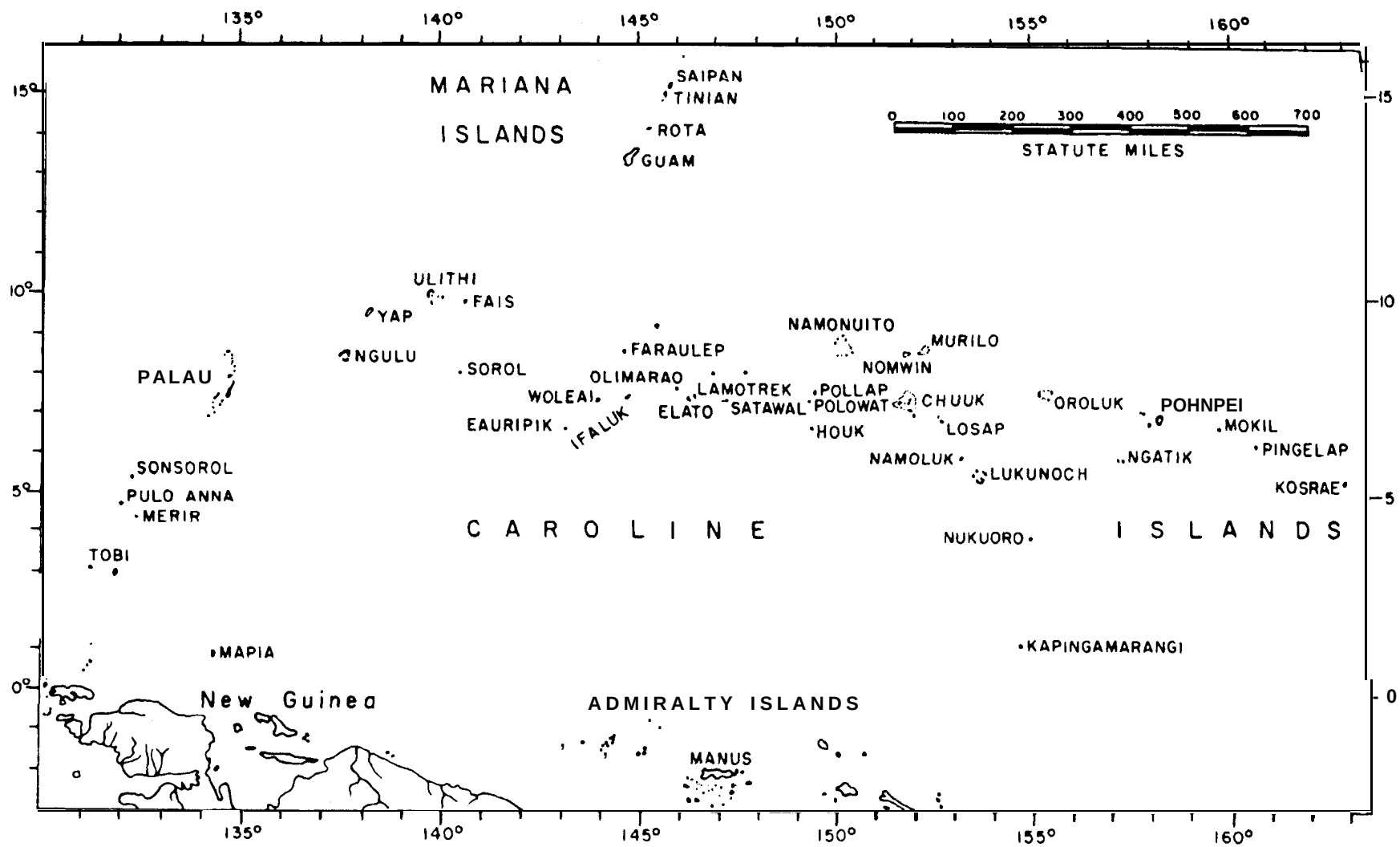

FIGURE 2. **Caroline Islands.** (Adapted from Alkire 1965)

301; Lessa 1950; Alkire 1965:4-7, 145-169; Alkire 1970:4-6; Alkire 1980; Lingenfelter 1975: 147-155). Interaction was regulated by the *sawei*--an interisland, hierarchically ranked exchange system within which Yap held a superior position. Representatives from each of the outer islands, as part of an outer-island fleet, periodically visited Yap carrying "tribute" for particular chiefs, religious functionaries, and estate heads of Gatchepar and Wanyan villages of Gagil District (the main political center of northern Yap). This Yapese district and these two high-ranking villages claimed suzerainty over the outer islands and their respective districts. The tribute consisted of items manufactured in the outer islands--woven loincloths *(tur)* and mats, sennit twine and rope, shell belts--and various types of sea shells found in the outer islands but scarce, and consequently more valued, on Yap itself. In return the Yapese of Gagil presented the outer islanders with a variety of material items including food, turmeric, bamboo, lateritic-earth stain, pots, and, in later times, foreign trade items that reached Yap with greater regularity than they did the outer islands. Many of these goods were of great importance to the outer islanders, especially in times of post-typhoon shortages. The Yapese also provided the outer islands with ritual protection from typhoons, since one explanation for their higher status derived from their putative superior magico-religious abilities.

On Yap the *sawei* voyagers were subject to many restrictions in regard to dress, food, and movement. Most important, they were required to show great deference to the Yapese and to contribute labor to their host estates. A metaphor of kinship was used, especially by the Yapese, to characterize the relationship. The Yapese referred to themselves as superior "fathers" who exercised authority over their outer-islander "children." As such, they saw themselves as the true owners of the outer islands, where these "children" were permitted to live. Thus, when outer islanders visited Yap, they resided at the Yapese estate of their island's or district's *sawei* "father." Here they remained until their voyage home, and here their behavior was monitored by Yapese "parents." Even though the system provided valuable returns in food and resources for the outer islanders, their visits to Yap were always tense occasions, since they believed that if they violated any of the above rules even inadvertently, they or their home islands could be punished directly--or indirectly via magic--by the offended Yapese.

There is little evidence to suggest that the Yapese formed or maintained this system by the direct application of military force, although folklore does state that interisland warfare among the outer islands themselves once occurred (Alkire 1984). Relations among those islands

(at least in immediate precontact times) were more typically characterized by friendly exchange, visiting, adoption, and intermarriage. I have hypothesized elsewhere that this type of interaction was more normal because of the critical importance of mutual aid in times of need, which in this area of the Pacific frequently followed typhoons (Alkire 1965). The *sawei* provided a framework that facilitated such interisland communication and interaction, not only between Yap and the outer islands, but also among the outer islands themselves.

Among these outer islands, where social status differences were less significant, increased intermarriage and interisland adoption easily followed from this interaction. Severe typhoon damage on one island could result in a significant number of temporary refugees seeking shelter on another. Most such refugees returned to their home islands after their recovery, but some--especially if the displacement lasted for several years--might choose to stay on, having formed new social ties during the prolonged relocation. Long-term relocation seems likely to have occurred in cases where either the home island was thought to suffer from overpopulation or the island of refuge was considered underpopulated. The ties formed by migrants, in turn, increased interaction and movement between islands in subsequent years and generations. Intermarriage with Yapese was generally less feasible, owing to the significant cultural and status differences that existed between the two areas.[7] In general the outer islanders did not seek long-term residence on Yap, since their behavior was severely restricted by considerations of rank, which also precluded access to land.

By the late 1800s, as a consequence of foreign contact and colonial policies, the traditional political, economic, and social organization of the Yap region slowly changed. Even though Spain claimed control of most of the Micronesian islands early in the nineteenth century, it was actually the Germans in 1869 who established the first trading station and foreign presence on Yap (see Gorenflo and Levin 1991: 100). Not until 1885 did the Spanish finally make visible their hitherto nominal control by building a colonial government station near the border of Ruul (Rull) and Weloy districts. In effect, this action marked the founding of Colonia (or Yaptown, as it was sometimes called by the Europeans) in an area the Yapese referred to as *Doonguch* (small islands).

During these early years, apparently in contrast to other parts of Micronesia, the Yapese were slow to respond to the attractions of foreign trade, wage labor, and town life. Not until the Germans assumed official colonial control of the region following Spain's defeat in the Spanish-American War and established the first hospital in 1903 did

Yapese from outlying areas begin to move to Colonia. At about the same time, the commercialization and monetization of the region, largely related to the copra trade, began in earnest and increased through the succeeding decades of German, Japanese, and American colonial rule.

Colonial administration and trade also proved important to the outer islanders as it began to decrease their former exclusive dependence on the Gagil Yapese. Many of the goods previously supplied via *sawei* linkages could now be obtained directly from the foreigners. At the same time, the activities of European missionaries slowly undermined belief in the effectiveness of the magico-religious sanctions of the old system. Still there was no influx of outer islanders to Colonia, for even if they now doubted the magical power of the Gagil Yapese, they still recognized the preeminent political power of Gagil on Yap. It continued to be unwise for outer islanders, even in the more southerly districts of Ruul or Weloy (where Colonia is located), to question publicly the power of their *sawei* "fathers."

At the same time, the Gagil Yapese soon found it more difficult to pressure outer islanders to conform to the "tribute rules" of the *sawei,* since overt force to this end might provoke the colonial authorities, who were unsympathetic toward this aspect of traditional life. Danger also existed that renewed pressure might push the outer islanders into an alliance with some other district of Yap, thus weakening Gagil's overall political importance on Yap itself. Nevertheless, those outer islanders who wished to avoid Gagil still found it difficult to relocate, because the Yapese of Ruul and Weloy did not volunteer any land for this purpose and the outer islanders could not afford to lease or buy land.

Thus, through the Japanese period of administration, most outer islanders who visited Colonia came either to attend school or to undergo treatment at the hospital. The school provided housing for students, and patients and their attendants lived at the hospital for the duration of treatment. When discharged, the patients moved to sleeping accommodations provided by the Catholic mission until the government ship returned them to their home islands. Only for a brief period during World War II were there a large number of outer-island men on Yap, working as laborers in the construction of Japanese military facilities. These men were housed in camps near the various construction sites.

Following World War II, interaction between the Yapese and outer islanders was virtually severed for several years when the U.S. naval government began to service the outer islands from Koror in Palau rather than from Colonia. Not until 1951, owing in large part to Yapese (most likely, Gagil) protests, were the outer islands administratively reunited with Yap and did ships once again link them directly with Col-

onia. Still, few outer islanders wished or were able to join a movement to the district center. Most spoke neither Yapese nor English, and few possessed the specialized training to qualify for the limited number of jobs available there. In addition, most still believed they would face discrimination or possible abuse by the Yapese if they tried to settle anywhere on the island beyond the boundaries of Gagil.

The Founding of Madrich

After 1951 most outer-island visitors to Yap proper, as in the prewar era, were either students or patients. The students continued to be housed near the schools they attended while the patients were housed at the hospital. Government regulations permitted and paid for an attendant to accompany each patient to Colonia. In fact, most patients also came with one or more additional family members who paid their own way. No provisions were made by the government to house the attendants or discharged patients, and the mission facilities that were used for this purpose in prewar times had long since been converted to other uses. In the 1950s many such attendants therefore were forced to seek aid from either their Gagil *sawei* partners or Yapese friends in nearby Keng. The outer islanders frequently found both options unpleasant. In Gagil they were subject to the customary behavioral restrictions, and in Keng their low status resulted in occasional abuse by urban rowdies. In Keng they were also far from any protection they might have expected from their Gagil patrons.

As a consequence, increasing numbers of outer islanders (especially older individuals and females) refused to travel to Yap even for hospital treatment. Many said they preferred to remain in peace and safety on their own islands even if it meant that their illnesses remained untreated. Several outer islanders who were concerned about this state of affairs sought the aid of William Walter, the Jesuit missionary to the outer islands who resided at Ulithi. Father Walter obtained permission from his colleagues on Yap to convert a 2,774-square-meter (0.69 acre) piece of church property near Colonia's harbor to residential use for transient outer islanders. This land, once the location of a Spanish trading station called Madrid, had long belonged to the mission. Following this agreement and the construction of rudimentary facilities on the property, the outer islanders were able to visit Yap while avoiding both Gagil and Keng. Both their own expectations and those of the mission were that Madrich (as it was locally labeled) was solely a transient residential area, not a permanent migration destination.

Over the succeeding years outer islanders who visited the site added

more shantylike structures until Father Walter in the mid-1960s negotiated a government-financed community development grant (supplemented with church funds) to construct a larger, more permanent two-story building. The top floor was divided into sixteen sleeping rooms and the bottom into fourteen plus an additional meeting room. A number of smaller structures, some left from the earlier period and some newly built, completed the makeup of the peninsula.

Even though the Catholic mission specifically defined Madrich as a facility for outer-island transients, by the mid-1970s some mission and administration personnel began to fear that it was, in fact, becoming an immigration destination because of an apparent stable population and chronic overcrowding. Two censuses of Madrich undertaken by this writer in 1976 and 1980 and a third by Fran Defngin in 1992 (at my request) provide data regarding use of the site.

The Demographic Character of Madrich in 1976 and 1980

In June 1976 twelve structures occupied the site (Figure 3), the largest being the above-mentioned two-story building, which I shall refer to as the *dormitory*. The next largest houses were, respectively, of eight and five rooms. Six of the remaining buildings were single roomed (or were single rooms that had temporarily been partitioned into two), and the final three were a boathouse, a men's house, and a chapel. There were 177 individuals sleeping at Madrich, only five of whom were not outer islanders (or spouses of outer islanders). The site was described as overcrowded, cramped, and uncomfortable by its residents, yet four rooms were unoccupied, all on the dormitory's second floor.

The statistical character of the residents are detailed in ten tables. Fifty-nine percent were males (Table 1), and approximately 50 percent of the 1976 residents whose ages were known were between 10 and 29 years old (Table 2).[8] At the time of this count, a large number of outer-island elementary school teachers (all male) were on Yap for summer training, and a number of high school students (mostly male) were returning from Chuuk (Truk) or other parts of Micronesia en route to their home islands. These "seasonal migrants" undoubtedly contributed to the unbalanced sex and age distributions. Also of note, 59 percent of the Madrich residents in 1976 were from Ulithi and Woleai, the two largest and most populous outer islands.

Overall, the 172 outer islanders living at Madrich represented approximately 6 percent of the total outer-island population (Table 3).[9] The three atolls of Faraulep, Ifaluk, and Elato were comparatively

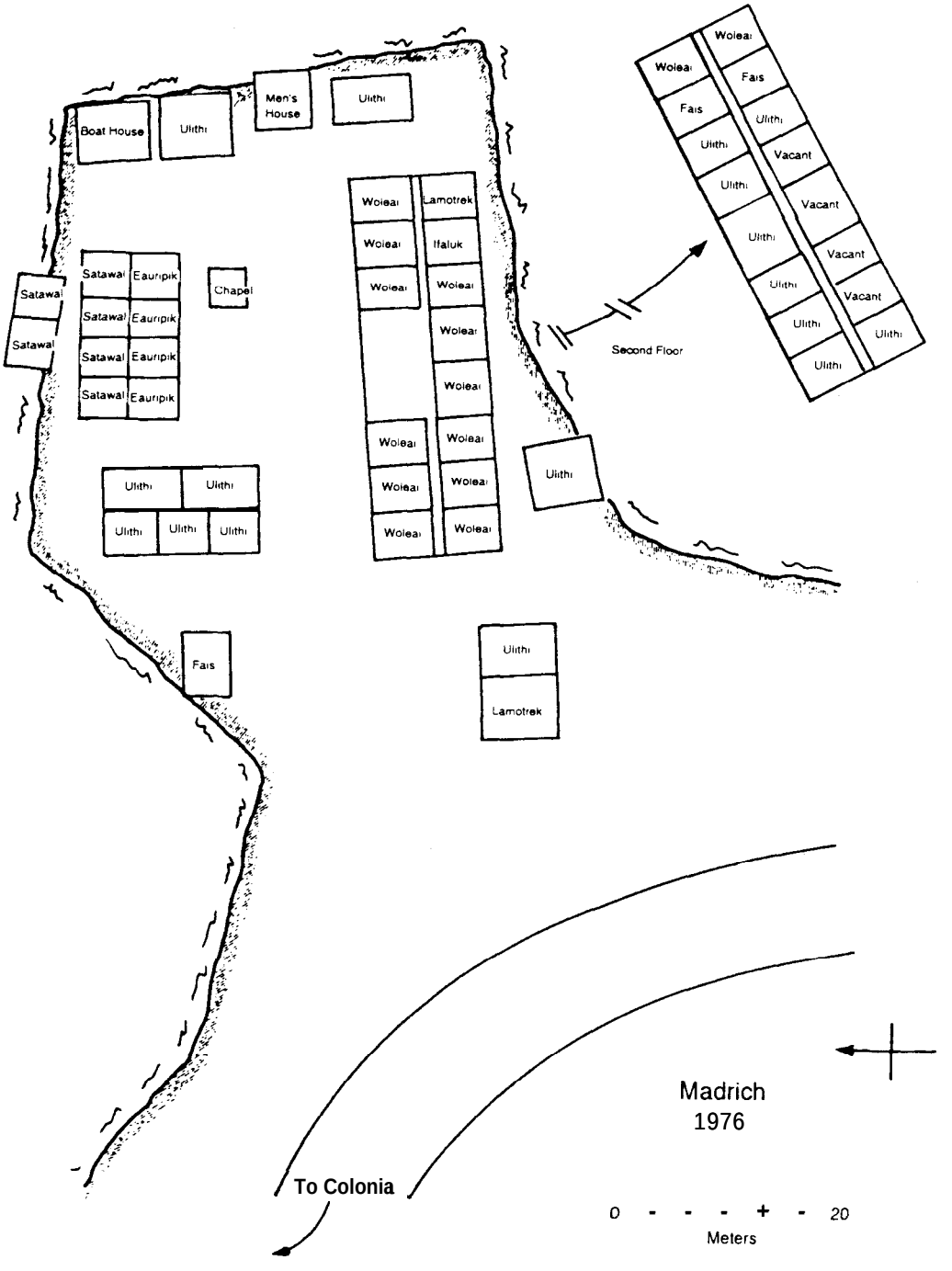

FIGURE 3. **Madrich, 1976.**

TABLE 1. **Madrich Residents by Island and Sex, 1976-1992**

Island of Origin	Distance from Yap[a]	1976			1980			1992		
		M	F	Total	M	F	Total	M	F	Total
Ulithi	100	30	20	50	15	14	29	23	18	41
Fais	145	10	3	13	4	2	6	12	12	24
Woleai	370	34	21	55	23	17	40	43	35	78
Faraulep	380	0	1	1	6	4	10	9	13	22
Eauripik	340	9	10	19	12	7	19	3	6	9
Ifaluk	400	1	1	2	16	13	29	5	4	9
Elato	480	0	0	0	0	0	0	3	2	5
Lamotrek	506	5	6	11	11	9	20	13	14	27
Satawal	545	11	10	21	12	12	24	30	20	50
Other	-	4	1	5	0	0	0	2	0	2
Total		104	73	177	99	78	177	143	124	267

[a]Approximate nautical miles (derived from Japan Maritime Safety Board Nautical Chart 2129).

underrepresented, whereas Eauripik was overrepresented. Since the total population of Elato was only 32, it is not surprising that no one from that atoll should be at Madrich at any particular time. There is no equally obvious explanation--except the fortunes of health--that serves to explain the low numbers of Faraulep and Ifaluk residents. The comparative overrepresentation of Eauripik residents (more than twice the average) may relate to the high population density and poor terrestrial resource base of that island (see Levin 1976). No consistent correlation is seen between home island density and number of Madrich residents (Table 3), but it is conceivable that a "threshold effect" may operate when density rises above 900 or 1,000 persons per square mile (see below).

In 1976 one-third of the Madrich residents stated they were on Yap for medical reasons, either as patients, attendants, or relatives of patients (Table 4). Another 33 percent classified themselves as employees or their dependents. Most of the residents who by self-definition or length of residence were classified as prolonged and permanent residents (Table 5) were from the employee and employee-dependent categories of Table 4. As shown in Table 5, 60.5 percent defined themselves as temporary residents (patients, attendants, students, teachers in training, and their family members) who intended to return to the outer islands via the next available transportation.

Of the 14.9 percent who were classified as visitors in 1976 (Table 4),

TABLE 2. **Madrich Residents by Sex and Ten-Year Age Cohort, 1976**

Age Cohort	Males (N = 82) (%)	Females (N = 27) (%)	Total (%)
0-9	7.3	4.6	11.9
10-19	18.3	3.7	22.0
20-29	17.4	11.0	28.4
30-39	8.3	1.8	10.1
40-49	13.8	0.9	14.7
50-59	5.5	1.8	7.3
60-69	3.7	0.9	4.6
70+	0.9	0.0	0.9
Total	75.2	24.7	99.9

Note: Age data were only obtained for approximately 62% of Madrich residents. Females are underrepresented in this table owing to difficulties my field assistants encountered in collecting information from high-ranking outer islanders. Total does not equal 100% owing to rounding.

TABLE 3. **Outer-Island Populations and Densities Compared to Number of Madrich Residents, 1976**

Island	Population[a]	Density[b]	Madrich Residents	Island Population at Madrich (%)[c]
Ulithi	710	394	50	6.6
Fais	212	193	13	5.8
Woleai	608	347	55	8.3
Faraulep	122	763	1	0.8
Eauripik	127	1,411	19	13.0
Ifaluk	314	551	2	0.6
Elato	32	160	0	0.0
Lamotrek	233	613	11	4.5
Satawal	354	694	21	5.6
Total/Average	2,712	570	172	6.0

[a]These figures derive from a 1973 Trust Territory of the Pacific Islands census, the closest count available at the time of the 1976 study of Madrich. They have been extracted from tables 2 and 3 in Gorenflo and Levin 1991:105-106 and are de facto enumerations.

[b]Individuals per square mile. The land areas used for these computations were derived from Bryan 1970:17.

[c]This column is intended to give some indication of the total percentage of each island's population residing at Madrich. I have approximated a *de jure* total for each island by adding population (column 2) to Madrich residents (column 4). For example, the de facto population of Ulithi in 1976 was 710. An additional 50 Ulithians were residing at Madrich, meaning the total Ulithian population was 760 (an approximate *de jure* figure since an unknown number of Ulithians lived elsewhere). Nevertheless, 6.6% of this known Ulithian population was residing at Madrich.

TABLE 4. **Stated Reasons of Madrich Residents for Being on Yap**

Reason	1976 (*N* = 175)[a] (%)	1980 (*N* = 177) (%)	1992 (*N* = 267) (%)
Hospital patients	8.6	16.4	11.2
Patient attendants[b]	24.0	53.7	14.6
Students	6.7	2.8	8.6
Student attendants[b]	12.6	2.3	1.5
Employees	13.7	9.6	22.1
Employee dependents	19.4	3.9	29.9
Visitors[c]	14.9	11.3	12.4

[a]Two individuals unknown.

[b]Includes family members as well as the officially designated attendant.

[c]For example, those in search of employment, shoppers, and individuals visiting friends or relatives.

TABLE 5. **Length of Residence on Yap of Madrich Residents**

Duration	1976 (*N* = 177) (%)	1980 (*N* = 175)[a] (%)	1992 (*N* = 267) (%)
Temporary (< 3 months)	60.5	54.8	22.9
Extended (3-5 months)	16.9	11.4	19.5
Prolonged (6-12 months)	10.2	13.7	21.3
Permanent (> 1 year)	12.4	20.0	36.3

[a]Two individuals unknown.

most were Ulithians visiting other more permanent residents (employees). The inhabitants of Ulithi had relatively easy access to Yap because of proximity, more frequent shipping, and weekly flights (via a Protestant missionary airline that in 1976 did not fly to any other outer island). Also Ulithians (again unlike any of the other outer islanders) had recently received relatively large sums of World War II damage claims money from the United States government that many were using for shopping and recreational flights to Yap.

Some 20 to 25 outer islanders lived elsewhere on Yap in 1976, either in government housing (if they held higher-ranking government jobs) or with Yapese friends in Keng or Gagil. In all, in June of that year, there were between 200 and 210 outer islanders on Yap, approximately 7 percent of the total outer-island population. Of this number about 60 might reasonably be considered permanent immigrants, a mere 2 percent of the total outer-island population--a very modest figure when

compared to outer island/hinterland to urban center migration numbers on other islands of the Pacific.

By 1980 a number of changes in the physical appearance of Madrich had occurred. Most notably, the second story of the dormitory had been removed (the reasons will be discussed below), and two other buildings (the former boathouse and men's house) had been converted to residences (Figure 4). One important result of these alterations was a reduction to forty-one sleeping rooms in 1980 compared to the fifty-one of 1976, even though the total number of residents at Madrich was little changed (Table 1). The average number of occupants per room, therefore, increased from approximately 3.5 in 1976 to 4.3 in 1980.

Since the 1980 census was taken in April, three months earlier than the July census of 1976, neither elementary school teachers nor any sizable number of transient students were found in residence. Thus, the number of residents may actually suggest a true increase in year-round use of the site by outer islanders. In support of this interpretation, one can note a substantial decrease in the number of resident males between 10 and 19 years old (Table 6), the age cohort of the majority of the 1976 students. Second, there is an increase in the number of females present in 1980 over those in 1976, most noticeably in the 10 to 19 years age cohort. This increase probably reflects a greater use of the Yap hospital by younger outer-island women giving birth (Table 4). These women were frequently accompanied by their husbands (who generally were slightly older than their wives) and by older female attendants, which is seen in the slight bulges in their respective age cohorts (Table 6). After giving birth, these women and their babies were discharged from the hospital to join their husbands at Madrich and await transportation home.

Only small changes in the makeup of Madrich residents by island of origin occurred between 1976 and 1980 (Table 7). There was, however, a noticeable increase in the number of Ifaluk and Faraulep residents, who were comparatively underrepresented four years earlier. The vicissitudes of health once again help to explain this fluctuation, for in 1980 seriously ill patients from both of these islands were undergoing treatment at the hospital. Of equal interest is the decrease in numbers of Ulithi and Fais residents at Madrich. In part, this decrease undoubtedly reflected an increase in wage-labor opportunities on Ulithi itself, where a government subdistrict center had been established, employing 48 Ulithians, many of whom formerly worked or would have sought work on Yap (see Gorenflo and Levin 1991:137-138).[10] The more complete

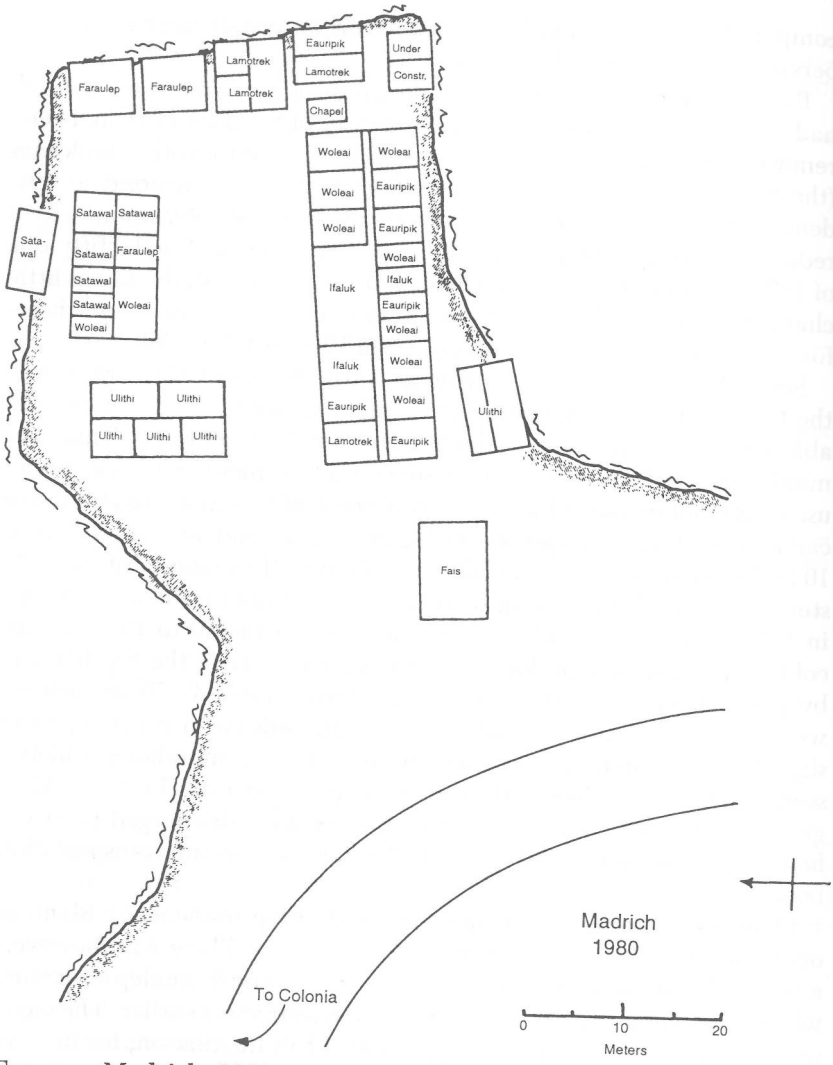

FIGURE 4. **Madrich, 1980.**

data relating to 1980 (in comparison to those collected in 1976) also indicate that 46 outer islanders worked as government employees on Yap. Only 6 of these lived at Madrich, while most of the others had been assigned government housing.

In summary, in 1980 approximately 220 or 230 outer islanders were living on Yap, a total little changed from that estimated for 1976. A

TABLE 6. **Madrich Residents by Sex and Ten-Year Age Cohort, 1980**

Age Cohort	Males (N = 92) (%)	Females (N = 65) (%)	Total (%)
0–9	18.5	7.6	26.1
10–19	5.7	12.1	17.8
20–29	13.4	8.3	21.7
30–39	7.6	5.1	12.7
40–49	5.1	1.3	6.4
50–59	5.1	5.7	10.8
60–69	3.2	1.3	4.5
70+	0.0	0.0	0.0
Total	58.6	41.4	100.0

Note: Age data were obtained for approximately 88% of the Madrich residents. As noted in Table 2, my field assistants were not able to obtain these data from 100% of the residents because differences in social rank made posing such questions difficult.

TABLE 7. **Outer-Island Populations and Densities Compared to Number of Madrich Residents, 1980**

Island	Population[a]	Density[b]	Madrich Residents	Island Population at Madrich (%)[c]
Ulithi	710	394	29	3.9
Fais	207	188	6	2.8
Woleai	638	364	40	5.9
Faraulep	132	825	10	7.0
Eauripik	121	1,344	19	13.6
Ifaluk	389	682	29	6.9
Elato	51	255	0	0.0
Lamotrek	242	636	20	7.6
Satawal	386	757	24	5.9
Total/Average	2,876	605	177	5.8

[a]U.S. Census Bureau figures extracted from Gorenflo and Levin 1991:106.

[b]Individuals per square mile (land areas derived from Bryan 1970:17).

[c]See Table 3 for an explanation of how these percentages were calculated.

comparison of the above tables, however, highlights several demographic shifts in the particulars of those populations, most notably an increase in the number of children and youths who were not students, an increase in the number of women (both may relate to increased use of the hospital), a decrease in the number of residents from Ulithi and

Fais, and a relatively constant high percentage of residents from Eauripik (the most densely settled of the outer islands). Furthermore, although there was a decrease in the number and percentage of employees and their dependents, there was an increase in the number of prolonged and permanent residents, although they still comprised only 2 to 3 percent of the total outer-island population. Overall, through 1980 there was no appreciable increase in the use of Madrich by most outer islanders for anything other than a temporary sojourning site.

Madrich Demography, 1992

In the twelve years that passed between my 1980 census and the February 1992 count conducted by Fran Defngin, the physical setting of Madrich underwent two major changes. First, during the mid-1980s fill was added to the north shore, increasing the area of the peninsula by 1,815 square meters to a total of 4,589 square meters (1.13 acres). Second, the number of structures now totals twenty-seven and the number of rooms seventy-three. Most of this latter increase, however, is in rooms added to the older buildings (including a complete tier of rooms annexed to the dormitory). Thus the density of settlement in the area of the original peninsula has increased rather than being redistributed over the larger area now available (Figure 5).[11]

According to Defngin's count, summarized in the final column of Table 1, the population of Madrich has grown by at least 90 residents. That table also confirms the continuing increase in female residents, who now comprise 46.4 percent of the population compared to 41.2 percent in 1976 and 44.1 percent in 1980. Only sixty-eight of the seventy-three rooms were occupied in 1992, resulting in an average density of 3.9 individuals per room, down slightly from the 4.3 per room of 1980.

No official census of the Federated States of Micronesia (FSM) has been conducted since the 1980 U.S. Census Bureau count. The next nationwide tally is scheduled for 1993. Consequently, for the purpose of calculating current outer-island populations and densities, I have assumed an average growth rate of 1.5 percent per annum from 1980 (Table 8). I believe this is a conservative figure and that the actual rate is probably closer to the 3.3 percent Gorenflo and Levin (1991:105) calculated from 1984 to 1987 population estimates.[12]

Based on my conservative figures, approximately 7.2 percent of the outer-island population resided at Madrich in 1992, reflecting an increase from the 5.8 percent figure of 1980 (Table 7). Fais, Faraulep,

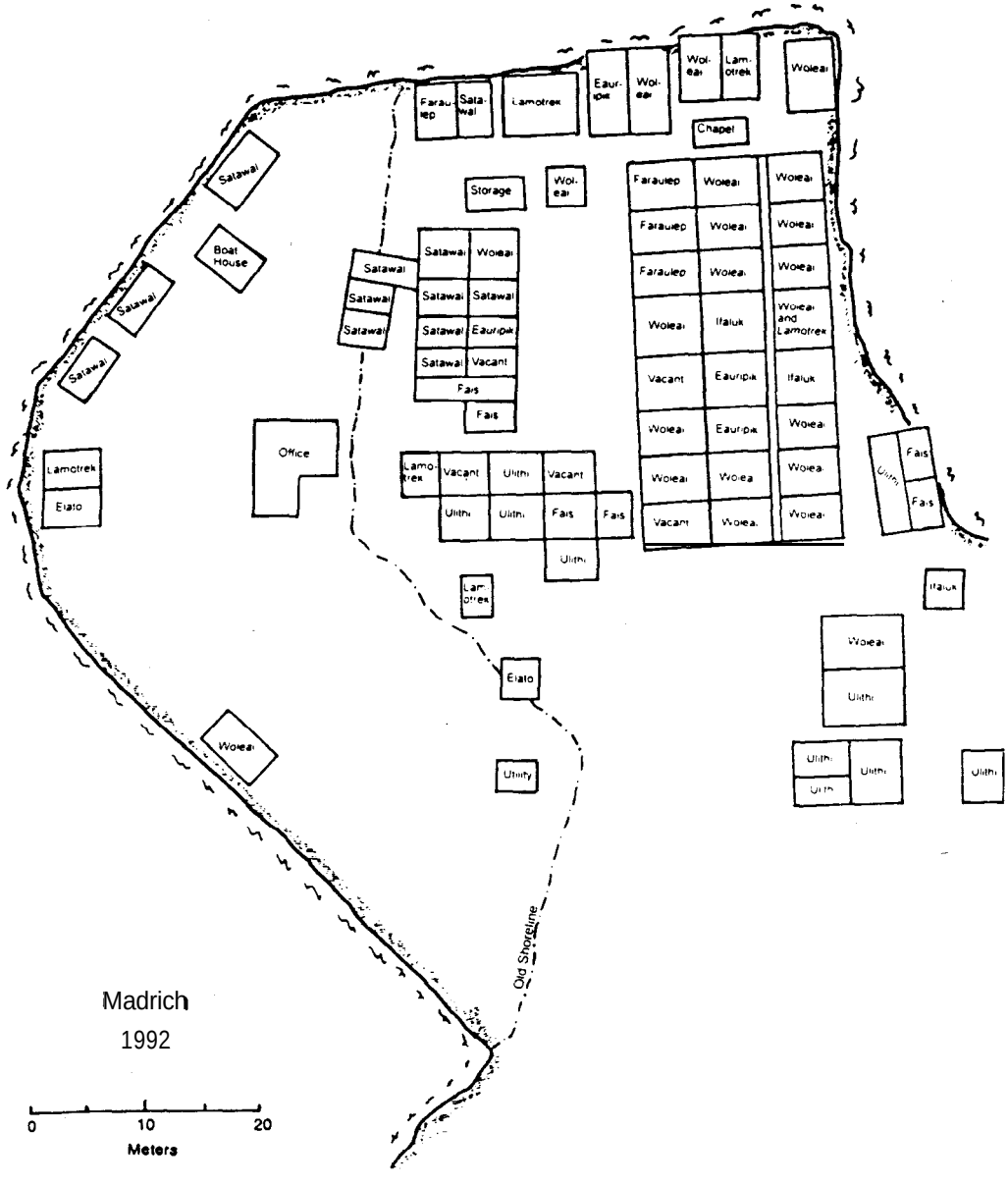

FIGURE 5. **Madrich, 1992.**

and Satawal have shown the largest percentage increases of residents (excluding Elato, whose high Madrich percentage is explained by the unusually small population of the home atoll). The high number of Fais residents was related to use of the hospital, whereas the large Faraulep and Satawal contingents may be related to the increasing population densities of those islands (perhaps lending additional support to the 900- to 1,000-per-square-mile threshold previously postulated). Only two islands--Ifaluk and Eauripik--have shown percentage decreases in Madrich residents. Ifaluk, one of the more conservative of the outer

TABLE 8. **Outer-Island Populations and Densities Compared to Number of Madrich Residents, 1992**

Island	Estimated Population[a]	Density[b]	Madrich Residents	Island Population at Madrich (%)[c]
Ulithi	849	472	41	4.6
Fais	247	225	24	8.9
Woleai	763	436	78	9.3
Faraulep	158	988	22	12.2
Eauripik	145	1,611	9	5.8
Ifaluk	465	816	9	1.9
Elato	61	305	5	7.6
Lamotrek	289	761	27	8.5
Satawal	462	906	50	9.8
Total/Average	3,439	724	265	7.2

[a]These figures presume an average growth of 1.5% per annum from the 1980 counts (Table 7).

[b]Individuals per square mile (land areas derived from Bryan 1970:17).

[c]See Table 3 for an explanation of how these percentages were calculated.

islands, had an unusually large number of hospital visitors at Madrich in 1980. The percentage of residents for 1992 is therefore more similar to the relatively low 0.6 percent figure of 1976 (Table 3). I can think of no equally plausible explanation for the decrease in Eauripik residents. In both 1976 and 1980 a consistent 13 to 14 percent of that atoll's population was in residence at Madrich, a figure that seems reasonable, given the high population density of the home atoll. One possible explanation for the low 1992 percentage might relate to Eauripik's pattern of interaction with Woleai. A number of people from Eauripik (varying from 15 to 25) customarily reside with relatives on Woleai. The small land area and related terrestrial resource shortages on Eauripik have encouraged this movement. It sometimes happens that these individuals, in step-migration fashion, move on to Yap. Perhaps some of these individuals were classified in Defngin's census as Woleaians (with whom they might also reside at Madrich). This explanation would account for part of the increase in Woleai residents at Madrich in 1992.

In 1992 Madrich residents from Ulithi and Woleai, the two largest outer islands, comprise 44.9 percent of the population (a 4 percent drop from 1976), whereas Eauripik, Faraulep, and Satawal, the three most densely settled of the outer islands, account for 30.6 percent of the residents, some 7 percent higher than 1976 (tables 8, 3).

The percentage of Madrich residents in the 30 to 39 age cohort doubled between 1980 and 1992 (tables 9, 6). This cohort probably includes many of the increased number of employees (and their spouses) seen in Table 4. The near sex parity of the Madrich population (Table 9) and the large percentage of employee dependents (Table 4) suggest that an increasing number of families now reside at the site. This conclusion is further reinforced by the evidence of length of residence data: in 1992, 36.3 percent of the inhabitants had been in residence for more than one year--an increase of more than 16 percentage points over 1980.

I have no reliable count of outer islanders living elsewhere on Yap, although a comparable increase in their numbers is probable. A conservative estimate (extrapolated from the 1980 estimate) would have between 50 and 80 residing in outlying government housing. The total number of outer islanders on Yap in February 1992, therefore, was probably between 315 and 350 or between 9 and 10 percent of the total estimated outer-island population. If the outer-island population has grown at a rate more closely approximating the 3.3 percent cited by Gorenflo and Levin (1991:105), then the percentage of outer islanders on Yap is correspondingly lower, perhaps as low as 5 percent.

Approximately half of the Madrich residents are now classified as prolonged and permanent residents (Table 5). This number would represent approximately 4.5 percent of the calculated *de jure* outer-island population, an increase over the 2 to 3 percent estimated for 1976 and 1980, but it is still a relatively low figure when compared to the mass movements of outer islanders to port-town centers in other areas of Micronesia and the Pacific. Nevertheless, Madrich in the 1990s, unlike

TABLE 9. **Madrich Residents by Sex and Ten-Year Age Cohort, 1992**

Age Cohort	Males (*N* = 143) (%)	Females (*N* = 124) (%)	Total (%)
0-9	16.7	8.2	24.9
10-19	6.3	4.1	10.4
20-29	8.9	13.1	22.0
30-39	12.3	13.1	25.4
40-49	4.5	4.1	8.6
50-59	3.0	1.5	4.5
60-69	1.9	1.9	3.8
70+	0.0	0.4	0.4
Total	53.6	46.4	100.0

Note: Age data were obtained for all residents in this census.

the previous two decades, has seen a majority of its population become prolonged and permanent residents rather than temporary and extended visitors. An increasing percentage of these residents have come from the most densely settled of the outer islands.

Madrich Sociopolitical Organization

Few people find Madrich an attractive place to live. It has been labeled a shantytown or a squatter settlement (Dell 1969:38; Yap District 1974: 42). Many of its structures are in disrepair and flimsily built. Little open space exists, and sanitation is poor. The community has primarily depended on over-water privies and limited bathing facilities. Despite these limitations, it is a relatively quiet and orderly community.

Outer islanders arrive at Madrich with a number of shared understandings regarding a "proper social order." These understandings are derived from the social systems of their home islands, all of which belong to the same culture area of Micronesia. The former importance of the *sawei* as well as a general pattern of frequent interisland canoe voyaging meant that contact between the inhabitants of the various outer islands was common. Most outer islanders are aware of each island's cultural similarities and differences. The Madrich residents regulate their interaction according to these understandings. Foremost among these is the knowledge that comparative rank is important.

In the outer islands, rank derives from a number of variables, the most important of which are sex, age, descent-group membership, island of origin, and priority of settlement. On each island the "official" decision makers are chiefs *(tamol)* who are legitimized by their standing as senior members in important landholding kin groups. Each chief is subject to the opinions and pressures of other chiefs as well as the opinions of other senior members of his or her kin group. The affairs of an island run smoothly when consultation is maximized with these other groups. Any chief, regardless of rank, would find it difficult to enforce a decision in the face of serious dissatisfaction from his or her own kin group or from other chiefs and their kin groups. Most decisions therefore reflect a consensus.

At Madrich the understandings regarding rank result in a group of decision makers composed of those chiefs and older men from high-ranking descent groups of high-ranking islands who have been resident at Madrich for the longest period of time. However, these variables may be overshadowed by personality or context, given the heterogeneous mix of the Madrich population. Landholding, for example, has no

direct relevance to rank at Madrich.[13] The comparative legitimacy of decision makers tends to derive from the variables of sex, age, length of residence, and comparative rank within the old *sawei* exchange system.

The *sawei* ranked the outer islands not only vis-à-vis Yap but also with respect to each other. Most Madrich affairs therefore are played out in accordance with the "nodes" of this traditional system. Ulithi and Fais were the highest-ranked outer islands, as they were closest to Yap and thus controlled the flow of goods and information between Gagil and the other outer islands. From the perspective of Ulithi, Yap (to its west) was the superior node. To the southeast lay the lower-ranking and more distant islands, which they referred to collectively as "the Woleai." From the perspective of Woleai, however, the two nodes of immediate importance were the adjacent ones of higher-ranking Ulithi and Fais to the northwest and the somewhat lower-ranking "greater Lamotrek," Lamotreklaplap (Elato, Satawal, and Lamotrek proper), to the east. In interisland affairs among the outer islands, then, the comparative importance of chiefs was primarily derived from the nodes they represented. Decision making within the Madrich community still reflects this ranking.

The "chief of Madrich" is a Ulithian chief who has maintained nearly continuous residence at Madrich since 1967. In large part he has remained on Yap *because* he is a Ulithian chief. The leaders of Ulithi believe it is important for one of their number to be available on Yap as the unchallenged spokesman for the outer islands. They probably fear that if a Ulithian chief were not present, some other chief from a lower-ranking outer island might usurp the position, which could threaten the established hierarchy.

The Ulithian "chief of Madrich" generally consults with other ranking members of the community before reaching decisions on contentious issues. In a sense, these high-ranking Madrich residents constitute an informal council, the exact membership of which usually changes when the ship servicing the outer islands arrives or departs. Whenever possible, this council minimally includes the Ulithian chief and the most senior men in residence from both "the Woleai" and "greater Lamotrek." But few such "commoner" men, who are far removed from their own land bases (and chiefs), feel comfortable in strongly opposing the wishes of the Ulithian chief, whose rank is rooted in the traditions of the *sawei.* A "halo effect" also exists by which not only this chief but also other Ulithians residing at Madrich (who have easy access to the ear of their chief) exercise strong voices in Madrich decision making. Furthermore, the principle of priority or longevity of residence tends to reinforce

Ulithian power, since many are long-term Madrich residents. Most Madrich residents from the lower-ranking islands openly defer to and avoid confronting Ulithians, especially those associated with the Ulithian chiefs residence. Contentious issues involving disputes with Ulithians therefore are not settled in Madrich itself but are appealed to chiefs in the outer islands at the next meeting of the Council of Tamol, the forum made up of all the outer-island chiefs. This process can delay decision making for a considerable time.

Outer-island chiefs can influence Madrich either individually or collectively. Any such chief can inform Madrich residents from his or her island or district of decisions taken on the home island that might affect their lives in Madrich. A Woleai chief, for example, might hear of someone from that island living at Madrich who is misbehaving in a way that reflects badly on the home island. The chief would send word to the malefactor or, more likely, to all Woleai residents at Madrich to modify "their" behavior. Such a directive is difficult to ignore unless the censured individual intends never to return home, which is rarely the case. And since the warning most frequently is sent to all of the residents from a particular island, these individuals form an effective force that collectively pressures the troublemaker to conform.

The second way in which outer-island chiefs influence Madrich arises from the annual or semiannual meetings of the Council of Tamol. Such meetings, usually held on one of the outer islands, are a forum for discussion of all issues involving outer islanders. Decisions of this group are carried back to Madrich and disseminated among all residents. The Madrich chief often uses these meetings to bring contentious issues to the attention of the other outer-island chiefs.

The colonial history of Yap has seen the development of a variety of local institutions meant to coordinate with those of the respective colonial governments. A tripartite American model now exists made up of legislative, judicial, and executive branches. The officeholders in these divisions, however, have varying influence within Madrich. The judicial and legislative branches have little direct influence, even though as recently as the mid-1980s one of the three state senators from the outer islands resided at Madrich. The influence of the legislators is largely indirect, being confined to the laws or resolutions they enact that affect Madrich and the outer islands, and even these are screened or initiated by an appropriate outer-island chief before being introduced.[14] The judicial branch of the Yap State government is even less important to the outer islanders. It is staffed almost entirely by Yapese judges and expatriate lawyers and advisers. Outer islanders attempt to avoid taking

grievances before it, preferring to appeal any complaints to their chiefs or the Council of Tamol.

The executive branch of the state government is of greater interest. The governor and lieutenant governor are the two highest positions within this branch. The state constitution stipulates that a regional balance must be maintained in the allocation of these offices. If the governor is Yapese, the lieutenant governor has to be an outer islander (or vice versa). In effect, candidates for the two offices run as a slate, and due to the electoral and hierarchical realities of the state, no slate has ever been headed by an outer islander. The first lieutenant governor was a Ulithian and the second (who assumed office in 1986) a Woleaian. One belief of the outer islanders, which derives in large part from the region's colonial heritage, is that executive officers wield more power than legislators. Madrich residents therefore, in common with other outer islanders, make more requests of (and expect more rewards from) the lieutenant governor than of the senators who represent their particular districts. Although the lieutenant governor does not reside at Madrich but in government housing a mile or two distant, he does make daily calls at Madrich and his house is frequented by many Madrich residents in search of information or aid.

In summary, there are four important power blocs that make decisions affecting the lives of Madrich residents: the Madrich chief (and those he consults with), the Council of Tamol, the state administration (primarily the lieutenant governor), and the state legislature (primarily those senators elected from the outer islands). Two of these blocs derive from colonially defined offices, and two are essentially altered forms of traditional offices.

Residence Allocation at Madrich

Rooms are assigned to newly arriving outer islanders through reference to a communal "understanding" that recognizes priority of settlement and rights of transfer. Figures 3, 4, and 5 depict the distribution by building and room of Madrich residents according to island of origin at the time of the censuses. A continuity of location can be noted that corresponds to the traditional interisland hierarchy. In 1976 and 1980, before the peninsula was enlarged, the more substantial buildings and favorably situated rooms (with easy access to the road) were primarily settled by migrants from Ulithi and Fais. These rooms and their buildings were also more desirable because of commodious cooking facilities and easy access to toilets and bathing facilities. In 1976 the ground floor

of the dormitory was occupied by Woleai and Ifaluk residents, while residents from the more distant or smaller outer islands--Faraulep, Eauripik, and Satawal--were found in the smaller and more cramped northern structure. Satawal held the water side of that building.

In 1976 the west end of the second story of the dormitory was occupied by Ulithi and Fais youths, while the eastern end housed Woleai youths. The majority of the residents of this floor were young, single men with full-time or part-time jobs in Colonia. Most other residents of Madrich did not like living on this floor for both practical and cultural reasons. From a practical perspective, the rooms were especially hot since they lay directly below the metal roof; older residents found it difficult to climb the stairs several times during the day when making their way to and from the ground-level cooking, bathing, and toilet facilities; and parents feared their young children might fall from the second-story windows or open stairways.

Other residents disliked the second-floor rooms for cultural reasons. One important cultural precept within the society (as throughout the Austronesian world) equates social status with actual physical height. At Madrich, women and low-ranking men therefore felt uncomfortable "raising themselves above" others of higher rank when they climbed the external stairways in full view of senior men, classificatory brothers, or chiefs who might be seated in the public areas below. A similar cultural discomfort was felt whenever those in rooms below heard people treading the floors above. Thus, nearly all of the second-floor residents in 1976 were young bachelors who by temperament or rank were oblivious to or defiant of the traditional etiquette. In the relative isolation of the second floor, these young men escaped the direct supervision of older family members and island residents. Although the drinking behavior of outer islanders is generally nonaggressive (in contrast to that reported among youths of some neighboring regions; see, for example, Marshall 1979), the parties held on payday weekends by these youths frequently degenerated into noisy and occasionally rowdy assemblages that many older residents found annoying and most first-floor residents found intolerable. If these "second-story" youths had been exclusively from the lower-ranking islands, warnings from the Ulithian chief probably would have been sufficient to enforce conformity, but some were themselves Ulithians who either believed the Madrich chief was acting beyond his authority or were from high-ranking groups on Ulithi.

The chief, after consulting with the senior members of the community, decided that the second floor should be vacated, the stairways sealed off, and eventually the whole floor dismantled. The practical

and cultural problems associated with the floor were solved, but the room shortage at Madrich was exacerbated, since the second-story residents had to move to the main living areas below, where they doubled up with relatives or other home-island coresidents. This crowding undoubtedly was one factor that encouraged the state government to expand the area of Madrich during the mid-1980s.

Under the "right of transfer" rule that operates at Madrich, rooms pass from one family or group of residents to a similar newly arrived group from the same island. When the ship arrives at Colonia from the outer islands, its passengers disperse throughout Madrich, joining relatives and friends from the respective home islands who are already in residence. Any additional overcrowding that results is relieved when the ship again departs, taking with it those residents who have been awaiting transportation home. Only in those cases where no new migrants from a particular island arrive with the ship is it likely that a room will be left vacant when the ship departs. When this happens, the vacant room is generally taken by a family "hiving off' from a neighboring room, which is generally occupied by residents of similar rank (but perhaps not from the same island) as those who vacated the site. Only those room conflicts that cannot easily be resolved by the residents themselves are taken to resident "arbitrators" (one for each of the outer islands' precincts) appointed by the Madrich chief.

The Madrich chief also endorses rules for the equitable distribution of communal food, the allocation of communal labor assignments, and ritual assessments. These are rights and duties expected of any outer-island chief, and therefore the general character of such rules is familiar to all outer islanders.

Since the numbers of high-ranking Ulithians have not appreciably increased at Madrich, the newly filled area of the peninsula has been occupied primarily by groups hiving off from nearby overcrowded areas, that is, by individuals from Satawal and Woleai, the two islands from which nearly 50 percent of all Madrich residents come (see Figure 5).

Madrich Economic Organization and Cycles of Activity

The residential units at Madrich are conceived of as "households," which are the local correlates of the fundamental redistribution units in the outer islands themselves. Most food is purchased from nearby stores and the Yapese farmers' public market. Food is redistributed within each room or shared with relatives in other nearby rooms. The money

required to purchase food is obtained in a number of ways. Most visitors arrive with some money from home, generally earned from copra sales. The amount the average visitor is able to bring, however, is not sufficient to sustain a family for the two or three months they are likely to remain on Yap. Some therefore receive remittances from relatives who work aboard ship or elsewhere, but most able-bodied Madrich men seek day-laboring jobs for at least part of their stay to support themselves and their dependents. These men periodically work as stevedores, warehousemen, and unskilled construction workers. Although the number of potential employers in Colonia is not large, there are several that frequently turn to outer islanders for their labor needs. Among these are Waab Transportation (stevedoring), the Yap Cooperative Association (warehousing), and the Blue Lagoon Store (warehousing and construction). The percentage of residents who have defined themselves as "employees" has ranged from 9.6 to 22.1 (see Table 4), but these figures do not generally include casual workers.

Another source of food that is important to Madrich residents are the allotment rations provided by the hospital and other government agencies to patients, students, teachers, and attendants. Some allotments are communal in nature, having been supplied by one or another U.S. government food program. These are redistributed according to room and number of residents per room.

The final type of food important at Madrich is garden produce obtained directly from Yapese friends or *sawei* estates. Some fish are obtained from the same source or taken by outer-island fishermen from nearby reefs (with Yapese permission).

The Yapese of Gagil, reflecting the *sawei* linkages of old, periodically have contributed produce to the residents and received *sawei*-style gifts (*tur* loinclothes or skirts and other outer-island valuables) in return. In 1976, 51.1 percent of the Madrich rooms surveyed had exchanged such gifts with their former *sawei* estates (Table 10). In 1980 this percentage had risen to 74.4, but by 1992 it had dropped back to 50 percent. Over time these exchanges, then, have persisted at a relatively stable rate satisfying some mutual needs: the outer islanders have need of reliable food supplies, and the Gagil Yapese periodically need political allies when competing with Ruul and Tamil, their traditional rival districts on Yap (Alkire 1981).

Ritual exchanges within Madrich occur much less frequently than is normal within the respective home-island communities. The day-to-day exchanges that are typical of the socially integrated outer-island villages

TABLE 10. **Madrich/Gagil Gift Exchanges by Room, 1976-1992**

	1976		1980		1992	
Island	Total Rooms	Gifts to/from Gagil	Total Rooms	Gifts to/from Gagil	Total Rooms	Gifts to/from Gagil
Ulithi	15	10	8	4	10	6
Fais	5	2	1	1	6	2
Woleai	13	8	14	10	21.5	11
Faraulep	0	0	3	1	4	1
Eauripik	6	3	5	5	4	2
Ifaluk	1	0	3	3	3	2
Elato	0	0	0	0	2	1
Lamotrek	1	1	4	3	5.5	0
Satawal	6	0	5	5	12	8
Total	47	24	43	32	68	33

are absent in the fragmented and transitory setting of Madrich. However, since many Madrich residents arrive accompanying hospital patients, some of whom die while on Yap, funeral rites and exchanges are a common Madrich event. Most Madrich "households" contribute one or more *tur* (carried by most travelers for such eventualities) as a shroud to the bereaved family.

The tempo of life in Madrich is largely governed by three cycles. The first and longest is marked by the arrival and departure of the ship that services the outer islands, generally once every four to eight weeks. The second is a bimonthly government payday that most directly involves those who hold government jobs but indirectly affects all residents because of the money that then freely flows throughout the community. The final is a daily cycle associated with the routines of subsistence and assistance. For those with jobs, this involves departure for places of work; for others it involves visits to stores, the market, or, for a few men, fishing expeditions to nearby reefs. For the attendants in residence, there exist daily obligations associated with visits to the hospital and preparation of food for dependents.

Activities associated with the arrival and departure of the ship are the most intense and disruptive. Whenever the ship sails, numerous residents are occupied packing and shuttling (in pickup trucks and small boats) between Madrich and the main dock. The movement is reversed when the ship arrives carrying a new load of passengers. The ship

remains in port for a week (or more if repairs are required), and, as previously noted, it is during this layover that the population of Madrich is at its height.

The payday cycle is marked by intensive shopping and the rowdiness associated with increased drinking. Among outer islanders drinking is almost exclusively a male activity, and the beer or spirits purchased on payday is generally consumed at Madrich over the succeeding weekend. This behavior contrasts with the drinking patterns of many Yapese, Palauans, and American or Filipino expatriates, who patronize the small bars and restaurants in town. Outer-island men tend to stay within the confines of Madrich when drinking, because they believe their traditionally defined lower status would provoke resentment, threats, and fights if they were to patronize Yapese or Palauan bars. At the time of my research, only those outer islanders who held high-ranking jobs felt secure in such settings--and then only in the company of Yapese or American friends.

Periodically the senior residents of Madrich have attempted to restrict the rowdiness associated with drinking. In 1986 the Madrich chief responded to their complaints and introduced a system of fines for disruptive behavior. Thereafter several of the more active party makers relocated to the outlying government residences of compatriot outer islanders. In this regard the rules of sharing, reciprocity, and redistribution that permeate outer-island life have made it difficult for outer-island government employees who have their own houses to refuse issuing a standing weekend "invitation" to friends and relatives residing at Madrich.

The last of the three activity cycles is the most routine, marked primarily by the work requirements of those employed in and around Colonia. Their departure for job sites alters the age and sex ratio of Madrich so that women, children, old men, and the infirm make up the majority of the population during the day. Women who wish to leave the residential area at such time generally travel in groups (accompanied by an available old man whenever possible). Only in this way do they feel safe from possible harassment by Yapese youths.

Summary and Conclusions

In pre-European contact times, resource shortages caused by typhoons and other environmental disasters induced population redistribution among the various outer islands of the Yap region. Common clan affiliation, intermarriage, and adoption accommodated such relocation and

extended or intensified the network of ties that linked these islands. Outer islanders also traveled to Yap seeking aid during periods of resource shortages, but those visits were regulated and ordered in a more formalized and hierarchical manner as defined by the *sawei* exchange system. *Sawei* rules provided a means to bridge the significant cultural and linguistic differences that existed between the two areas. Tribute and aid were exchanged, but the outer islanders' voyages to Yap were short-term visits rather than permanent or even lengthy relocations, since they did not have access to land and they could not long tolerate the servile behavior required of them by the system.

The postcontact era shifted the source of such aid for the outer islands from the Gagil Yapese to colonial authorities; otherwise relations with the Yapese remained largely unchanged. The outer islanders' visits to Yap became sojourns with medical, educational, and trading objectives --and their destination on Yap shifted from Gagil to Colonia.

From World War II until the mid-1980s the numbers of outer islanders on Yap only gradually increased, as shown by the 1976 and 1980 censuses. From the mid-1980s population growth, increasing employment opportunities, enlargement of the Madrich peninsula, and a tendency for those with jobs to prolong their stays on Yap have all contributed to the numerical growth of the Madrich community. However, as a percentage of the total outer-island population, the growth has not been spectacular. In 1980 between 2 and 3 percent of the outer-island population resided permanently at Madrich. For 1992 I have estimated an increase to between 4.1 and 4.5 percent in such residents, a large proportion of whom come from the three most densely settled outer islands.[15]

However, access to more land on Yap could increase the rate of such migration. Traditional status differences between outer islanders and Yapese as well as the complexities of interdistrict Yapese politics have slowed negotiations in this regard. As early as the 1960s a senior Yapese chief from Tamil offered to provide outer islanders with additional land if Gagil gave up its claims to the outer islands in favor of Tamil. The Gagil chiefs were shocked by the suggestion and immediately rejected it but made no acceptable counterproposal to the outer islanders. Later, in the mid-1980s another Tamil chief offered an area of land near the new hospital to Satawal, Lamotrek, and Elato residents on Yap. But those islanders have been reluctant to relocate there since conversion of the site would require a great deal of work. It is possible that these outer islanders also fear a backlash of resentment on the part of their Gagil *sawei* partners.

To date, then, true migrants from the outer islands to Yap have been limited in number. It seems likely, in fact, that an equal or larger number of outer-island permanent migrants have bypassed Yap in favor of destinations like Guam, Saipan, Pohnpei, Hawaii, and the mainland United States even though the costs associated with such long-distance relocation are high.[16] Madrich is still the primary locale for outer-island visitors to Yap who come for medical treatment, specialized training, and short-term employment, but over the years increasing numbers of visitors have prolonged their sojourns. Permanent residents (those in residence for a year or more) have increased from 12.4 percent in 1976 to 36.3 percent in 1992, while temporary residents (who stay less than three months) have correspondingly decreased from 60.5 percent to 22.9 percent over the same period. It is possible that these numbers will not significantly change as Ulithi and Woleai develop their own wage-labor centers associated with government branch offices and outer-island schools.

Those outer islanders who have established themselves at Madrich as permanent migrants and employees have generally done so abiding by "understandings" derived from two new protective umbrellas rather than from the strictures of traditional Gagil-outer island *sawei* rules. The first of the new umbrellas, which was more important in the earlier years of Madrich, was provided by the Catholic mission. Madrich was church property, and the outer islanders' most vocal defender was the Jesuit missionary to the outer islands. The Yapese of Colonia, who were also predominately Catholic, by and large left the Madrich residents alone at the behest of the church. The physical isolation of Madrich aided in this regard.

The second protective umbrella is provided by the safeguards written into the Yap State Constitution. The office of lieutenant governor offers an effective direct channel of appeal and redress for the residents of Madrich. A largely "traditional" political order still prevails within the societies of the outer islands, as demonstrated by the periodic gifts that pass between them and the Gagil Yapese as well as by the continuing importance of the Ulithian chief of Madrich. Nevertheless, Madrich residents now appeal "nontraditional" grievances associated with Madrich life to the lieutenant governor, who is in a position to effect immediate redress via modern administrative channels.

Until such time as the outer islanders gain access to a larger (and equally secure) land base on Yap, the current character of Madrich is likely to persist. Pressures for that land base will become more acute if the outer islands' population is, in fact, increasing at the 3.3 percent per

annum rate estimated by Gorenflo and Levin and the outer-island land areas, themselves, are threatened by a predicted rising sea level linked to a pattern of global warming. Otherwise, for a majority of the outer islanders, Madrich and Yap are likely to remain a locale for short-term visits rather than permanent relocation.

NOTES

1. The field research for this article was carried out during a number of visits to Yap State between 1962 and 1987. The 1992 data were collected by Mr. Fran Defngin at my request. Mr. Defngin is now retired from his positions as assistant anthropologist and community affairs officer for the district and state governments. I want to thank him not only for the aid he has given me over the years, but also for the help he has offered nearly every anthropologist and researcher who has visited Yap during the past forty-five years. I further wish to acknowledge the assistance I have received from a number of current and former residents of Madrich including Chief Hathey, Malsow, Matthew Tiwebemal, and especially Bemo of Falalus, Woleai, who helped me with great enthusiasm and dedication, at both Woleai and Madrich. Bemo subsequently died at Madrich, and I dedicate this article to his memory. I acknowledge, as well, the aid I have received from the Hon. Tony Tawerilmang (lieutenant governor of Yap), Michael Levin (U.S. Bureau of the Census), Laurence M. Alkire, and N. R. Crumrine. The fieldwork itself was made possible by grants from the U.S. National Institutes of Health, the U.S. National Science Foundation, the Canada Council, and the University of Victoria.

2. The term “sojourning” or “sojourner” is only one of many that have appeared in the literature to describe movement from outlying or remote regions to urban or primate centers followed by return to the home area. Chapman and Prothero (1985:1-2) catalog a number of these terms, including circular migration, return migration, pendular migration, floating migration, and turbulence. My preference for “sojourners” follows J. M. Nelson (1976).

3. Because the number and function of particular buildings is constantly changing, it is impossible to give a completely up-to-date inventory of the structures or their uses. Since the research for this article was done, a garment factory has also been built.

4. The location of some of these facilities has changed over the last twenty-five years. For example, the power plant, public works department, and hospital were once located within Colonia in buildings that have since been abandoned or converted to other uses.

5. The number and makeup of non-Micronesian foreign residents on Yap have also changed over the years. From the late 1960s through the 1970s, 20 or more U.S. Coast Guard and Navy personnel resided, respectively, at a LORAN station in Gagil District and at a nearby road repair and construction camp. The 1980 U.S. Census Bureau count provided the following totals for other foreign residents: Palauan, 235; Filipino, 67; Trukese (Chuukese), 36; Ponapean (Pohnpeian), 31; other Asian, 10.

6. *Madrich* is the common Yapese and Ulithian spelling, whereas *Materich* is sometimes used by Woleaians. Both are loans from the Spanish *Madrid. Maedriich* is a variant used on U.S. Geological Survey topographic maps that is rarely, if ever, used on the island itself. Ngulu is also an outer island of Yap State settled by people whose ancestry has been traced

to Ulithi. However, Ngulu's exchange proximity to Gilman District in southern Yap was so close that its residents are now bilingual and "bicultural," i.e., they have adopted a number of basic Yapese cultural patterns. Consequently, when Ngulu residents visit Yap, they generally reside with friends and relatives in Gilman District rather than at Madrich with other outer islanders.

7. I do not mean to imply that intermarriage between outer islanders and Yapese never occurred. Several such unions have been recorded, but they were rare. They almost always involved an outer-island man marrying a Yapese woman, and almost invariably these unions were resented by the Yapese and frowned on by other outer islanders. One such marriage, which is said to have occurred in the 1930s between a Satawal man and a Yapese woman, so soured relations between the two islands that Satawal's Yapese *sawei* refused to contribute any food to Satawal for many years.

8. Owing to the limited time available for this census and the difficulties my Woleaian field assistants experienced in obtaining some information from higher-ranking Ulithian and Fais residents, especially females, age data were only obtained for approximately 62 percent of the Madrich residents, as noted in Table 2.

9. As noted in Table 3, this percentage is derived from the 1973 count of the outer-island population, which at the time of the research was the most recent and reliable. Since the outer-island population was growing at a rate between 1 and 2 percent per annum, the true percentage of outer-island residents on Yap in 1976 would be somewhat less than the 6 percent stated.

10. This change may also reflect some changes in transportation options during the intervening four years. In 1980 there were two airline connections between Yap and Ulithi. Ulithians and those Fais people who frequently visited Ulithi for prolonged periods were thus able to travel much more easily and frequently (albeit more expensively) between Ulithi and Yap. Subsequently, air service reverted to a single carrier, and by 1992 service had been extended to Woleai Atoll.

11. The location of some structures in Figure 5 may be less accurately rendered than in figures 3 and 4, since they are interpolated from information provided by Fran Defngin rather than from on-site observation by the author.

12. We will have to wait for the 1993 census before the true rate is known.

13. The Madrich site was originally owned by the Catholic mission, but title was later transferred by the mission to the outer islanders as a whole rather than the residents of one particular island. Therefore no one island can claim priority over any other in residence rights.

14. From the 1980s the state senate has consisted of ten members, six elected from Yap proper and four from the outer islands. The outer-island senators are elected from four districts, the boundaries of which parallel those of the traditional *sawei* power nodes: Ulithi (including Fais and Sorol), Woleai, "greater Lamotrek" (including Satawal and Elato), and a three-island district of Ifaluk, Faraulep, and Eauripik. The individual prestige and power of these senators is also affected by age. In 1980 all were young men who had been nominated to stand for election by the chiefs of their respective districts. Two of the three who did not live at Madrich were housed some distance from the site in government quarters, and the last resided with Yapese friends in Keng.

15. See note 12, above.

16. The Federated States of Micronesia was granted self-government (in free association with the United States) in 1986. As such it was classified as an independent nation and therefore was not eligible to participate in the U.S. 1990 census. Residents of the Federated States, however, do have free immigration access to the United States. Michael Levin has estimated that some 50 to 60 Yap State outer islanders are now permanently residing on the U.S. mainland (pers. com., 26 July 1991).

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DEMOGRAPHIC CHANGE IN KOSRAE STATE, FEDERATED STATES OF MICRONESIA

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The population of Kosrae has changed dramatically since its first contact with non-Micronesian societies nearly two hundred years ago. Some of the greatest changes occurred during the nineteenth century, when diseases introduced by outsiders nearly eradicated the native population. More recently the number of Kosrae residents has grown, the rapid increases during the twentieth century producing populations larger than any previously documented. The following study examines the evolving demography of this small archipelago. It begins with a summary of key periods of Kosrae history, followed by a description of demographic change based on available census data. Possible causes of population change are examined, focusing on fertility, mortality, and mobility. The study concludes with a discussion of the sociocultural and ecological impacts of demographic change in Kosrae and their implications for the future of this portion of the Federated States of Micronesia.

Introduction

The arrival of European explorers in Micronesia nearly five centuries ago opened the way for many changes in this portion of Oceania. One of the most important was demographic change. Although the particulars varied between islands, a basic pattern persisted throughout most of the region: an initial period of depopulation, usually due to diseases introduced by explorers, whalers, and missionaries from outside Micronesia; and a subsequent period of population growth, usually resulting from improved health care and frequently leading to modern populations larger than any known in the past (see Taeuber 1963; Gorenflo and

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Levin 1992b, 1992c). The precise nature of these changes often varied. In Kosrae State in the Federated States of Micronesia (FSM), depopulation was particularly severe--nearly eradicating native inhabitants during the nineteenth century (Ritter 1981b:22-24).[1] Sustained demographic growth followed throughout most of the twentieth century, producing a population in 1986 greater than any previously documented.

The following study, the third in a series that explores population change in the FSM, focuses on the demography of Kosrae State. The essay begins by reviewing the roles of non-Micronesian societies in Kosrae, with an emphasis on how their activities affected the number and distribution of island inhabitants. It then examines available demographic data, emphasizing information collected by seventeen censuses of Kosrae between 1855 and 1986. Through analyzing available data on fertility, mortality, and migration, the study explores mechanisms underlying documented population changes. Finally, it considers repercussions of population change in Kosrae--including impacts on subsistence activities, the maintenance of social institutions, and economic strategies--in an effort to characterize past and present adaptive challenges faced in this portion of the FSM.

Non-Micronesian Societies and Their Impacts on the Demography of Kosrae

Kosrae State lies at 5° 19' north latitude, 163° 0' east longitude in the Eastern Caroline Islands (Bryan 1971). Technically the state comprises an archipelago of fifteen islands within a fringing reef, though historically people lived on only two of the islands--Ualang and Lelu (Shinn 1984:325; Figure 1). Ualang, by far the largest island in the archipelago, is volcanic in origin and features an extremely rugged interior (Lewis 1949: 1; Peoples 1985:28; Soil Conservation Service 1983: 1-2). Lelu Island, lying in a bay about 1,600 feet from the northeastern coast of Ualang (Morgan 1988:89), is much smaller and less rugged than its large neighbor. Due in part to its geographic location and in part to its physiography, Kosrae receives particularly large amounts of rain--the approximately 250 inches falling annually along the main island's west coast probably exceeded by rainfall in its interior (Krebs 1904; Office of the Chief of Naval Operations 1944:5; Wilson 1968:18). The combination of high annual rainfall and rich volcanic soil has resulted in dense vegetation throughout most of the archipelago.

Early colonists from the Marshall Islands or Kiribati probably settled

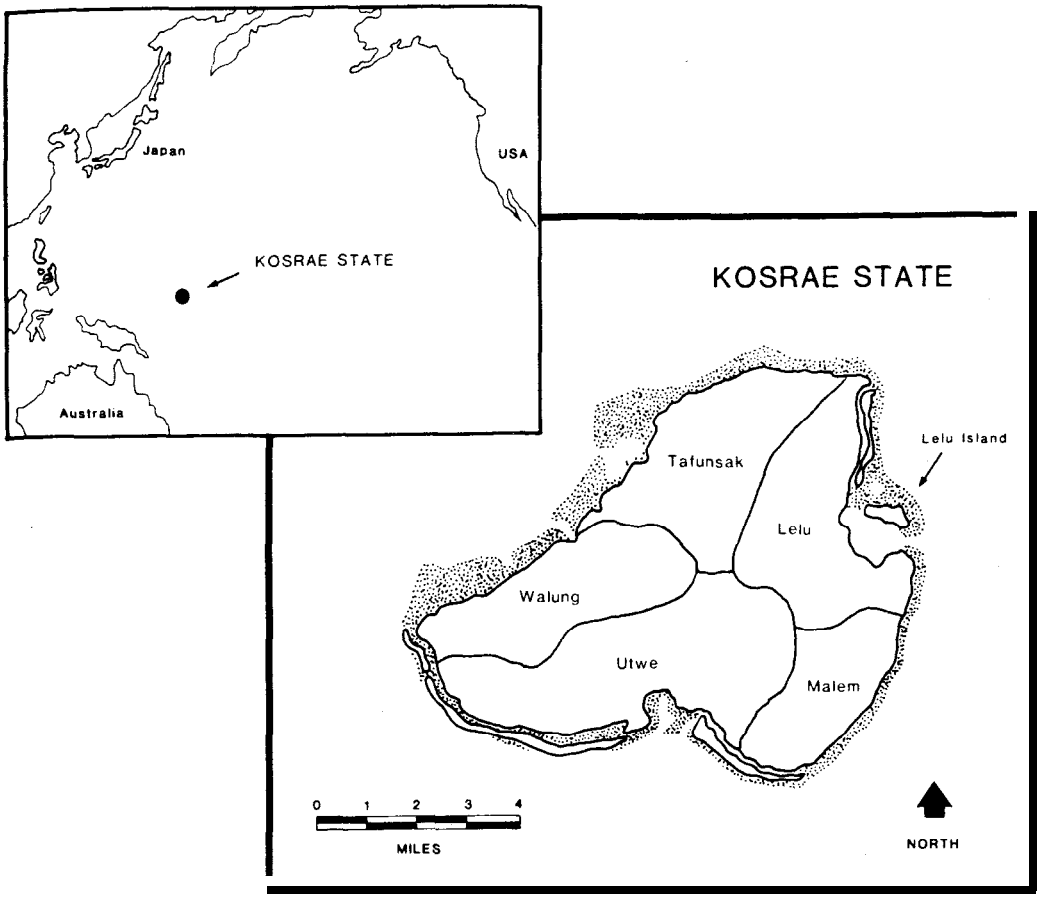


FIGURE 1. **Kosrae State.**

Kosrae sometime after 1000 B.C. (Hezel 1983:3), though sparse evidence throughout the Carolines limits our understanding of the earliest phases of habitation (Campbell 1989:36). Although the Spanish explorer Saavedra possibly sighted Kosrae in 1529 (Sarfert 1919:1; Office of the Chief of Naval Operations 1944:17; Lewis 1949:26), the first certain sighting by non-Micronesians was by the American ship *Hope* in 1801 (Hezel 1983:84). Three years later another American vessel, the *Nancy*, also sighted Kosrae, the captain naming it Strong's Island after the governor of Massachusetts (Finsch 1893:194). Europeans did not actually set foot on Kosrae until June 1824, when a French scientific team aboard the corvette *Coquille* visited for ten days (see Duperrey 1828; Dumont d'Urville 1834; Lesson 1839). The natives' unfamiliarity with white men and iron suggests that the French were the first non-Micronesians to visit the island (see Lesson 1839, 2:459-514). In late 1827 the Russian explorer Lütke also visited Kosrae, staying for roughly three weeks (Lütke 1835, 2:299-410). Early European visitors marveled

at the native culture on Lelu Island, noting both the highly centralized political system there (Hezel 1983:111; Kiste 1984:22) and the complex of stone-walled compounds on the western portion of the small island that housed Kosraen nobility (Lesson 1839, 2:494; Cordy 1982; Morgan 1988:86-98). Lütke attempted to obtain a count of all adults in Kosrae in 1827, arriving at a total of 800 (1835, 1:343-345). Unfortunately, he apparently missed fourteen traditional districts (Sarfert 1919:49). Most who have studied the topic generally conclude that Lütke's estimate was too low and, in the absence of other systematic attempts to count inhabitants, estimate that between 2,000 and 6,000 persons resided in Kosrae at European contact (see *Missionary Herald* 1897:305; *Missionary Herald* 1899:10; Sarfert 1919:49; Wilson 1968:21; Ritter 1981b), with as many as 1,500 on Lelu Island (Morgan 1988:89). The Europeans apparently arrived shortly after a period of dramatic depopulation caused by a particularly destructive typhoon and subsequent political unrest, which may have reduced the resident population by as much as 50 percent early in the nineteenth century (Gulick 1932:503; Ritter 1978:44-47; Ritter 1981b:24-25; Morgan 1988:90, 98).[2]

Kosrae quickly became a popular stop for whalers during the 1830s, providing safe harbors, wood, fresh water, and hospitality (Office of the Chief of Naval Operations 1944:18, 22). By 1835, roughly thirty runaways from these ships resided in Kosrae (Hezel 1983:113). Unfortunately, a dispute erupted that same year when the crew of the Hawaiian brig *Waverly* took several Kosraen women aboard against their will; in response, the islanders attacked and killed all but a few of the crew members (Wilson 1968:20; Ritter 1978:25; Hezel 1983:113-114). Mistrust and uneasiness followed, and the islanders attacked two other ships over the next nine years--eventually prompting the paramount chief to end beachcombing in Kosrae in 1844 and to limit, with infrequent exceptions, the visits of whites to a few weeks (see Lewis 1949:28, 52; Fischer and Fischer 1957:36; Hezel 1983:117-118). This decision by the chief, coupled with the decline of whaling in the central Pacific by the mid-1850s and a further ban on whites following an uprising in 1857 (Lewis 1949:34), largely served to isolate Kosrae from the outside world. Despite occasional visits for supplies, the only whites who resided on Kosrae for several years during the mid-nineteenth century were the American missionary Benjamin Snow and his wife, who lived there between 1852 and 1862 (Office of the Chief of Naval Operations 1944:18; Wilson 1968:20; Brown 1977:137; Hezel 1983:143).

The isolation of Kosrae came too late to protect the native residents from the ravages of diseases introduced by some of the early non-

Micronesian visitors. Although no postcontact depopulation is evident before 1848 (Ritter 1978:48), once diseases became established, they took a frightening toll. For example, between 1828 and 1874 the population of Kosrae decreased from roughly 3,000 persons to about 400 (Ritter 1981b:21; *Missionary Herald* 1875:136). The culprits were several: influenza and respiratory diseases, documented by Snow (see Lewis 1949:50), were the major causes of death during these years; gonorrhea, in turn, probably caused much sterility in women (Ritter 1978: 63-64). Two typhoons also struck Kosrae during the mid-nineteenth century, one in 1837 and another in 1852 (Wilson 1968:18), but their demographic impacts apparently were minimal. The few people who relocated permanently to Kosrae during this period did little to counter the severe depopulation that occurred between the 1840s and the 1880s. By 1880 Kosrae population had fallen to about 300 persons (Ritter 1978:55).[3]

Although many of the most important impacts on Kosrae occurred during efforts by another nation to colonize it, the Spanish administration provides a notable exception. Spanish ships were the first from Europe to visit Micronesia in the early sixteenth century, claiming the islands in the region as part of Spain's growing global empire. But Spain paid little attention to most islands in Oceania for more than three centuries. Even in the face of challenges to its sovereignty by other nations, the Spanish presence in the Eastern Caroline Islands never amounted to more than the establishment in 1887 of a small governmental station on Pohnpei, from which officials made brief visits to other islands in the area (Office of the Chief of Naval Operations 1944:19; Fischer and Fischer 1957:36-37; Wilson 1968:21). A strong typhoon struck Kosrae during the Spanish administration in 1891, destroying six houses and crops and killing an unknown number of people (Office of the Chief of Naval Operations 1944:6; Wilson 1968: 18). Depopulation had stopped sometime near the end of the nineteenth century, most likely owing to growing natural immunity to some diseases and increased isolation from others (Lewis 1949:57). The limited presence of the Spanish in Kosrae had no known effect on the population.

Germany competed with Spain for control of Micronesia during most of the late nineteenth century, pursuing mainly commercial ventures. Although frustrated in an attempt to annex several main islands throughout Micronesia in the mid-1880s (Hezel 1983:308-312; Shinn 1984:326), Germans successfully established a branch of the Jaluit Trading Company in Kosrae in 1887 with little opposition from Spain (Office of the Chief of Naval Operations 1944:23-24). Germany even-

tually purchased the Caroline and Marshall islands from Spain in 1899, following Spain's defeat in the Spanish-American War (Fischer and Fischer 1957:47; Brown 1977). Although Germany established a definite presence on several islands throughout Micronesia, in an attempt to develop the area commercially, it paid little attention to Kosrae. With the exception of planting some coconut groves to help meet increasing market demands for copra, the major German impact on Kosrae was religious--actively promoting a revival in Christianity that had waned over the previous few decades (Fischer and Fischer 1957:48-49; Ritter 1978:30-31; Peoples 1985:54-55). Demographic impacts of Germany's administration consisted of a few German missionaries in residence; no German administrators resided permanently in Kosrae (Ritter 1978:31). Another major typhoon struck Kosrae in 1905, once more causing widespread destruction as well as killing five islanders (Office of the Chief of Naval Operations 1944:6; Lewis 1949:51; Peoples 1985:30). Nevertheless, the period of depopulation clearly was past, and the number of Kosrae residents had begun a long period of growth.

When Germany entered World War I, Japan occupied its Micronesian possessions (the Caroline, Northern Mariana, and Marshall islands), with a Japanese squadron anchoring off Kosrae in October 1914 (Peattie 1988:43) and an army detachment of fifty enlisted men and three officers landing shortly thereafter (Lewis 1949:43). The League of Nations officially recognized Japanese administration of the area in 1920, when it granted Japan a Class C Mandate (Clyde [1935] 1967; Peattie 1988:56-59). Japanese interest in Kosrae had both commercial and military motives, the latter eventually becoming preeminent. Prior to the war effort, Japan showed little interest in Kosrae. Early in the Japanese administration only one Japanese national (an army sergeant) resided in the archipelago (Lewis 1949:44; Ritter 1978: 32-33), and with the exception of small agricultural and timber operations, the new administration made little effort to develop Kosrae economically (see Office of the Chief of Naval Operations 1944:135). In 1922 Japan constructed a branch public hospital on Kosrae (Office of the Chief of Naval Operations 1944:97; Peattie 1988:87), and eventually a small community of Japanese (numbering fewer than 100 persons and consisting mostly of Okinawan fishermen and traders) became established on Lelu Island (Peattie 1988: 184). Development increased during the 1930s. In part this increase was due to the cash income received from increased copra production, as coconut groves planted during German times reached their productive apex, and in part it was due to Japanese-sponsored efforts to produce materials such as rope needed by the military (Peoples 1985:55).

Although strategically located, Kosrae did not figure greatly in Japan's war effort. Despite good harbors and a rugged, defensible interior on the main island, there was no good location for an airfield (Peattie 1988:231-232). Beginning in 1938 and continuing into the 1940s, the military buildup of Kosrae increased markedly (Ritter 1978:33). Japanese military leaders moved their own personnel as well as people from other parts of the Pacific (Ocean Island, Korea, Okinawa, and elsewhere in the Mandated Territory) to Kosrae (Peoples 1985:56-57), promoting agricultural development in the hope of establishing a supply point for Japanese forces stationed in the Marshall Islands. After allied forces cut off supply lines, much of the war bypassed Kosrae--with the exception of occasional bombing raids to ensure its neutralization. Although these raids killed some islanders (Wilson 1968:35; Ritter 1978: 33), most fled inland from the coast and probably escaped the brunt of the bombing. As the war's end approached, famine ensued in Kosrae, leading to the death of 300 to 700 resident Japanese soldiers and untold numbers of Kosraens (Wilson 1968:36; Peattie 1988:304). Prior to the war, the Micronesian population of Kosrae had grown steadily during the Japanese administration, with the number of resident Pacific Islanders increasing by more than 51.0 percent between 1920 and 1935 (see Nan'yō-chō 1937).

The United States began to administer Kosrae and other islands throughout Micronesia following the Japanese surrender in August 1945. In 1947 Kosrae became part of the Trust Territory of the Pacific Islands (TTPI), a strategic area established by the United Nations with the United States as "administering authority" (Shinn 1984:303-305; Peoples 1985:9). In part because of political subordination to Pohnpei in the Trust Territory organization and in part because it contained fewer than 2,000 inhabitants, Kosrae received limited attention during the decades immediately following the war (Peoples 1985:59-60). Even wartime destruction largely went unrepaired. As a result, the population reverted to subsistence agriculture (Lewis 1949:68-69), and the Kosraen standard of living dropped to the levels experienced before the Japanese administration. In the early 1960s the United States began sending increased funds to support development in Kosrae, enabling improvements in infrastructure and services (Peoples 1985:61-63). After years of separatist movements (Wilson 1968:29; Mason 1974:258-260), Kosrae split from Pohnpei District in 1977 and became a separate entity within the TTPI (Shinn 1984:325). Throughout the period of the American administration, the population of Kosrae grew rapidly--generally at an average rate in excess of 3.0 percent annually.

In May 1979 Kosrae and three other Caroline districts of the TTPI

(Chuuk, Pohnpei, and Yap) approved a constitution and became a self-governing nation, the Federated States of Micronesia. A Compact of Free Association, signed into law in November 1986, defined future relations between the FSM and the United States. For the first fifteen years of the compact, the United States is to provide funds and development assistance with the intention of helping the FSM achieve economic and political independence (Shinn 1984:308-311). During Kosrae State's first six years as part of the FSM, its population continued to grow at an average annual rate in excess of 3.0 percent.

Changing Demography in Kosrae

The population of Kosrae has changed substantially since the arrival of Europeans in the early nineteenth century. Previous research on Kosrae demography identified two phases of postcontact demographic history: the period between European contact and 1880, when the archipelago experienced massive depopulation, and the period between 1880 and 1973, characterized by rapid population growth (Ritter 1978:36). Data from the two most recent censuses indicate a continuation of the latter trend through 1986.

In all, Kosrae has been the subject of seventeen censuses conducted over the past 140 years: five by American missionaries living on (or visiting) Lelu between 1855 and 1874 (American Board of Commissioners for Foreign Missions 1856; *Missionary Herald* 1857, 1859, 1860, 1875); one by the German government in 1905 (Sarfert 1919:49); four by the Japanese Nan'yō-chō (South Seas Bureau) between 1920 and 1935 (Nan'yo-cho 1927, 1931, 1937); one by the U.S. Navy in 1947 (Lewis 1949:48); two by the TTPI administration, in 1958 and 1973 (Office of the High Commissioner 1959; Office of Census Coordinator 1975); one by the University of Hawaii School of Public Health, in collaboration with the Peace Corps, in 1967 (School of Public Health n.d.); two by the U.S. Bureau of the Census as part of their decennial census efforts in 1970 and 1980 (U.S. Bureau of the Census 1972, 1983a); and one by the FSM Office of Planning and Statistics in 1986 (Office of Planning and Statistics 1989). Table 1 presents the final counts recorded in the seventeen censuses of Kosrae, in addition to several population estimates made prior to or between censuses. The two contrasting trends in Kosrae's demographic history are evident in these data, as they are in a graph of population change over time (Figure 2).

In addition to recording total residents of Kosrae, the most recent censuses also recorded the municipality of residence for de facto popula-

TABLE 1. **Population of Kosrae by Year, Showing Population Change Between Census Years: Select Years**

Year	Population	Change from Previous Listed Census Year	Average Annual Change from Previous Listed Census Year	Source
1824	2,000	. . .	. . .	Duperrey 1828
1824	1,200	. . .	. . .	Lesson 1839
1824	2,000-3,000		. . .	Dumont d'Urville 1834
1843	2,000	. . .	. . .	Ward 1967
1850	1,500	. . .	. . .	*The Friend* 1850
1853	1,300	. . .	. . .	Hammet 1854
1855	**1,106**	**. . .**	**. . .**	**American Board of Comm. for Foreign Missions 1856**
1856	**975**	**-131**	**-11.8%**	***Missionary Herald* 1857**
1857	**830**	**-145**	**-14.9%**	***Missionary Herald* 1859**
1858	**748**	**-82**	**-9.9%**	***Missionary Herald* 1860; Damon 1861**
1862	600		. . .	American Board of Comm. for Foreign Missions 1863
1868	500	. . .	. . .	*Missionary Herald* 1868
1872	300	. . .	. . .	*Missionary Herald* 1873
1874	**397**	**-351**	**-3.9%**	***Missionary Herald* 1875**
1880	200	. . .	. . .	Finsch 1893
1888	350	. . .	. . .	Finsch 1893
1890	80	. . .	. . .	Finsch 1893
1895	400	. . .	. . .	Christian 1899
1899	450	. . .	. . .	Lewis 1949
1905	**516**	**119**	**0.8%**	**Sarfert 1919**
1913	612	. . .	. . .	Lewis 1949
1920	**786**	**270**	**2.8%**	**Nan'yo-cho 1937**
1925	**886**	**100**	**2.4%**	**Nan'yo-cho 1927**
1930	**990**	**104**	**2.2%**	**Nan'yo-cho 1931**
1935	**1,189**	**199**	**3.7%**	**Nan'yo-cho 1937**
1947	**1,701**	**512**	**3.0%**	**Lewis 1949**
1949	1,775	. . .	. . .	U.S. Dept. of the Navy 1949
1951	1,952	. . .	. . .	U.S. Dept. of the Navy 1951

TABLE 1. **Continued**

Year	Population	Change from Previous Listed Census Year	Average Annual Change from Previous Listed Census Year	Source
1952	2,060	. . .	. . .	U.S. Dept. of Interior 1952
1954	2,114	. . .	. . .	U.S. Dept. of State 1955
1958	**2,367**	**666**	**3.0%**	**Office of the High Commissioner 1959**
1960	2,761	. . .	. . .	U.S. Dept. of State 1961
1962	3,019	. . .	. . .	U.S. Dept. of State 1963
1965	3,351	. . .	. . .	U.S. Dept of State 1966
1967	**3,260**	**893**	**3.6%**	**School of Public Health n.d.**
1968	3,542	. . .	. . .	U.S. Dept. of State 1969
1969	3,648	. . .	. . .	U.S. Dept. of State 1970
1970	**3,266**	**6**	**0.1%**	**U.S. Bureau of the Census 1972**
1971	3,854	. . .	. . .	U.S. Dept. of State 1972
1972	4,614	. . .	. . .	U.S. Dept. of State 1973
1973	**3,989**	**723**	**6.9%**	**Office of Census Coordinator 1975**
1975	4,190	. . .	. . .	U.S. Dept. of State 1978
1976	4,330	. . .	. . .	U.S. Dept. of State 1978
1978	4,610	. . .	. . .	U.S. Dept. of State 1979
1980	**5,491**	**1,502**	**4.7%**	**U.S. Bureau of the Census 1983a**
1984	6,262	. . .	. . .	U.S. Dept. of State 1985
1986	**6,607**	**1,116**	**3.1%**	**Office of Planning and Statistics 1989**

Notes: Census years in **boldface.** 1920-1935 data are for Pacific Islanders only. All census data reported are de facto population. Intercensal estimates after 1947 are *de jure* population; intercensal estimates before 1920 are de facto population. For all tables, "-" denotes zero or a percentage that rounds to less than 0.1; "NA" = not available; ". . ." = not applicable.

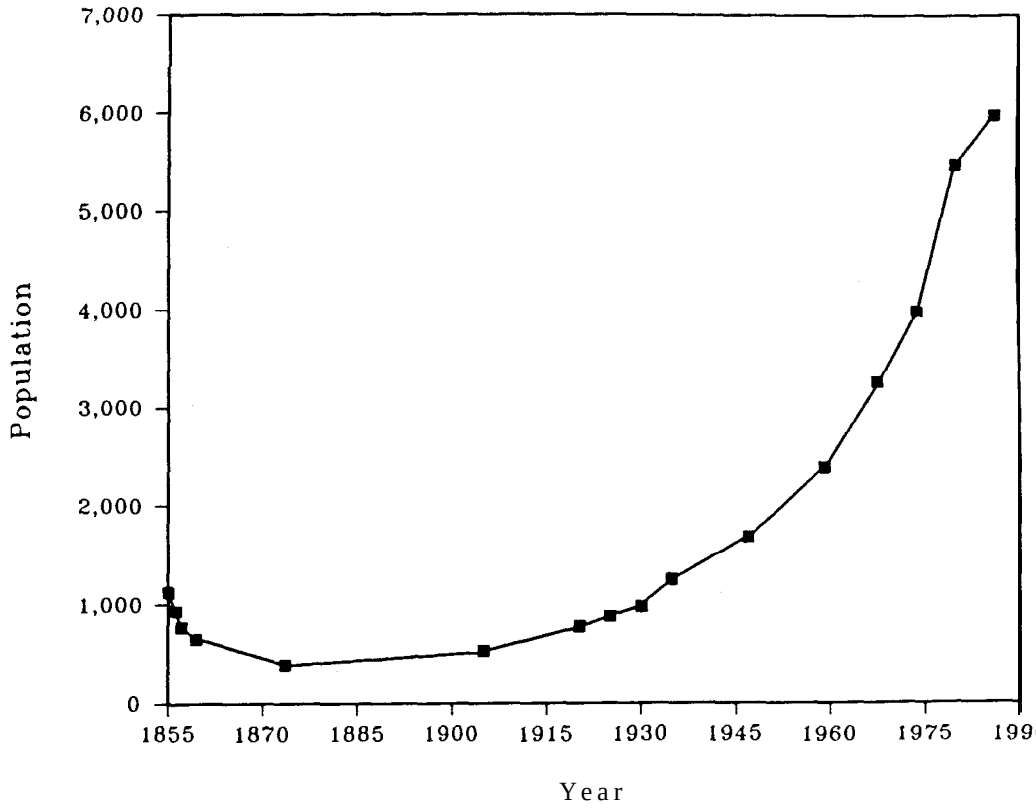


FIGURE 2. **Change in the population of Kosrae over time (1855, 1856, 1857, and 1858 are Kosraens only; 1920, 1925, 1930, and 1935 are Pacific Islanders only).**

tion. Because the economic and logistical challenges associated with regional arrangement of population in Kosrae are minimal compared to the challenges faced by polities composed of many islands scattered across the Pacific, I do not examine the geographic distribution of people in as much detail here as in other research settings (see Gorenflo 1990, 1993; Gorenflo and Levin 1991, 1992b, 1992c). However, consistency in the spatial arrangement of population in Kosrae over time bears mentioning (Table 2). Although slight shifts in the population density of one municipality compared to another occurred over the past seventy years, the general stability found in population figures persists here as well (Table 3). The eightfold increase in density on Ualang and Lelu islands in the twentieth century is similar in magnitude to changes experienced on the Yap Islands during the same time period (Gorenflo and Levin 1991:107).

To explore population change in Kosrae State more carefully, I examine the census data in nine separate sections: one for the missionary period, when the population of Kosrae declined dramatically; one for

TABLE 2. **Population by Municipality: Select Census Years**

Area	1925	1930	1935	1967	1970	1973	1980	1986
Kosrae	886	990	1,189	3,260	3,266	3,989	5,491	6,607
Lelu	312	346	430	1,040	1,650	1,385	1,995	2,422
Malem	186	215	244	701	562	788	1,091	1,354
Tafunsak	271	304	365	777	555	981	1,342	1,568
Utwe	117	125	150	558	499	698	912	1,076
Walung	NA	NA	NA	NA	NA	137	151	187

Sources: Nan'yō-chō 1927, 1931, 1937; School of Public Health n.d.; U.S. Bureau of the Census 1972, 1983a; Office of Census Coordinator 1975; Office of Planning and Statistics 1989.

Notes: Censuses conducted in 1855, 1856, 1857, 1858, 1874, 1905, 1920, and 1958 did not report population by municipality. Data for 1925-1935 comprise de facto Pacific Islanders only. Remaining data are de facto population. 1967 total includes 184 persons whose municipality of residence was "not specified." Population figures for Tafunsak Municipality in 1925-1970 include the population of Walung. Wilson (1968) conducted two censuses of Lelu Island (which is not equivalent to Lelu Municipality, the latter also containing part of Ualang Island around Lelu Harbor), recording 978 residents in early 1961 and 1,206 residents in the summer of 1964.

the German period, when population had begun its resurgence; one for the Japanese period, characterized by sustained population growth documented by four separate censuses; and one section each for the censuses conducted in 1947, 1958, 1967, 1973, 1980, and 1986, all marked by rapid population growth. Because the 1970 census of the TTPI was inaccurate, reflecting a substantial undercount, particularly in Kosrae, I shall not discuss its results in any detail. The following presentation focuses on essential data, noting important aspects of population change and drawing attention to possible causes where appropriate.

Kosrae Population during the Missionary Period: 1855, 1856, 1857, 1858, and 1874

Missionary Benjamin Snow arrived on Lelu Island early in the period of massive depopulation that affected Kosrae during much of the mid-nineteenth century. With the prospect of his new flock's dying off no doubt a major concern, Snow conducted a series of five censuses to document the population decline he witnessed. The first four of these censuses spanned the years 1855 through 1858, when Snow resided in Kosrae; Snow conducted his final census in 1874 while visiting Kosrae from the post he then occupied in the Marshall Islands (Lewis 1949: 37).[4] It is unclear precisely how Snow took censuses beyond attempting

TABLE 3. **Population Density by Municipality: Select Census Years (Persons per Square Mile)**

Area	1920	1925	1930	1935	1958	1967	1970	1973	1980	1986
Kosrae	18.2	20.5	22.9	27.5	54.8	75.5	75.6	92.4	127.1	153.0
Lelu	NA	37.3	41.3	51.4	NA	124.2	197.1	165.5	238.3	289.4
Malem	NA	28.5	32.9	37.4	NA	107.3	86.1	120.7	167.1	207.3
Tafunsak	NA	16.4	18.4	22.0	NA	46.9	33.5	67.5	81.0	94.7
Utwe	NA	10.0	10.7	12.8	NA	47.6	42.5	59.5	77.7	91.7
Walung	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: Although population was recorded for Walung Municipality in 1973, 1980, and 1986, an accurate figure for the area of this municipality is unavailable (see Bureau of Planning and Statistics, 1990:2); densities for Tafunsak Municipality, whose area includes Walung, thus represent the combined densities for both municipalities in these three years.

to visit both inhabited islands of the archipelago "to see the people at their homes, and to ascertain their number and circumstances" (American Board of Commissioners for Foreign Missions 1856: 190). The censuses reveal rapid depopulation for nearly two decades. Note that with the exception of the 1874 census, Snow did not record the number of non-Kosraens in residence; the population figures discussed in this section thus refer only to Kosraens residing in the archipelago.

In July 1855 Benjamin Snow recorded 1,106 persons living in Kosrae (American Board of Commissioners for Foreign Missions 1856: 190-191; see Table 1). Population estimates for earlier years suggest that a major phase of depopulation already had begun by this time, although the specifics remain uncertain. About 58 percent of the population were males (Table 4). Although detailed data on the age composition of the 1855 population of Kosrae are unavailable, 239 (21.6 percent) of the total were "boys and girls"--their precise ages unfortunately not specified.

By 1856 the population of Kosrae had declined to 975 persons, a decrease of 11.8 percent (*Missionary Herald* 1857:253; see Table 1). Data on the sex and basic age composition of the 1856 population are unavailable.

Snow conducted a third census of Kosrae in December 1857, the 830 persons present representing a decline of another 14.9 percent (*Missionary Herald* 1859:96; see Table 1). As in 1855, most residents counted in this census were male (62.4 percent) (see Table 4). Data on the basic age composition of Kosrae are unavailable for 1857.

Snow's fourth Kosrae census, (probably) conducted in 1858, revealed that depopulation had continued (see note 4); decreasing by 9.9 percent

TABLE 4. **Kosrae Population by General Age Categories and Sex: Select Years**

Year	Total Persons	All Ages (Percentage)		Children (Percentage)[a]	
		Males	Females	Males	Females
1855	1,106	58.0	42.0	12.9	8.7
1857	830	62.4	37.6	NA	NA
1858	748	59.9	40.1	4.9	5.6
1874[b]	397	59.7	40.3	15.6	13.3
1905	516	52.5	47.5	21.7	20.9
1947[c]	1,701	51.4	48.6	22.8	21.0

Sources: American Board of Commissioners for Foreign Missions 1856; *Missionary Herald* 1859, 1875; Damon 1861; Sarfert 1919; Lewis 1949.

[a]Ages were not precisely defined for 1855, 1858 ("younger children"), and 1874; percentages for 1905 and 1947 refer to persons aged less than 15 years. Percentages are of total population.

[b]The letter from Snow reporting the results of his 1874 census contains a bit of confusion regarding the number of children. In writing "of the 113 children, 62 are boys and 53 are girls" (*Missionary Herald* 1875:136), Snow provided figures that do not add up. The percentages calculated here are based on the numbers 62 and 53--assuming that he erred slightly in totaling the two.

[c]Although the 1947 census recorded 1,701 total persons, gender was available only for 1,686; percentage calculations use the latter number as denominator.

over the preceding year, the Kosrae population totaled only 748 persons (see Table 1). About 60 percent of the total were males, preserving the tendency observed earlier in the decade for males to dominate demographically (see Table 4). "Younger children and infants" represented 10.6 percent of the total 1858 population, with the remainder consisting of "adults and older children"; 46.8 percent of the youngest group were males (Damon 1861:42), a noteworthy reversal in the sex distribution of mid-nineteenth century populations for Kosrae.

Snow conducted his fifth and final census of Kosrae in October 1874, recording only 397 persons (*Missionary Herald* 1875:136). The rate of depopulation had slowed substantially since the previous census, to an average annual rate of about 3.9 percent (see Table 1). Males comprised 59.7 percent of the 1874 population; children made up about 29.0 percent of the total, with the majority of this youngest group male (53.9 percent) (see Table 4).

With the exception of Snow's reference to 125 deaths in 1855 (see Lewis 1949:50), no vital statistics are available from the period of missionary censuses. However, one can offer certain general propositions about mortality and fertility during this phase of Kosraen history based

on observations made by individuals who visited the island during the mid-nineteenth century. Mortality between 1855 and 1874 apparently was quite high; in the former year, the crude death rate reached an astronomical 113.0. Assuming that relatively few people left the island --a safe assumption given the generally limited mobility of Kosraens prior to the twentieth century (Ritter 1978:292-295) and the minimal impact of blackbirding (Lewis 1949:49)--high mortality would have caused most of the dramatic depopulation witnessed on Kosrae during this period. The high rates of death during these years primarily resulted from diseases introduced from outside Micronesia (Lewis 1949: 31, 50-52). Reduced fertility apparently also was a problem. For example, Snow noted only one infant while conducting his census of 1855 (American Board of Commissioners for Foreign Missions 1856:191). The causes underlying declining fertility are uncertain, though it is likely that venereal gonorrhea was the main culprit (Lewis 1949:54-57) --its effects exacerbated by depopulation in general, which reduced the number of women of childbearing age.

As noted above, Kosraens apparently did not travel frequently between islands during the period of missionary censuses, though some apparently left the island during the years of massive depopulation (Ritter 1978:293). However, inhabitants from other islands either visited or migrated to Kosrae. Included were Marshallese, who apparently visited Kosrae frequently, as well as people from Nauru, Ocean Island, and Rotuma (see Lewis 1949:49; Hezel 1983:241). At times, large numbers of the people residing on Kosrae were from elsewhere. Most of these non-Kosraens were temporary residents, though the durations of their stays varied substantially. Because the missionary censuses focused on Kosraens and recorded the precise number of non-Kosraens only once (excluded from the figures presented), the mobility patterns of other Micronesians have no bearing on the population of Kosrae documented by these early counts.

Kosrae Population during the German Period: 1905

Shortly after acquiring Spain's Micronesian possessions in 1899, Germany conducted censuses of several main islands, including Kosrae. Although the summary results of the Kosrae census are available (Sarfert 1919:49-58), detailed data on the geographic distribution and composition of the population by age and sex are not.

The German government recorded 516 residents in Kosrae in 1905 (see Table 1). This total represents almost 120 more persons than the

total recorded by the 1874 missionary census; Kosrae's population grew between these two census years at an average annual rate of 0.8 percent, though if the estimates during the 1880s are accurate, population actually grew more rapidly over the two decades preceding the 1905 census. Slightly more than half the Kosrae residents in 1905 were male (see Table 4) (Sarfert 1919:54). Some 220 persons (42.6 percent of the total) recorded by the German census were younger than 15 years old. As with the total population, a bit more than half (112 persons, or 50.9 percent) of those aged less than 15 years were male (Sarfert 1919:55).

Limited vital statistics and mobility data exist for Kosrae during the German period of occupation. The relatively large proportion of young persons in the population suggests that the infertility prevalent during the last half of the nineteenth century was no longer a problem. The presence of twenty-four families with four or more children in 1905 (Sarfert 1919:58) supports this general contention, though precise fertility calculations are impossible. Interisland mobility apparently increased slightly during the German administration, primarily in the form of Kosraen men working in the phosphate mines on Nauru. Some of these men married Nauruan women and returned with their families, and at least two Americans and one Filipino resided in Kosrae during the German administration (Ritter 1978:295). However, most of the population increase in Kosrae over the three decades preceding the 1905 census almost certainly resulted from natural growth.

Kosrae Population during the Japanese Period: 1920, 1925, 1930, and 1935

In 1920 the Japanese South Seas Bureau conducted its first census of Kosrae (then part of the Pohnpei District of the Mandated Territory; see Nan'yō-chō 1937). The South Seas Bureau conducted similar censuses in 1925, 1930, and 1935, providing an extremely detailed demographic database for the period of Japanese administration. These data describe a steadily increasing population, with the average annual growth between census years over this fifteen-year period ranging from 2.2 to 3.7 percent. I discuss the four Nan'yō-chō censuses briefly below, focusing on Pacific Islanders and for the most part excluding any examination of resident Japanese.[5]

Nearly 800 Pacific Islanders resided in Kosrae in 1920 (Nan'yō-chō 1937; see Table 1). This number represents the result of sustained demographic growth following the German census in 1905, with the native population increasing at an average rate of about 2.8 percent annually.

The 1920 census recorded the total population of Kosrae but did not record the population of component municipalities.

The number of Pacific Islanders residing in Kosrae increased by 100 persons between 1920 and 1925 (see Table 1), the average annual growth slowing to 2.4 percent (Nan'yō-chō 1927). The 1925 census recorded population for each municipality in Kosrae with the exception of Walung, a more recently defined municipality that the 1925 census combined with Tafunsak (see Table 2). Most Pacific Islanders resided in Lelu and Tafunsak municipalities, each jurisdiction containing about one-third of the archipelago's population. Utwe Municipality contained the fewest Pacific Islanders in 1925--a tendency that would continue until 1973 when newly defined Walung Municipality replaced Utwe as the municipality with the smallest number of residents. The 1925 census recorded the age-sex composition of Kosrae as part of the Pohnpei District of the Mandated Territory; the resulting population pyramid appears elsewhere (Gorenflo and Levin 1992c:15), though the relatively small contribution of Kosrae to the total district population suggests that one should view this figure with caution in the present context.

The population of Kosrae grew by more than 100 persons between 1925 and 1930 (see Table 1), increasing at an average annual rate of 2.2 percent (Nan'yō-chō 1931). In 1930 the number of Pacific Islanders had grown in each municipality over the preceding five years (see Table 2), with the growth rates in Malem and Tafunsak greater than that for Kosrae as a whole. As in 1925, Lelu and Tafunsak municipalities each contained about one-third of the total population. For the first time, the 1930 census recorded information on the age composition of the resident population, both for Kosrae and for each municipality (Table 5). The composition of all municipalities except Tafunsak were similar to one another--Tafunsak containing a particularly large proportion of persons aged between 15 and 24 years. Data on the detailed age-sex composition of Kosrae also are available for the first time in 1930 (Figure 3).

Little information on births, deaths, and mobility in Kosrae is available for the years of Japanese administration. Pertinent data in general are scarce for this period, the lack of information exacerbated by the tendency to record Kosrae as part of the Pohnpei District of the Mandated Territory. The 1930 census contained the first systematically recorded information on mobility for Kosrae, in the form of residency by place of registration (Table 6). These data indicate that the majority of the archipelago's population in 1930 was registered in some part of the Pohnpei District, primarily Kosrae itself. The greatest mobility occurred in Tafunsak and Utwe municipalities, with migration to the

TABLE 5. **Pacific Islander Population by Age and Municipality: 1930**

Area	Total Persons	Age Group (Percentage)			
		0-14	15-24	25-59	60+
Kosrae	990	44.5	22.6	30.2	2.6
Lelu	346	46.0	18.8	32.1	3.2
Malem	215	45.6	19.1	32.1	3.3
Tafunsak[a]	304	41.8	31.6	24.7	2.0
Utwe	125	45.6	17.6	35.2	1.6

Source: Nan'yō-chō 1931.

Note: In this and following tables, percentages may not sum to precisely 100.0% due to rounding. Other reasons for not summing to 100.0% are noted in each case.

[a]In 1930 Tafunsak Municipality contained the area presently defined as Walung Municipality.

former possibly accounting for its different age composition in 1930. The Japanese administration recorded fertility data between 1926 and 1930 for the Pohnpei District of the Mandated Territory; with a general fertility rate ranging between 101.5 (1929) and 139.1 (1930), fertility was slightly higher for this district than for others in the territory (Yanaihara [1940] 1967:35). Once again, a cautionary note is in order when considering these data, as Kosrae comprised only a portion of the district.

Kosrae population continued to increase over the first half of the 1930s, the average annual growth rate of 3.7 percent resulting in a total of 1,189 Pacific Islander residents in 1935 (Nan'yō-chō 1937; see Table 1). As in 1930, the 1935 census indicates that the populations of all four municipalities in Kosrae grew since the previous census, with the number of residents in Lelu Municipality increasing the fastest both in relative and absolute terms (see Table 2). Nevertheless, the relative distribution of population among municipalities remained generally what it was in 1925 and 1930. In 1935 the age composition of Kosrae as well as its component municipalities was similar to that documented in 1930--with the relatively large proportion of Tafunsak Municipality population aged 15 to 24 years once again evident (Table 7). The age-sex composition of Kosrae in 1935 also was similar to that recorded in 1930 (see Figure 3).

Data on possible causes of population change in Kosrae between 1930 and 1935 are unavailable. Vital statistics recorded for the Pohnpei District in 1937 indicate a general fertility rate of 113.0 and a crude death rate of 15.7 (Office of the Chief of Naval Operations 1944:30), suggest-

TABLE 6. **Pacific Islander Population by Place of Registration, According to Municipality of Residence: 1930**

Area	Total Persons	Percentage			
		Same Locality	Same District[a]	Other District[a]	Other Location[b]
Kosrae	990	73.7	18.3	6.3	1.7
Lelu	346	83.2	14.5	2.3	
Malem	215	82.3	10.7	0.9	6.0
Tafunsak[c]	304	60.2	21.7	16.8	1.3
Utwe	125	65.6	33.6	0.8	

Source: Nan'yo-cho 1931.

[a]Refers to major island districts within the Mandated Territory (here Pohnpei District, as Kosrae was part of that district in 1930).

[b]Refers to locations outside of the Mandated Territory.

[c]In 1930 Tafunsak Municipality contained the area presently defined as Walung Municipality.

TABLE 7. **Pacific Islander Population by Age and Municipality: 1935**

Area	Total Persons	Age Group (Percentage)			
		0-14	15-24	25-59	60+
Kosrae	1,189	46.7	19.8	30.0	3.4
Lelu	430	50.2	11.9	34.2	3.7
Malem	244	44.7	18.4	32.4	4.5
Tafunsak[a]	365	42.5	30.7	23.8	3.0
Utwe	150	50.0	18.7	29.3	2.0

Source: Nan'yo-cho 1937.

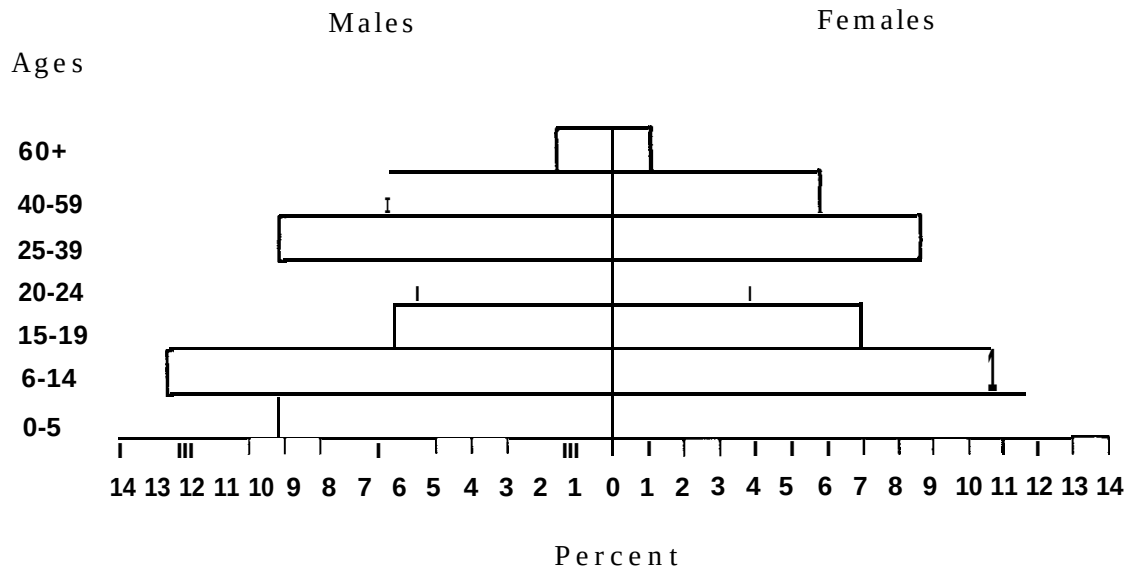
[a]In 1930 Tafunsak Municipality contained the area presently defined as Walung Municipality.

ing that natural growth played an important role (see Gorenflo and Levin 1992c:32). The 1935 Nan'yō-chō census did not record data on mobility for Kosrae.

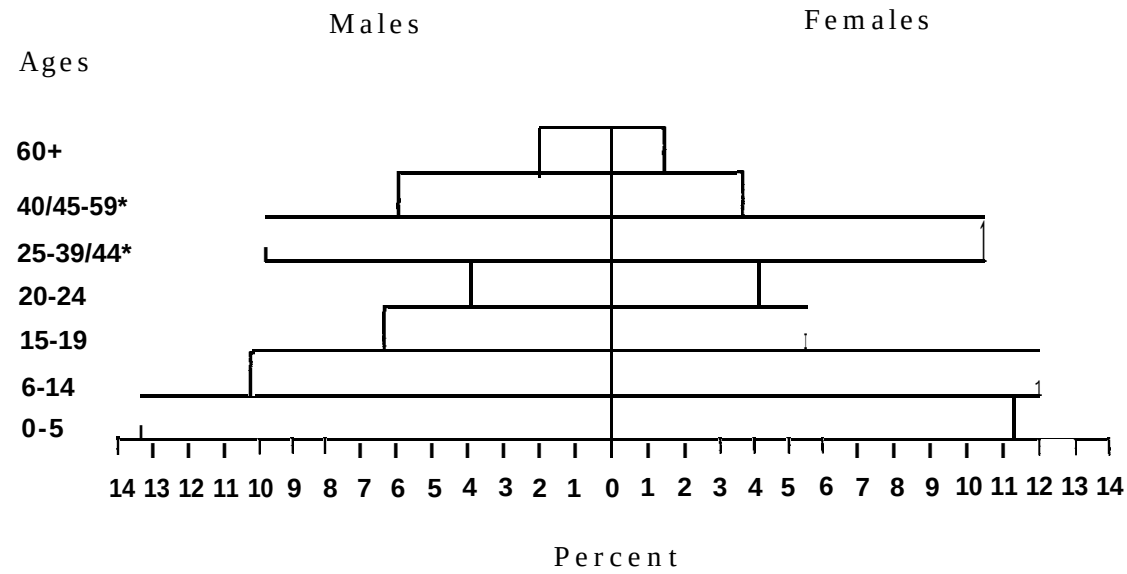
Kosrae Population in 1947

Shortly after beginning its administration of Kosrae, the U.S. Navy conducted a census of Lelu and Ualang islands. However, the total of 1,701 residents (Lewis 1949:48) does not equal the sum of males (867) and

Age and Sex Distribution for Kosrae State: 1930



Age and Sex Distribution for Kosrae State: 1935



* Different ages used for males (25-39. 40-59) and females (25-44. 45-59).

FIGURE 3. **Population pyramids (Pacific Islanders only): 1930, 1935.**

females (819) recorded (Lewis 1949:51). In the absence of other data, I shall assume that the former number is correct and that the latter two resulted from a failure to specify gender for all individuals during the census (leading to a group of persons whose sex was "not stated") or referred to counts at different times in 1947 (Lewis notes counts for both July [1949:51] and October [1949:56]). With a difference of only 15 persons, the effect of selecting the incorrect total here is minimal. The 1947 population of Kosrae resulted from an average annual increase of about 3.0 percent over the twelve years following the final Japanese census (see Table 1). Population figures for individual municipalities are unavailable. Males comprised 51.4 percent of the persons for whom gender was known, while individuals younger than 15 years represented 43.8 percent of the total (see Table 4).

Vital statistics are unavailable for 1947, though the large percentage of total population aged less than 15 years suggests that fertility was relatively high and infant mortality relatively low. Similarly, there are no reliable data on mobility for 1947.

Kosrae Population in 1958

In 1958, the Office of the TTPI High Commissioner conducted a systematic census of Kosrae and the remainder of the Trust Territory (Office of the High Commissioner 1959). Resulting data indicate that the population continued to increase rapidly following the first postwar census, the total of nearly 2,400 persons resulting from an average growth of approximately 3.0 percent annually. Apart from the total population, little is known of Kosrae demography in 1958. Population data for municipalities are unavailable, as are data on age composition and reliable vital statistics. A figure depicting the age-sex composition for the Pohnpei District of the TTPI, of which Kosrae was a part, appears elsewhere (Gorenflo and Levin 1992c:20). Again, care is warranted when applying this information to Kosrae.

Kosrae Population in 1967

The 1967 census indicates that the population of Kosrae had grown by nearly 900 persons over the preceding nine years (see Table 1), at the substantial average annual growth rate of about 3.6 percent (School of Public Health n.d.). The geographic distribution of population possibly changed from the Japanese period, with decreases in the proportion of total population residing in Lelu and Tafunsak municipalities countered

in part by a relative increase in Utwe Municipality (see Table 2). However, because the residence of 5.6 percent of the population in 1967 was not specified, these apparent changes may be due in part to data deficiencies.

The proportion of persons in the youngest and oldest age groups examined in this study increased between 1935 and 1967, with the size of other age groups decreasing accordingly (Table 8). The distribution of ages in individual municipalities varied slightly in 1967, though one must temper any conclusions drawn from these figures, owing to the 184 individuals whose residence in 1967 was not specified. One characteristic of the age composition of individual municipalities worth noting is the similarity of Tafunsak with the remainder of Kosrae, in contrast to its composition during the Japanese administration. Figure 4 presents the age-sex composition of Kosrae as a whole, by the conventional five-year age groups not presented in the Nan'yō-chō census reports.

Three measures of fertility for Kosrae in 1967 indicate a substantial increase over the fertility recorded for the Pohnpei District of the Mandated Territory in the late 1930s (Table 9). This high fertility helps to account for the demographic growth experienced in the nine years preceding the 1967 census. Natality data also are available by municipality in 1967, the variability between jurisdictions still preserving high fertility throughout the archipelago (Table 10). Data on mortality in 1967 are available by five-year age group for Kosrae as a whole (Table 11).

TABLE 8. **Population by Age and Municipality: 1967**

Area	Total Persons	Age Group (Percentage)			
		0-14	15-24	25-59	60+
Kosrae	3,260	51.0	17.7	25.1	4.6
Lelu	1,040	50.9	19.3	23.3	5.7
Malem	701	50.5	15.8	27.0	4.7
Tafunsak[a]	777	52.0	16.9	25.0	3.6
Utwe	558	49.1	19.9	26.5	3.4
Not otherwise stated	184	54.9	13.0	25.0	5.4

Source: School of Public Health n.d.

Note: Percentages may not sum to precisely 100.0% due to the exclusion of 18 individuals whose ages were "not specified" and 34 "foreign born" individuals, whose specific ages similarly were not specified.

[a]In 1967 Tafunsak Municipality contained the area presently defined as Walung Municipality.

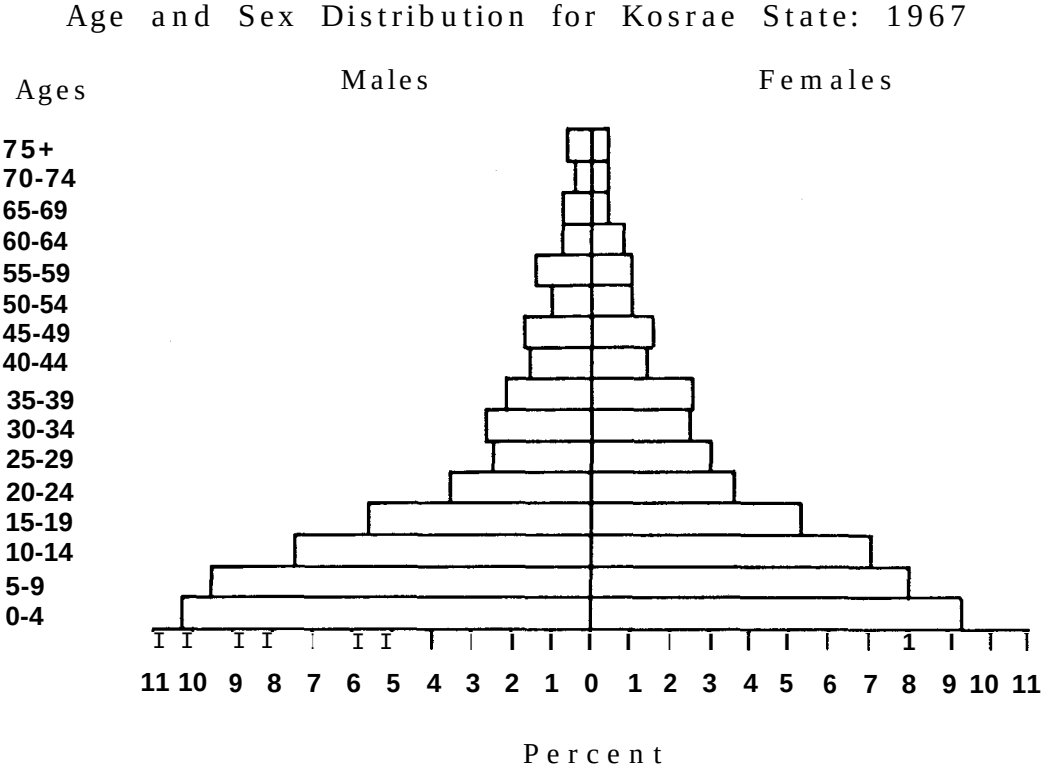


FIGURE 4. **Population pyramid: 1967.**

Overall mortality, measured in terms of crude death rate, was less than one-half that recorded for the Pohnpei District in 1937 (Table 12); this measure coupled with high fertility explains the rapid natural increase in population.

Kosrae Population in 1973

Although the U.S. Bureau of the Census conducted a census of Kosrae in 1970, the resulting data indicate a substantial undercount. I present the 1970 figures in tables 1 and 2 in part for completeness and in part to show evidence for the likely undercount--with sixty-five years of rapid population growth interrupted by this single year (see Gorenflo and Levin 1991, 1992c).

In 1973 the TTPI administration conducted a census of all inhabited islands within its jurisdiction. The population of Kosrae increased by nearly 750 persons over the preceding six years, at an average annual rate of 3.4 percent (Office of Census Coordinator 1975). All municipalities gained population between 1967 and 1973 (the figures for Tafunsak and Walung municipalities were considered together in the latter year

TABLE 9. **Measures of Fertility for Kosrae: Select Years**

Year	Total Persons	Total Births	Crude Birth Rate	General Fertility Rate	Total Fertility Rate
1967[a]	18,304	616	33.7	176.3	6,246
1970[a]	18,536	773	41.7	205.2	7,206
1973[a]	23,252	817	35.1	176.0	5,953
1980[b]	5,491	105	19.1	89.8	2,447
1986[c]	6,607	235	35.6	161.2	5,372

Sources: School of Public Health n.d.; U.S. Bureau of the Census 1972, 1983a; U.S. Dept. of State 1982; Bureau of Planning and Statistics 1990; Office of Planning and Statistics 1989.

[a]Measures for 1967, 1970, and 1973 incorporate births for Kosrae and the Pohnpei District, as births for these *areas* were not reported separately until 1976. Population figures for those years similarly are for Kosrae and the Pohnpei District combined.

[b]Measures for 1980 differ from those presented in Table 10 due to conflicting data. The data here are reported births in all of Kosrae for each year and thus should be comparable across years (though the fertility measures all appear extremely low). These same data are not available for each municipality, forcing me to employ different sources for Table 10.

[c]I calculated natality measures for 1986 based on data presented in Bureau of Planning and Statistics 1988. These figures disagree with those presented in Office of Planning and Statistics 1989:92-93, where total fertility rate was estimated at 5,460.

to enable comparison, as demographic data were collected from Walung Municipality for the first time in 1973). The geographic distribution of population in 1973 resembled that of 1967, with the proportion of persons residing in Lelu and Tafunsak-Walung municipalities increasing slightly (see Table 2). The age-sex composition of the 1973 Kosrae population generally was similar to that documented for the 1967 population, though the proportion of males decreased by about 1.2 percent (Figure 5). Data on the age composition of individual municipalities are unavailable for 1973.

Although 1973 fertility data are available for the Pohnpei District of the TTPI, they are not available for that portion of the district comprising Kosrae. As a consequence, one must proceed with caution when making comparisons--as was the case with vital statistics from the Japanese administration. In 1973 Pohnpei District fertility was similar to Kosrae fertility in 1967, with a slight increase in the crude birth rate and slight decreases in the other two measures examined (see Table 9). Mortality data also were available only at the district level in 1973. Deaths occurred in more age groups in the Pohnpei District in 1973 than they did in Kosrae in 1967 (see Table 11), though this probably is a consequence of the larger district numbers. A drop in the overall crude

TABLE 10. **Fertility Measures by Municipality: 1967 and 1980**

Area	1967					1980				
	Total Persons	Total Births[a]	Crude Birth Rate	General Fertility Rate	Total Fertility Rate	Total Persons	Total Births	Crude Birth Rate	General Fertility Rate	Total Fertility Rate
Kosrae	3,260	127	39.0	191.3	6,972	5,491	230	41.9	196.7	7,185
Lelu	1,040	42	40.4	204.2	7,818	1,995	103	51.6	249.4	9,499
Malem	701	31	44.2	187.1	6,501	1,091	33	30.2	146.0	5,160
Tafunsak	777	32	41.2	187.9	6,777	1,342	75	55.9	268.8	10,056
Utwe	558	22	39.4	179.5	6,991	912	9	9.9	41.7	1,573
Walung	. . .	. . .	. . .	. . .	. . .	151	10	66.2	285.7	12,340

Sources: School of Public Health n.d.; U.S. Bureau of the Census 1983b.

[a]1967 natality is based on figures for living infants 1 year old and younger and thus excludes individuals who died during the first year of life. Total births include 14 infants born to mothers aged under 15, over 49, and of unknown age (used for crude fertility rate, but not general or total fertility rates).

TABLE 11. **Deaths in Kosrae, Percentages by Age Group: 1967, 1970, 1973, 1980**

Age Group	1967	1970[a]	1973[a]	1980
	Number			
Total Persons	3,260	18,536	23,252	5,491
	Percentage			
All Ages	100.0[b]	100.0	100.0	100.0
< 1	19.0	16.7	25.3	22.2
1-4	19.0	5.3	7.7	5.6
5-9	-	2.6	2.2	5.6
10-14	-	5.3	1.1	-
15-19	4.8	2.6	-	-
20-24	-	2.6	5.5	5.6
25-29	-	2.6	1.1	-
30-34	-	1.8	5.5	5.6
35-39	4.8	2.6	3.3	-
40-44	-	3.5	6.6	5.6
45-49	9.5	5.3	8.8	11.1
50-54	-	3.5	7.7	-
55-59	-	5.3	5.5	-
60-64	-	7.0	6.6	11.1
65-69	4.8	7.9	-	-
70-74	4.8	5.3	1.1	27.8
75+	28.6	20.2	12.1	-

Sources: 1967 calculations are based on data on deaths in the 11.5 months preceding the 1967 census, as presented in School of Public Health n.d.; 1970 and 1973 calculations on data on deaths for each calendar year in U.S. Dept. of State 1981; and 1980 calculations on deaths for the 1980 calendar year in U.S. Dept. of State 1982.

[a]Calculations for 1970 and 1973 combine Kosrae and the Pohnpei District, as age-specific mortality data presented for those years did not distinguish between these two areas.

[b]Percentages for 1967 do not sum to precisely 100.0 due to one individual whose age at death was "not specified."

death rate, mortality of individuals aged less than 1 year, and mortality of individuals aged more than 74 years is evident (see Table 12). If these fertility and mortality data for the Pohnpei District hold for Kosrae as a whole (as they probably do), one may once again explain population growth between 1967 and 1973 by an excess of births over deaths.

As with much of the population data, data on mobility in Kosrae in 1973 are available for Kosrae as a whole but not for individual municipalities. Of the TTPI-born de facto population of Kosrae in 1973, 98.6 percent claimed Kosrae as their place of usual residence (Office of Cen-

TABLE 12. **Age-Specific Death Rates in Kosrae: 1967, 1970, 1973, 1980**

Age Group	1967	1970[a]	1973[a]	1980
Total	6.44	6.15	3.91	3.28
< 1	29.63	21.84	23.21	17.78
1-4	8.05	2.40	2.11	1.26
5-9	-	1.02	0.55	1.15
10-14	-	2.28	0.31	-
15-19	2.85	1.48	-	-
20-24	-	2.16	2.68	1.99
25-29	-	3.27	0.83	-
30-34	-	2.40	5.04	3.08
35-39	6.90	3.50	3.01	-
40-44	-	5.18	6.39	5.65
45-49	19.23	7.99	9.96	10.93
50-54	-	6.88	8.55	-
55-59	-	13.95	8.64	-
60-64	-	22.79	13.42	24.69
65-69	25.00	31.69	-	-
70-74	38.46	39.74	4.26	111.11
75+	193.55	96.64	43.48	-

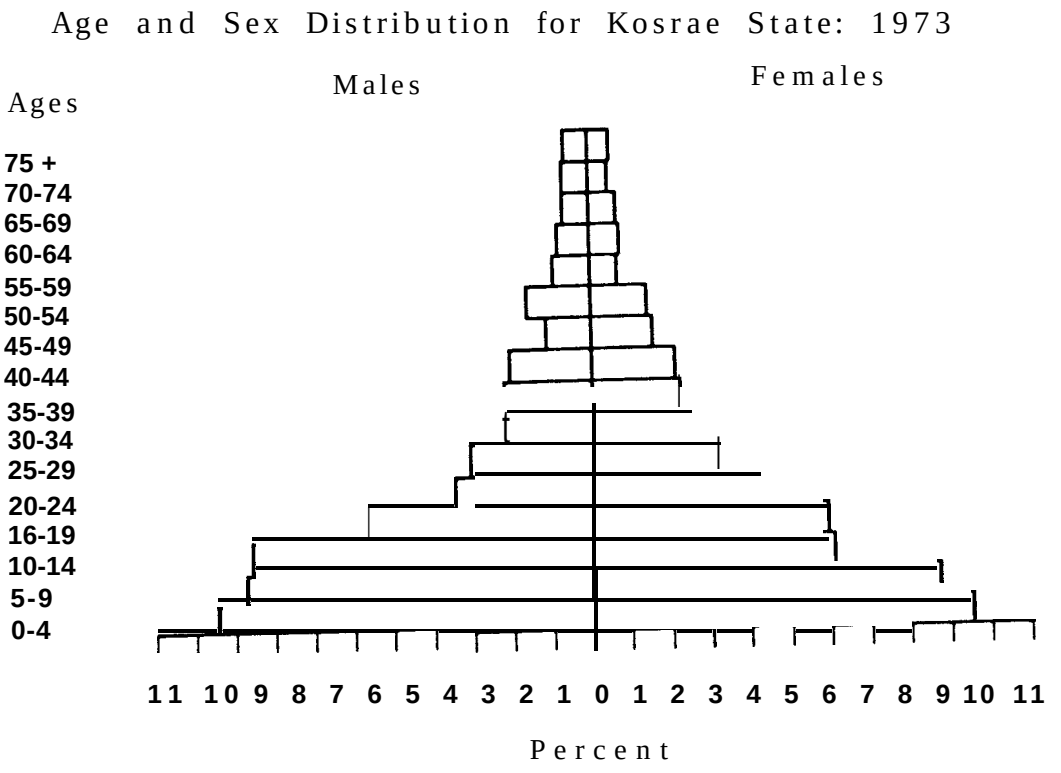
Sources: See Table 11.

[a]Calculations for 1970 and 1973 combine Kosrae and the Pohnpei District, as age-specific mortality data presented for those years did not distinguish between these two areas.

sus Coordinator 1975: 130). Most of the remaining TTPI-born residents in 1973 came from elsewhere in the Pohnpei District or from some other part of the TTPI. Mobility data also are available as migration destinations (places of usual residence within the TTPI) of persons born in Kosrae. In 1973 86.7 percent of TTPI residents born in Kosrae still resided in Kosrae, with most of the remainder living elsewhere in the Pohnpei District (6.0 percent, most of whom probably resided on Pohnpei Island) or in the Marshall Islands (4.9 percent) (see Office of Census Coordinator 1975: 103).

Kosrae Population in 1980

The U.S. Bureau of the Census conducted a second detailed census of the Trust Territory in 1980 (U.S. Bureau of the Census 1983a), recording demographic data for the entire state of Kosrae as well as for individual municipalities (Table 13). Population growth was extremely rapid for the last part of the 1980s the addition of more than 1,500 persons resulting from remarkably rapid average annual growth of 4.7



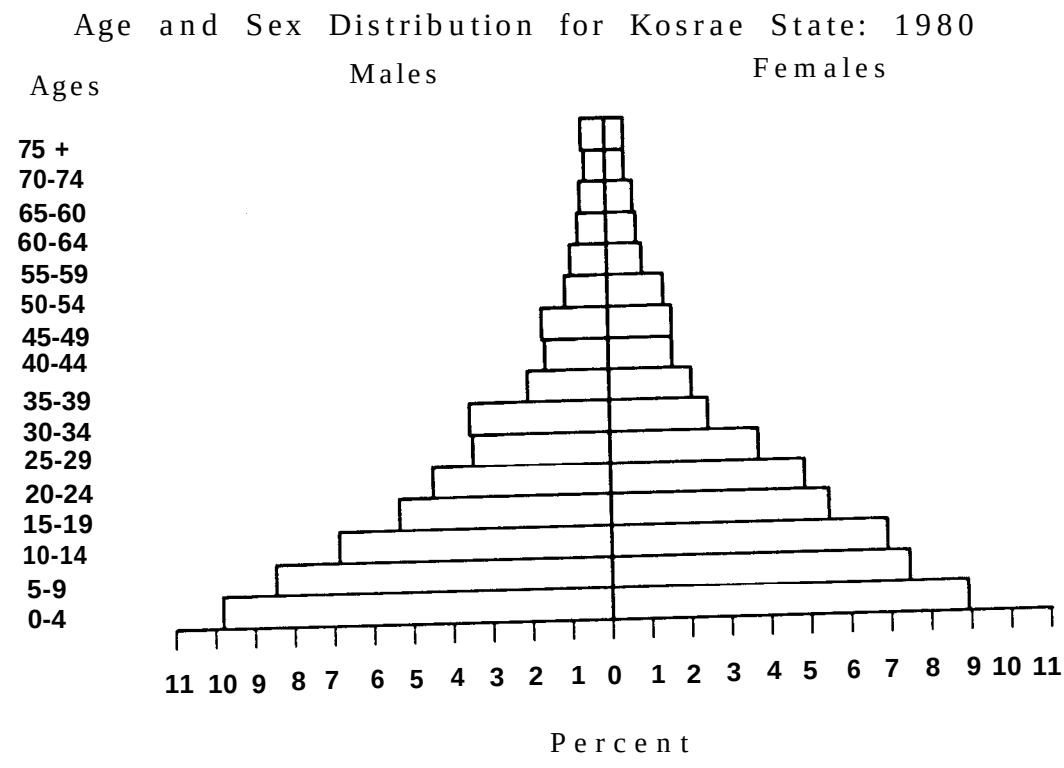


FIGURE 5. **Population pyramids: 1973, 1980.**

TABLE 13. **Population by Age and Municipality: 1980**

Area	Total Persons	Age Group (Percentage)			
		0-14	15-24	25-59	60+
Kosrae	5,491	48.0	19.7	27.6	4.6
Lelu	1,995	47.9	20.0	27.3	4.8
Malem	1,091	50.4	16.7	27.4	5.5
Tafunsak	1,342	45.5	21.5	29.0	4.0
Utwe	912	49.8	19.1	26.4	4.7
Walung	151	44.4	24.5	29.1	2.0

Source: U.S. Bureau of the Census 1983a.

percent after 1973 (see Table 1). Once again, the population of each municipality increased, with the greatest growth experienced in Lelu Municipality (see Table 2).

Figure 5 shows the age-sex distribution of Kosrae population in 1980, revealing general similarities with the 1973 distribution. The composition of municipality populations by age indicates variability between places, such as relatively fewer persons in the oldest and youngest age groups examined residing in Walung Municipality and relatively more of these same age groups residing in Malem Municipality (see Table 13). Slight changes from 1967 are apparent, with relative decreases in persons aged less than 15 years evident among three of the four municipalities where comparisons are possible.

Vital statistics are available for Kosrae in 1980, but they are not entirely comparable to figures presented earlier that combine Kosrae and Pohnpei states. In Table 9 low values are evident for all three fertility measures considered--usually on the order of half the values for the Pohnpei District of the TTPI in 1967, 1970, and 1973. These measures disagree with the 1980 figures presented in Table 10, the latter indicating particularly high fertility. Given the extremely rapid growth of population in Kosrae during the 1970s coupled with the general tendency in Micronesia to underreport vital statistics (affecting the measures presented in Table 9, which are based on *reported* births), the Table 10 values are more likely correct (see also Office of Planning and Statistics 1989:30). Fertility measures for individual municipalities indicate substantial variability between different parts of Kosrae (see Table 10). Mortality data also are available for Kosrae in 1980. Most of the deaths registered for the state as a whole occurred among infants and individuals aged between 70 and 74 years (see Table 11). Mortality for infants was lower than for any of the previous three years examined (see Table

12); mortality for the latter group was much higher than for any of the years discussed above.

The 1980 census also recorded data on mobility in Kosrae. Notice that because the census defined mobility in terms of place of residence five years earlier, these figures are not strictly comparable to the lifetime mobility data presented for 1930 and 1973 (see Gorenflo and Levin 1992a). The information available indicates that the vast majority of Kosrae residents in 1980 lived in the same municipality where they resided in 1975 (Table 14). Lelu Municipality featured the largest absolute and relative number of 1980 residents who lived elsewhere five years earlier--some coming from other parts of Kosrae State, some from other portions of the TTPI or beyond.

Kosrae Population in 1986

The FSM Office of Planning and Statistics conducted the most recent census of Kosrae in 1986 (Office of Planning and Statistics 1989), once more providing demographic data at the municipality level (Table 15). The total population recorded by this census was 6,607 persons, indicating that population growth in excess of 3.0 percent annually had continued into the 1980s (see Table 1). The number of inhabitants increased in each municipality between 1980 and 1986 (see Table 2), at average annual growth rates ranging from 2.6 to 3.7 percent.

TABLE 14. **Population by Municipality and Place of Residence in 1975: 1980**

Area	Total Persons[a]	Percentage			
		Same Municipality	Elsewhere in Kosrae	Elsewhere in TTPI	Outside TTPI
Kosrae	4,330	92.2	1.5	3.2	3.0
Lelu	1,590	87.3	3.0	5.3	4.4
Malem	855	96.4	0.4	1.2	2.1
Tafunsak	1,079	91.7	0.8	3.4	4.1
Utwe	686	98.8	-	1.2	-
Walung	120	94.2	5.0	0.8	-

Source: U.S. Bureau of the Census 1983b.

Note: This table does not include two individuals whose place of residence in 1975 was not given.

[a]Includes only those individuals older than 5 years of age.

The age-sex distribution in 1986 differed slightly from that recorded in 1980, with minor shifts in the proportional representation of several age groups younger than 30 years (Figure 6). Municipalities in Kosrae varied in terms of their age composition: Utwe Municipality contained

TABLE 15. **Population by Age and Municipality: 1986**

Area	Total Persons	Age Group (Percentage)			
		0-14	15-24	25-59	60+
Kosrae	6,607	47.0	18.0	30.2	4.8
Lelu	2,422	45.9	17.8	31.3	5.0
Malem	1,354	45.1	19.9	29.2	5.8
Tafunsak	1,568	47.2	19.2	29.7	3.9
Utwe	1,076	51.9	14.9	28.9	4.4
Walung	187	45.5	13.9	34.8	5.9

Source: Office of Planning and Statistics 1989.

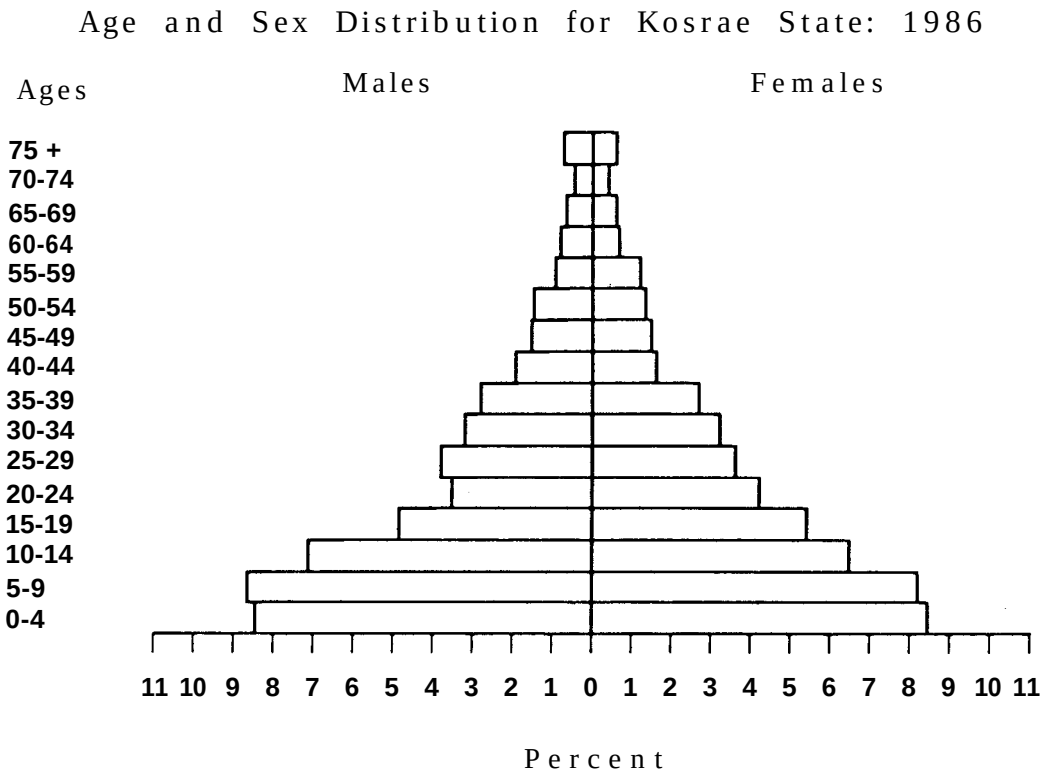


FIGURE 6. **Population pyramid: 1986.**

a relatively large proportion of persons aged 14 years or less; Malem and Walung municipalities contained relatively large proportions of persons aged 60 years or more (see Table 15). Compared to 1980, relatively fewer persons were aged 24 years or less and relatively more persons were older than 24 years in most municipalities.

Based on the information recorded, fertility for Kosrae State was relatively high in 1986 (see Table 9). Depending upon the 1980 data one relies on, fertility could have increased or decreased over the first six years of the decade (see tables 9 and 10), though based on the earlier discussion of 1980 vital statistics, the latter trend is more likely. Crude death rate in 1986 ranged between 6.1 and 6.5, depending on the mortality data one employs (see Bureau of Planning and Statistics 1990:124, 127). The FSM Office of Planning and Statistics estimated infant mortality at between 45 and 50 in 1986 (Office of Planning and Statistics 1989:33); although substantially higher than infant mortality presented above either for Kosrae or for the Pohnpei District of the TTPI, an effort to account for the underreporting of infant deaths in 1986 may explain the difference. Reliable mortality data for the remainder of Kosrae age groups unfortunately are unavailable for 1986. Mobility data similarly are unavailable. Despite these deficiencies, once again an excess of births over deaths probably accounted for most of the rapid population growth through the first half of the 1980s.

Underlying Causes of Population Dynamics

As described in the preceding pages, Kosrae demography changed substantially over a relatively brief period of time. Between 1828 and 1855 the population of this small archipelago declined from an estimated 3,000 to 1,106, a reduction of more than 63 percent in less than three decades; by the 1880s, the population declined still further to about 300 total Kosraens (see Ritter 1978:55; Ritter 1981b:21, 25-26). Kosrae population subsequently began a period of sustained growth, probably in the 1880s or 1890s. Between the German census in 1905 and the most recent census in 1986, the number of residents increased at an average annual rate of 3.2 percent, the total in the latter year nearly thirteen times that in the former. Thus over a period of 158 years Kosrae's population nearly disappeared and then grew to levels greater than any previously documented. Two questions are important in such a situation: what caused such dramatic population changes, and what were the broader ramifications of extreme population decline and growth? I deal with the first question now and the second question in the section on cultural, ecological, and economic repercussions that follows.

Of the three main mechanisms of population change--mortality, fertility, and migration--the first probably was the main cause of depopulation in Kosrae during the nineteenth century. Extremely high mortality apparently was not a problem at the time of contact, with early visitors in the 1820s noting the presence of large numbers of residents, including many old persons (Lesson 1839, 2:493). In scarcely two decades the situation changed substantially, largely owing to disease. William Jackson, who visited Kosrae in early 1848, wrote that the Kosraens "are in a deplorable condition. There is a general sickness prevailing, a species of fever. . . . Some were dieing *[sic]* daily, and I think unless they have some relief, all the inhabitants must in a few years be swept away" (1849:10). Captain Caloft of the *Hobeoricock*, visiting Kosrae in 1850, echoed Jackson's earlier concerns, providing valuable clues to the maladies present when he reported that "population is now decreasing, through the prevalence of colds, consumption and other diseases" (*The Friend* 1850:68). The sickness of which Caloft spoke was probably influenza or some related respiratory disorder (Hezel 1983: 141-142). During 1855, the year in which he conducted his first census, Benjamin Snow counted 125 deaths, 113 of which he blamed on influenza (see Lewis 1949:50). This disease was prevalent between 1855 and 1859, probably causing most of the 476 deaths recorded during these four years and as much infant mortality. Although epidemics had ended by 1880, when visitors reported the population in good health (Finsch 1893), the damage was done; the number of residents had declined dramatically, and the demographic structure of the remaining population had been modified so that the final phases of depopulation probably resulted from the inability of the few Kosraens of childbearing age to reproduce as quickly as old persons died (Lewis 1949:51).

Influenza was not the only disease that affected the residents of Kosrae during the nineteenth century. Early visitors noted the presence of skin diseases that featured ulcers and lesions (Kittlitz 1858, 2:11; see also Lewis 1949:50), though some questioned their prevalence (Lütke 1835, 1:406). During the nineteenth century, most generally felt that the disease they were seeing was syphilis (see Ritter 1978:56-58), usually alluding to a "foul" (Jackson 1849: 10) or "moral and physical" (American Board of Commissioners of Foreign Missions 1856:191) disease, or metaphorically to the "wages of sin" (Gulick 1862:245), rather than naming syphilis itself (Hammet 1854:64). However, Lewis provided a compelling argument against the presence of syphilis in Kosrae during the nineteenth century, suggesting that early observers had confused it with yaws (1949:52-55). The symptoms of syphilis and yaws are similar, particularly in their later stages. Moreover, because microscopic

parasites of the genus *Treponema* cause both diseases, exposure to one malady generally provides immunity to the other (Pirie 1971:192). Given the prevalence of yaws throughout much of Micronesia during the nineteenth century, the likelihood that it did not exist in Kosrae is remote (Lewis 1949:55; see also Ritter 1978:57-60). Additional support for the presence of yaws in Kosrae came when researchers documented outbreaks of the disease during the present century (Wilson 1968:35). In the present study the distinction between these two diseases is important for, in contrast to syphilis, yaws usually is relatively mild. Although yaws can become serious, it is not necessarily fatal and thus would have had little impact on mortality (Pirie 1971:195-196).

Other possible causes of high mortality in Kosrae existed in the early and mid-nineteenth century. Although a devastating typhoon apparently struck in the early 1800s such powerful storms generally are rare in the Eastern Carolines, and later examples in the nineteenth century apparently had minimal demographic impacts. Numerous internal conflicts that occurred in Kosrae during the 1800s led to an unknown number of deaths. An uprising of commoners shortly before the arrival of Europeans, possibly in the aftermath of the typhoon noted above, contributed to the eradication of up to half the native population (Ritter 1981b:25). Subsequent internal conflicts in 1837 and 1857 similarly led to the deaths of more Kosraens, though precise numbers are unknown (*Missionary Herald* 1859:98; Lewis 1949:18, 32; Ritter 1978:50, 52). Finally, the paramount chief had several Kosraens put to death after their attack on the British whaleship *Harriet* in 1842, though his claim of executing 350 individuals (Gulick 1932:502) probably was an exaggeration to avoid British reprisal, and a total one-tenth that amount or less is more likely (Hezel 1983:115).

Despite the absence of pertinent vital statistics, it appears that mortality declined substantially after the 1870s. Occasionally deaths increased during the German and Japanese administrations--the unknown number dying in a deadly dysentery epidemic in 1901, the six killed by a typhoon in 1905, the six infants who died during a whooping cough epidemic in 1924, and the large number of deaths (perhaps more than 10 percent of the total population) resulting from successive measles and dysentery epidemics in 1927 serving as particular cases in point (Lewis 1949:42, 51). But mortality levels generally remained well under control, with the 1937 crude death rate (15.7) in the Pohnpei District of the Japanese Mandated Territory likely representative of the level in Kosrae during Japan's administration.

Mortality levels in Kosrae declined further during the American

administration, probably through the introduction of additional medical services, health care practices, and drugs previously unavailable. Age-specific death rates presented in Table 12 indicate fairly low infant mortality as well as low crude death rates for the entire population. The crude death rate for 1986 was between 6.1 and 6.5; estimated crude death rates for the years 1987 through 1989 ranged from 4.1 to 5.7 (Bureau of Planning and Statistics 1990:124, 127), indicating that low mortality has persisted. A cautionary note is in order here, however, for vital statistics tend to be underreported throughout Micronesia, with the underreporting of deaths a particular problem. Measures for the period of American administration thus probably provide a rough idea of mortality levels but undoubtedly are too low.

Fertility also has played an important role in the demographic evolution of Kosrae. Shortly after initial European contact, fertility apparently was quite high. Lütke mentioned that the proportion of children was great (1835, 1:345), and Sarfert's genealogies contain examples of individuals with large numbers of sibs (1919, genealogies III, IV, VI, and VII). But once again this situation did not last. During the mid-nineteenth century, when mortality reached extremely high levels, Kosrae fertility apparently declined to very low levels. As with mortality, we have limited reliable data available with which to measure early fertility. Nevertheless, comments by individuals present in Kosrae coupled with complementary data on the age structure of the resident population provide clues to the fertility levels reached. As noted in Table 4, information is available on the numbers of children present in Kosrae for the years 1855, 1858, and 1874. Although the term "children" is not defined precisely with respect to the ages concerned, the relatively small numbers of young persons for all three years suggest that birth rates were low. More telling is the comment made by Snow, on completing his first census in 1855, that he had noted only one infant (American Board of Commissioners for Foreign Missions 1856:191)--representing a crude birth rate of about 0.9 if this was the only live birth. In 1858 Snow counted 8 to 10 infants, cause for him to remark that this was "a hopeful feature" (*Missionary Herald* 1860:37), despite its signifying a crude birth rate of only 10.6 to 13.4. Sarfert's investigation of genealogies from the nineteenth century confirms the presence of low fertility, for several families remained completely childless and some eventually died out owing to a lack of births (1919:56).

The causes of low fertility in Kosrae are not as clear as the causes of high mortality. Deaths among persons of childbearing age, the persisting underrepresentation of women in the Kosrae population during the

nineteenth century (see Table 4), and side effects of the diseases responsible for high mortality likely all contributed to the problem. But the main cause of reduced fertility probably was venereal disease, notably gonorrhea. Although not mentioned by individuals present in Kosrae during the mid-1800s, given the frequent contact between whaling crews and Kosraen women earlier in the century, gonorrhea almost certainly was a problem (Office of the Chief of Naval Operations 1944:93; Lewis 1949:54). This disease can have devastating effects on fertility, particularly in females (Morton 1966:54-60; Bender 1975:46), as it did elsewhere in the Pacific (see Pirie 1971:203). Consistent with this argument, after whaling crews ceased to visit Kosrae, fertility began to increase (Lewis 1949:57). In contrast to gonorrhea, many of the types of cultural behavior that can reduce fertility apparently played little if any role: for example, Kosraens rarely practiced abortion (Sarfert 1919:309) and during traditional times used no form of contraception (Ritter 1978:378).

If Snow defined the category "children" similarly in 1855 and 1874, then increased natality was evident in the latter year. Certainly by 1905 fertility in Kosrae had increased substantially: more than 42 percent of the total population was younger than 15 years of age, and 24 families had four or more children (Sarfert 1919:61). Despite at least three epidemics during the 1920s and a major war during the 1940s, population growth continued throughout the Japanese administration at a rapid pace--indicating that fertility levels were able to compensate for these disruptions of normal life. By 1947, a survey of the descendants from a sample of four main families indicated that 40 nuclear families had six children or more (Lewis 1949:56)--the implication being that even more large families existed. By 1947, 43.6 percent of the residents of Kosrae were aged less than 15 years (see Table 4).

Available data indicate that the rapid population growth throughout the American administration was due in part to high fertility. The percentage of persons aged less than 15 years continued to increase, reaching 51.0 percent in 1967 before declining to about 47.0 percent in 1986 (see tables 8 and 15). Birth rates were high in 1980 and 1986, the census years for which we have data on Kosrae itself (assuming that the 1980 measures in Table 10 more accurately reflect the situation than those in Table 9), and for the three earlier census years in which Kosrae data were combined with those from the Pohnpei District. Although a slight decline in fertility is evident during the late 1980s, possibly a consequence of women desiring fewer children (with some possibly turning to

modern contraceptive methods) or being unable to find suitable mates in terms of current incest rules (Ritter 1978:379, 390-392; Ritter 1980: 764-767), the persisting rates nevertheless are high (see also Levin and Retherford 1986:17, 46, 52). Estimated fertility in Kosrae for the late 1980s indicates continued high crude birth rates for 1987 and 1988 (36.0 and 35.1, respectively), declining to 23.1 in 1989 (Bureau of Planning and Statistics 1990:124). Moreover, despite reductions in total fertility rate, because the Kosrae population features an increasing number of females of childbearing age, the total number of children born continues to grow (Office of Planning and Statistics 1989:30-31). The possible causes of persisting high fertility are several, including early marriage, close birth spacing, and improved health care that increases the likelihood both of carrying a fetus to term and of giving birth successfully. The reasons underlying the causes of high fertility--such as the influence of the church on the use of modern contraceptives or the sociocultural trend toward large families--are less clear and require additional, focused research.

During the past two centuries, mobility played a minor role in the population dynamics of Kosrae until relatively recently (see Gorenflo and Levin 1992a). Kosraen legends speak of a mobile population that visited the Marshall Islands, Kiribati, several islands currently in Pohnpei State, the High Islands of Yap, and possibly Tonga (Lewis 1949:2; Pompey 1970:1-2; Ritter 1978:292-293). Oral tradition holds that Kosraens successfully invaded Pohnpei Island prior to the arrival of Europeans, and several other Micronesian islands trace their origins to Kosrae (Ritter 1978:20-21). However, by the time of initial European contact in the 1820s, Kosraens apparently had lost their ability to sail across open ocean (Lewis 1949:2; Ritter 1978:121); the likelihood of their emigrating during this phase of Kosrae's past is extremely remote unless someone else provided transportation. The inhabitants of other island groups, such as the Marshall Islands and Kiribati, have a long history of traveling to Kosrae (Office of the Chief of Naval Operations 1944:22), but with few exceptions these trips usually consisted of visits rather than relocations. During the nineteenth century the tradition of visits from the Marshalls continued, sometimes in fairly large numbers. For example, Snow reported that about 100 Marshallese arrived for a four-month visit in the summer of 1856, ultimately returning to their home islands with several other Marshallese who had resided in Kosrae for various lengths of time (*Missionary Herald* 1857:253). People from other islands also came to Kosrae: Snow mentioned the presence of an

unknown number of Rotumans in 1857 (*Missionary Herald* 1859:96), and during the 1870s 46 Ocean Islanders fleeing drought and a "large number" of Nauruans who had staged an unsuccessful uprising on their home island also came to Kosrae (Lewis 1949:37; Pompey 1970:17; Hezel 1983:241). As depopulation continued, others came to Kosrae to capitalize on the land becoming available; the relatively large number of foreigners noted in the 1874 census probably represents such an effort, though the previously mentioned Ocean Islanders also arrived that year. A missionary school, established on Ualang in 1879 (Finsch 1893:196), led to the migration of students from elsewhere in the Pacific --primarily the Marshall Islands and Kiribati--generating increased contact with outsiders that in some cases eventually led to marriage (Ritter 1978:294, 301; Hezel 1983:210). Nevertheless, with the exception of individuals who wed Kosraens, most of the people who came from other parts of Oceania during the nineteenth century eventually had to leave Kosrae (Lewis 1949:41; Ritter 1978:293-294); their demographic impacts thus were short term and minimal.

Mobility gradually became a more important factor in the demography of Kosrae during the present century. Some immigration occurred. For example, migrant fishermen from Mwoakilloa, an atoll lying east of Pohnpei Island, established a small colony in Kosrae earlier this century (Fischer and Fischer 1957: 158). But the majority of movement in the early 1900s was from Kosrae to other places. During the German period the administration transported many Kosraens to Nauru to work in phosphate mines (Wilson 1968:34; Ritter 1978:295). The movement of Kosraens to other parts of the Pacific grew in the Japanese period, primarily to provide labor in places such as the Marshall Islands and Pohnpei Island but also to visit Japan itself. Ironically this increasing movement away from Kosrae for periods of time led to increased migration of people from other islands *to* Kosrae, primarily as the wives of Kosraen men who had married outside Kosrae (see Ritter 1978: 295-297). During World War II, Japanese military forces occupied all but one coastal village in Kosrae; the Kosraens fled, but to the remote interior of Ualang rather than to other islands (Lewis 1949:46). The late 1930s and early 1940s featured large-scale relocation to Kosrae as part of the Japanese war effort: at the end of the war, the U.S. Navy repatriated 4,523 Japanese, Koreans, and Okinawans as well as 976 people from other Pacific islands (Peoples 1985:57). The early years of the American administration marked a period of limited mobility once again. However, with increasing economic investment in the TTPI, growing educational and employment opportunities elsewhere in the Pacific, and easier means of

traveling, the movement of Kosraens to other places increased. The main destinations were Pohnpei Island, for education and employment, and the Marshall Islands (notably Ebeye Islet in Kwajalein Atoll), primarily for employment (Wilson 1968:33). From modest beginnings as a collection of temporary residences, a small Kosraen community eventually developed in Kolonia, Pohnpei, though no such neighborhood appeared in the Marshalls (Ritter 1978:299-316). As occurred earlier in the century, movement away from Kosrae eventually led to the return migration of Kosraens with foreign spouses.

Relocation of Kosraens to the Marshall Islands began to decline in the 1970s probably as a result of decreasing job opportunities on Ebeye and better ship connections to Pohnpei Island than to the Marshalls. With the advent of legislation in 1972 that provided U.S. federal funds to TTPI citizens for education, increasing numbers of students began moving throughout Micronesia (e.g., to Guam and Palau) and beyond (primarily to the United States) (Hezel and Levin 1990:48). The Compact of Free Association, adopted in 1986, provided additional legislation that affected mobility in Kosrae and throughout the FSM, enabling free access of FSM citizens to the United States and any of its territories. Guam received several Kosraens, with 136 living there in 1990 (U.S. Bureau of the Census 1992b); fewer than 30 Kosraens resided in the Commonwealth of the Northern Mariana Islands during the same year (U.S. Bureau of the Census 1992a). Because pertinent data from the most recent U.S. census still have not been released, the number of Kosraens residing in the United States in 1990 remains unknown. Most researchers argue that education and employment opportunities underlie the migration to northern Micronesia and the United States. Previous research indicated that Kosraens rarely migrate with the intent of leaving Kosrae permanently (Wilson 1968: 186; Ritter 1978:317-325); current Kosraen feelings about permanent emigration, in the wake of the Compact of Free Association and growing opportunities elsewhere, require further study.

Cultural, Ecological, and Economic Repercussions of Population Change in Kosrae

The population changes documented for Kosrae over the past 150 years were particularly dramatic even for Micronesia, a region that has experienced numerous major demographic shifts since the beginning of European contact. Population changes were accompanied by a series of developments in the Kosraen sociocultural system, particularly affect-

ing social structure and economy. It is difficult to trace many of these developments precisely. By the time that Kosrae received systematic ethnographic attention in 1880 (Finsch 1893), much of the precontact sociocultural system had ceased to exist. Moreover, other developments in Kosrae over the past two centuries complicate the study of demographic impacts. The influx of Christianity is an important case in point. Despite a relatively slow start for this new religion in the early 1850s, virtually all Kosraens eventually adopted it--in the process providing missionaries with considerable influence in many aspects of Kosraen society (Lewis 1949:89-90; Wilson 1968:31; Ritter 1978:27-30). By all accounts the church employed this influence liberally, adjusting those aspects of native cultural behavior not to its liking (Hezel 1983:316). Another development that complicates the study of demography-related changes in the Kosraen sociocultural system is the massive infusion of funds from the United States during the last few decades. Beginning with an increase in American financial aid in 1963, the emphasis of the Kosraen economy shifted from subsistence activities to wage labor. Where Kosrae residents once produced all the food they consumed, they now purchase most of their food with cash earned from jobs either directly or indirectly related to government employment (Peoples 1985). Nevertheless, despite such complicating factors, one can associate many major cultural developments in Kosrae over the past 170 years with the demographic changes experienced following European contact.

When Europeans first visited Kosrae in the 1820s, they encountered a highly structured, hierarchical society that most anthropologists would call a complex chiefdom (see Service 1971:145-169). All Kosraens were classified as either nobles or commoners (Peoples 1990:296). Within these two classes, four social strata were present: the paramount chief *(tokosra),* high chiefs *(lem fulat),* land section managers *(mwetsuksuk),* and commoners *(mwetsrisrik)* (Lewis 1949:4; Ritter 1978:15-17; Cordy 1982:103). Every individual also belonged to one of four ranked matrilineal clans or superclans, each of which in turn comprised twenty or more subclans (Lewis 1949:4-5; Ritter 1978:13). This social structure provided the basis for the functioning Kosraen society during traditional times, defining who would lead and who would follow, the relations between individuals, rights to certain resources, and so on. The three highest-ranked superclans contained both nobles and commoners, providing the leadership of Kosraen society. At the center of this leadership were titled nobles, *lem wal,* numbering eighteen at the time of

European contact (Sarfert 1919:340-341), with the highest title that of the *tokosra.*

The geographic organization of Kosrae during traditional times reflected certain aspects of the social organization. The *tokosra,* other main title holders, and their families resided on the western half of Lelu Island in elaborate compounds. Selected commoners who acted as servants to the nobility resided on eastern portion of the island (Ritter 1978: 14). The remaining commoners lived on the main island of Ualang, in scattered homesteads or hamlets along the coast within one of fifty-seven districts that extended from the interior mountains to the sea (Sarfert 1919:34). A main title holder controlled each of these districts, appointing a commoner to act as land section manager or overseer. The residents of each district on the main island were responsible for producing a surplus of subsistence goods, which in turn flowed to the noble who administered that district and, eventually, to the *tokosra* (Ritter 1978:227). The food relied upon during traditional times included breadfruit, bananas, *Cyrtosperma* (giant swamp taro), and *Colocasia* (true taro), supplemented with food from the sea (Lewis 1949: 10; Wilson 1968:32; Ritter 1978:222-225). Early visitors reported a continual flow of canoe traffic from Ualang carrying local products to Lelu Island as tribute (Lütke 1835, 1:346).

The dramatic depopulation experienced in Kosrae during the nineteenth century led to many important changes. One of the most immediately apparent was the modification of settlement patterns. During the 1820s people settled almost continuously along the coast of Ualang (Sarfert 1919:35-38). The decrease in population of 90 percent or more led to the abandonment of many individual house compounds and small hamlets. For example, along the southern portion of the island the thirty-five settlements documented by Lütke in 1827 had decreased to seven by 1880; the largest of those that remained contained only 15 persons (Ritter 1978:241-242). In the 1850s Benjamin Snow had a church built on Lelu Island, and with the growing importance of Christianity, missionaries organized the construction of three churches on Ualang. As the population in Kosrae began to grow again during the late nineteenth century, people aggregated around these churches, thus creating three nucleated villages on the main island where none formerly existed to accompany the village on Lelu Island (Ritter 1978:242-243). The abandonment of farmsteads continued over the first half of the twentieth century (Lewis 1949:58), in part as a response to the organizational strategies of the foreign governments that administered Kosrae. For

example, the Japanese promoted this geographical organization by defining four administrative districts named after the main village in each--an organization subsequently adopted by the TTPI administration and persisting (with the addition of Walung Municipality) to the present. Modern Kosraens consider the area outside villages to be hinterland and rarely live there, though settlement along major roads on Ualang began as early as the 1970s (Ritter 1978:275-288).

The system of land tenure also changed dramatically with the demographic evolution of Kosrae. The first European visitors believed that the *tokosra* ultimately owned all land and gave the rights to administer certain districts to selected main chiefs (Lesson 1839, 2:488-499; Lütke 1835, 1:346; Kittlitz 1858, 1:355). However, rapid depopulation caused two changes: noble lines died out, providing fewer administrators, and a decreased number of inhabitants meant that more land was available for the remaining residents. Although some researchers argue that depopulation enabled commoners to emerge from a landless past (e.g., Lewis 1949:74), others suggest that commoners had certain rights to land during traditional times that persisted, with some modifications, through the period of depopulation (Ritter 1978:228-231). A lack of detailed accounts of precontact land tenure patterns makes it impossible to determine the degree of change in land tenure. Nevertheless, developments clearly occurred in the form of commoner land rights and in the means of conveying these rights to future generations. For example, the adoptive relationships that increased with depopulation emerged as important means of determining inheritance (Ritter 1981a:57). As population grew throughout the twentieth century, Kosraens divided and redivided land parcels to provide for growing numbers of heirs (Ritter 1978:234-235). Foreign administrators once again contributed additional developments, the most dramatic example being the Japanese appropriation of land in the Ualang interior based on the erroneous belief that it belonged to nobody (Lewis 1949:45; Ritter 1978:236; Peattie 1988:98).

One of the most important consequences of depopulation in Kosrae was change in social structure. Once again, detailed data are not available for all sectors of society. However, one can gain some appreciation of the disruption in this centralized, hierarchical society by considering the changes that occurred among noble ranks. As noted above, Kosraen society featured eighteen titled nobles at the time of European contact. By 1869 only eight titles remained. Researchers noted five remaining noble titles in 1880, decreasing to three by 1910 and to two by 1960, the

remaining titles having lost most of their original meaning (Wilson 1968:27-29). The causes of these changes probably were several, not the least of which was the church's interest in eradicating the social inequality that dominated traditional Kosraen society (in part, no doubt, to increase its own authority). But the removal of large numbers of people through depopulation, some either holding high office or in line to inherit such an office, undoubtedly opened the way for alternative administrative strategies to emerge. As early as 1874 Kosraens began selecting their leaders by popular vote, and although Kosraens today are proud of descent from noble lineages, such genealogical position has little effect on the working of modern society (Peoples 1985:35). Disruption of social structure expanded beyond the nobility, and entire subclans died out during the same period (Hezel 1983:167). Today Kosrae State is ruled by individuals democratically elected to office, with minimal appeal to past social structure. Kinship in general continues to play an important role in terms of determining patterns of inheritance and obligation. But the modern kinship system no longer relies on the traditional clan structure, which the Kosraens largely abandoned by the early twentieth century, emphasizing instead simple consanguineal or affinal relationships (Peoples 1985:127-128).

Change in population coupled with other developments eventually led to shifts in the economy of Kosrae. During traditional times the native economy focused on subsistence, emphasizing agricultural productivity with marine resources providing supplemental sources of food. Tribute in the form of food flowed up the social hierarchy, with commoners growing and collecting sufficient surplus to sustain the non-food-producing nobility. The tribute system changed with depopulation, largely as a consequence of fewer commoners producing food and fewer nobles claiming the surplus (see Hezel 1983:241), and by the early 1900s tribute to chiefs had ceased entirely (Lewis 1949:74; Ritter 1978: 228). Nevertheless, with the exception of a few years during the Japanese administration, when maturing coconut groves planted during the German period boosted cash income from copra sales (Lewis 1949:45), Kosrae maintained a subsistence economy into the early 1960s (Wilson 1968:32). With a substantial increase in American funds flowing toward the entire TTPI during the early 1960s this situation changed substantially (Peoples 1986:104-105). A cash economy soon followed. As a result, most of the current work force in Kosrae State earns wages. The majority (62 to 65 percent during the late 1980s) of the state work force are employed by the federal or state governments (Bureau of Plan-

ning and Statistics 1990:93), with most of the private businesses in the state ultimately relying on this source of funds as well (Peoples 1985: 21). Ironically, in a period of expanding population and growing pressure to provide for this population, increasingly few people exploit the agricultural and marine resources of Kosrae, relying instead on cash income and the purchase of imported food (Peoples 1986). As a result of these economic changes, Kosrae State's food imports totaled US$1.3 million in 1986, growing to nearly $1.6 million in 1989 (Bureau of Planning and Statistics 1990:6)--adding to a trade deficit that ranged between $4.6 million and $6.8 million over the same period (Bureau of Planning and Statistics 1990:27).

Despite the demographic and cultural upheaval experienced in Kosrae over the past two centuries, ecological impacts have been minimal. However, with increasing pressure to provide for a rapidly growing population, such impacts may soon emerge in the form of various development strategies, such as the promotion of commercial agriculture. The belief in Kosrae's agricultural potential has a long history. Early visitors commented on Kosrae's rich agricultural potential, how high yields were possible with minimal work (Kittlitz 1858, 1:369). Subsistence agriculture always has been an alternative in Kosrae, surviving dramatic demographic and cultural changes, a major war, and several foreign administrations with vastly different development goals (Lewis 1949:68-69). As discussed earlier, during traditional times commoners were able to grow and collect enough surplus food to support a fairly large noble class who produced no food themselves. Currently the inhabitants of Kosrae do not produce enough food to feed the state population, but this is a consequence of underexploiting the state's agricultural potential: individuals engaged in wage labor have less time to tend fields than those employed otherwise (Peoples 1985:71-73, 83-84; Peoples 1986:105), and increasingly nucleated settlement means that fewer people live near their farm plots (Lewis 1949:58). To meet the needs of a growing population, the possibility of increasing food production as a means of developing the state economy represents an important potential strategy for planners (see Office of Planning and Statistics 1985:141, 150-151; Office of Planning and Statistics 1992:117-118). But much of Kosrae State is mountainous and covered with forests, the foot slopes, alluvial fans, and bottom lands most suitable for agriculture comprising only about 15 percent of the total land area (Soil Conservation Service 1983:1). Because of drainage problems, fertility limitations, steep slopes, and potential erosion, much of the state does not lend itself to large-scale mechanical clearing of land and commercial agriculture

(Soil Conservation Service 1983: 15). Although Kosrae can produce much more food than it currently grows, possibly enough to feed its large population, it is unlikely that a commercial agriculture sector will provide a sustainable development alternative.

Conclusions

In a region where dramatic population changes have been almost commonplace over the past two centuries, Kosrae emerges as the part of Micronesia with perhaps the most turbulent demographic history. Following depopulation in the first years of the nineteenth century due to a typhoon and civil war, diseases introduced from outside Micronesia decimated the remaining native population--with one illness increasing mortality and another reducing fertility. In conjunction with continued civil unrest and tropical storms, diseases reduced the Kosrae population to a minimum of about 300 persons in 1880, only 5 to 10 percent of what it was eight decades earlier. Later in the same century, mortality came under control and fertility began to increase. The resulting population growth began in the last decades of the 1800s and continued into the present century, producing a de facto 1986 population greater than any previously documented. The demographic changes were dramatic, first nearly emptying the archipelago of inhabitants and then adding more than it may ever have known. The native cultural system adapted accordingly, modifying social structure, the economy, and other facets of shared behavior in response to the vastly different challenges that it faced. Additional cultural changes occurred as a result of intense missionary activity. Because of these developments and those that followed in the present century, the sociocultural system of modern Kosrae State bears minimal resemblance to that of pre-European times.

Because cultures constantly evolve, a certain amount of change is likely to occur in any sociocultural system. But with the removal of most practitioners of traditional culture and the exposure of the remaining inhabitants to the pressures of several influential non-Micronesian forces, the Kosraen system was readied for substantial modifications. Since many of the sociocultural developments that occurred were dramatic, occurred over a short period of time, and in some cases were promoted by foreigners, they were generally adopted without going through the selective processes that adjust systems and help to produce successful adaptive strategies. The resulting situation is not necessarily all bad. For example, Kosraen culture probably accommodates what have become inevitable modern innovations, such as Western forms of

government and a cash economy, more readily than do more traditional sociocultural systems in Micronesia. Moreover, because Kosrae possesses relatively rich natural resources compared to much of Micronesia, it is possible that many changes in the sociocultural system have a greater chance of success there than elsewhere in the region.

Like the rest of the FSM, Kosrae State has come to rely heavily on economic assistance from the United States. Depopulation and culture change long ago cut ties with past systems, greatly limiting the degree to which Kosraens can appeal to the successful adaptive strategies of their ancestors. As the Kosrae State population continues to grow, the prospects of developing a sustainable economy and some measure of independence becomes increasingly remote. Providing a feasible explanation of the current situation in terms of a tumultuous demographic history is the easy part. Developing a means of curbing population growth and devising development strategies that enable this small state to achieve a sustainable economy, either independently or in conjunction with the other states of the FSM, is a much greater challenge.

NOTES

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1. In the interest of clarity and consistency, I follow modern conventions and use the term “Kosrae” or “Kosrae State” to denote the archipelago in the Federated States of Micronesia currently designated by the latter name. Throughout the article I refer to the five subdivisions of Kosrae State as “municipalities,” although as political jurisdictions these areas are a product of twentieth-century colonial rule; whenever possible, I distinguish between Tafunsak and Walung municipalities--the latter once a part of the former. Finally, I employ currently accepted spellings for all geographic areas discussed--opting for “Kosrae” and “Pohnpei,” for example, in place of “Kusaie” and “Ponape”--regardless of the time period concerned.

2. Ritter (1981b) invested considerable time examining the topic of Kosrae population at European contact. Through reexamining data collected in 1827 (Lütke 1835, 1:343-345) in which he accounted for omitted portions of Kosrae and added the likely number of resident children, Ritter concluded that the population at contact was between 2,522 and 3,442, with 3,000 as a best estimate (1981b:21).

3. Sarfert estimated that the population of Kosrae reached a minimum of about 200 persons by 1879 (1919:49). Finsch estimated a population of less than 200 in 1880, decreasing to about 80 persons in 1890 (1893:195-196). Lewis concurred that a minimum of 200 was possible in 1880 but that population began a period of steady increase shortly thereafter (1949:49). In contrast, after a careful study of this topic, Ritter concluded that a minimum

of about 300 in 1880 was likely (1978:55). I am inclined to agree with the latter estimate because of its greater feasibility. First, evidence of increasing fertility during the 1870s, such as that found in an examination of pertinent genealogies (Sarfert 1919:56), would have reduced the rate of depopulation during that decade in the absence of increasing mortality or emigration--two trends for which there is no evidence. Following the census of 1874, a decrease to 200 persons by 1880 would have required an average annual decline of more than 12.1 percent, approaching or exceeding the depopulation rates when (as discussed later) disease was rampant and fertility extremely low. Second, the average annual growth rate of nearly 3.9 percent necessary to reach the census-documented total of 516 persons in 1905 from a population of 200 in 1880 is highly unlikely for a people coming off decades of pronounced population decline; the average annual growth rate of 2.2 percent required to increase from 300 to 516 persons over a twenty-five-year period is much more feasible.

4. The date and precise results of the fourth missionary census of Kosrae are uncertain. Another missionary who visited Benjamin Snow cited the following entry in Snow's journal: "Dec. 29, 1860. Finished taking the census today. I make 748 in all--523 in Ualan [Ualang] and 225 in Lila [Lelu]" (Damon 1861:42). A report dated 2-5 October 1860 cites Snow's demographic research as follows: "The population of Kusaie [Kosrae] is diminishing. The number early in 1859 was 747, which was 82 less than in the preceding year" (American Board of Commissioners for Foreign Missions 1860:135). Finally, a quotation from one of Snow's own letters (dated 8 January 1859) reads: "I have just taken the census and find that the population is 82 less than last year. Seven hundred and forty-seven is the number of people (natives) now on the island" (*Missionary Herald* 1860:37).

Given the demographic changes experienced in Kosrae during the 1850s, it is unlikely that two censuses conducted in consecutive years recorded about the same number of inhabitants; one census is much more probable. Although the two possible totals vary only by one, I am inclined to accept 748 as the correct figure: the geographic breakdown (Ualang versus Lelu) and age breakdown (see Table 4) both support this figure, and 748 is "82 less" than the total of the preceding census. A date of 1858, in turn, probably is correct --given Snow's letter of 8 January in which he wrote that he "just" completed the census (thus presumably placing the census in early 1859 or late 1858) and his comparison to the census of "last year" (most likely 1857). Note that both of the 1860 references cited above concern a letter that *precedes* the December 1860 date cited by Damon (1861:42), arguing that Damon had erroneously copied the date from Snow's journal. As an aside, Sarfert apparently recognized these inconsistencies with the fourth missionary census, reporting 748 persons for "1858/59" (1919:48, 54).

5. Because the primary aim of this study is to explore demographic change in a functioning sociocultural system, it focuses solely upon the Pacific Islanders residing in Kosrae for 1920, 1925, 1930, and 1935. The number of Japanese residing within parts of the Mandated Territory varied dramatically over the three decades that Japan controlled the area. The Japanese government regulated the migration of Japanese nationals to its Micronesian islands, promoting increased immigration to many of these islands for commercial or military purposes during the 1930s. Because considering these *imposed* in-migrants would cloud our understanding of demographic evolution within Kosrae, I focus on Pacific Islanders during the Japanese period of administration. Although the Japanese also promoted the migration of nearly 1,000 persons to Kosrae from elsewhere in the Pacific (Peoples 1985:57), this in-migration probably occurred shortly before and during World War II, and thus most would not appear in the last (1935) Japanese census.

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HAWAIIAN DRYLAND AGRICULTURAL INTENSIFICATION AND THE PACIFIC ECONOMY

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Agricultural intensification is the process of increasing labor expenditure in an agricultural system to increase the level of total productivity (Kirch 1977:271-272; Brookfield 1984: 16). Archaeologists in Hawai‘i have been preoccupied primarily with prehistoric episodes of agricultural intensification because of their interest in sociopolitical development prior to European contact. In a recent review of Hawaiian archaeological data, Kirch (1990) proposed that the major phase of intensification of Hawaiian dryland systems occurred during the five centuries just prior to European contact. This intensification is thought to have been a response to both an increase in population pressure and escalating demands imposed upon commoners by chiefs (Kirch 1985: 223; Hommon 1986:65). However, agricultural intensification is not solely a prehistoric phenomenon but has occurred occasionally in the historic period for reasons other than population pressure and increasing complexity of social organization (Clark 1986). With few exceptions, archaeologists have neglected the impact that historic phases of intensification might have had on the archaeological record. This article reviews the economic context of Hawai‘i during the early historic period and examines how foreign influences might have affected agricultural productivity at Kalaupapa, Moloka‘i, and throughout the archipelago.

During the late 1700s Hawai‘i entered the world economy, and within seventy-five years of contact Hawai‘i’s economy had shifted from a subsistence to a mercantilist base (Kent 1983). When new markets for provisioning ships and exporting produce to the west coast of America

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stimulated agricultural productivity, portions of dryland field systems throughout the archipelago were intensified to meet these new demands. The dryland field system on the Kalaupapa peninsula of Moloka‘i appears to be one of the agricultural systems that flourished during the historic period, probably between 1840 and 1870.

The Agricultural Field System at Kalaupapa

An intensive archaeological survey conducted by International Archaeological Research Institute Inc. located an abandoned house and thirty-eight archaeological features containing 525 architectural components in a 12.5-acre research area just west of the Kalaupapa airport runway on the Kalaupapa peninsula of Moloka‘i (Ladefoged 1990). Twenty-three test units, totaling 11 square meters, were excavated at twenty-one features. The twenty-one features included four residential features, thirteen shelters, two agricultural areas, one animal pen, and one possible shrine or special use area. The results of the excavations indicate that 57 percent of these features were occupied during a single time period (Ladefoged 1990:183).

A combination of chronometric and relative dating techniques, using evidence from temporally sensitive artifacts, faunal materials, and radiocarbon dating of seven charcoal samples, establish the period of occupation for fourteen of the features (Table 1). A radiocarbon date from a lower layer of Feature 8 indicates that the earliest period of occupation of the area could be as early as the fourteenth century. Radiocarbon dates from features 28 and 31 span the prehistoric and historic periods, but probabilities calculated by Stuiver and Reimer’s (1986) computer program suggest that they were occupied during the historic era. On the basis of historic artifacts and/or faunal material from historic introductions, features 2, 8, 10, 12, 13, 14, 18, 23, and 35 appear to have been occupied during the historic period. The cultural deposit of Feature 14 contained faunal material from *Herpestes auropunctatus* (small Indian mongoose), an 1883 introduction (Ziegler 1989). The lower cultural layers of features 12 and 13 contained *Geopelia striata* (zebra dove), a 1920 introduction (Ziegler 1989). Feature 13 and the upper cultural layer of Feature 8 contained *Bufo marinus* (giant neotropical toad), a 1932 introduction (Ziegler 1989). The upper layer of Feature 29 contained faunal material from *Herpestes auropunctatus,* but its main lower cultural deposit could be earlier. Features 37 and 38 are concrete foundations that clearly date to the historic era, probably the 1930s. In sum, one feature (Feature 8) has a prehistoric component,

TABLE 1. **Chronological Estimates of Features**

Feature	Functional Type	Morphological Type	Chronological Estimate	Type of Evidence[a]
2	residential	platform	historic	3
8 lower layer	agricultural	alignment	prehistoric	1
8 upper layer	shelter	alignment	historic	2,3
10	residential	platform	post-1830	3
12	animal pen	enclosure	post-1920	1,2,3
13	shrine	enclosure	post-1932	1,2,4
14	shelter	enclosure	post-1883	2
18	shelter	c-shape	historic	1,2
23	shelter	c-shape	historic	1,2
28	residential	enclosure	prehistoric/historic	1
29	shelter	c-shape	historic	2
31	shelter	c-shape	prehistoric/historic	1
35	shelter	c-shape	historic	2
37	residential	concrete foundation	historic	4
38	residential	concrete foundation	historic	4

[a]Types of evidence:
(1) radiocarbon date
(2) faunal material from historically introduced species
(3) historic-period artifacts
(4) historic-building materials

two features (features 28 and 31) could be prehistoric but based on the probabilities calculated by the radiocarbon calibration program are probably historic, six features (features 2, 8, 10, 18, 23, and 35) were occupied after 1778, one feature (Feature 14) was occupied after 1883, and four features were occupied during the twentieth century (features 12, 13, 37, and 38). The occupation period of Feature 29 and all the other features in the research area is uncertain. Although chronological ages assigned to archaeological features on the basis of introduced faunal material should be considered tentative, the dating methods indicate that twelve of the fourteen dated features (features 2, 10, 12, 13, 14, 18, 23, 28, 31, 35, 37, and 38) were probably occupied exclusively during the historic period, one feature (Feature 8) had both a prehistoric and a historic component, and one feature contained historically introduced faunal material in an upper layer with the lower main cultural layer remaining undated (Feature 9).

On the basis of the presence or absence of a surrounding enclosure, and the density of alignments within a given area, two classes of agricultural complexes were distinguished in the research area. The first class of agricultural complex consists of an enclosure surrounding a high density of alignments. These complexes are dated by association to the historic period. A variety of historic artifacts including cut square nails from a residential feature (Feature 10) contiguous with one of the enclosures (Feature 5b) suggest utilization sometime after 1830 (Hume 1970: 243). The second class of agricultural complex lacks a surrounding enclosure and contains a relatively lower density of alignments. These alignments could have been used either prehistorically, historically, or both, but the presence of historical shelters throughout these areas suggests historic occupation.

It is apparent that portions of the Kalaupapa field system were used during the historic era, but the question remains whether or not the system was actually intensified during the mid-nineteenth century. In two separate test excavations conducted behind agricultural alignments within an enclosure (Feature 5b), buried alignments were observed. A calibrated one-sigma radiocarbon date associated with one of these alignments (Feature 8) is clearly situated within the prehistoric period, A.D. 1327-1442. Without further intensive areal excavation it is impossible to determine if the earlier field system was more or less developed than the historic field system. However, a comparison of the historic field system at Kalaupapa with prehistoric systems throughout Hawai‘i indicates that intensification did occur on the peninsula. The density of alignments within the enclosures of the Kalaupapa system appears to be much higher than the density observed at prehistoric dryland systems on Hawai‘i island such as Lapakahi (Rosendahl 1972), Kona (Schilt 1884), Kawaihae (Clark 1987; Clark and Kirch 1983), and Kawela, Moloka‘i (Weisler and Kirch 1985). The disparity in density of alignments between prehistoric systems throughout Hawai‘i and the historic system at Kalaupapa indicates that, relative to prehistoric dryland agricultural systems, labor was expended at Kalaupapa to increase the level of total productivity during the historic period.

The Impact of Hawai‘i’s Integration into the Pacific Economy on Agricultural Production during the Early Historic Period

High densities of enclosed agricultural alignments in association with historic artifacts and shelters and residential features occupied during a single episode indicate that agricultural intensification at Kalaupapa

occurred during a relatively short time in the historic period. One impetus for the historic intensification was Hawai‘i’s entrance into the world economy and the creation of new markets for provisioning ships and exporting produce. Hawai‘i’s economic development during the historic period has been described as peripheral in nature, a reflex of expansionist needs in some far-off metropolitan core (Kent 1983:14). The catalysts and directions of Hawaiian economic transformations were not endogamous, but were the result of foreign individuals promoting political and economic changes at the core (Trask 1987:158). As a peripheral country, Hawai‘i has primarily served as an exploited resource base for dominant foreign interests. In response to the changing demands of foreign powers over time, a variety of Hawaiian resources have been exploited. A brief review of the various economic demands during the first seventy-five years of the historic era indicates that not until the mid 1800s did external economic pressures stimulate an increase in dryland agricultural productivity.

During the late 1700s Hawai‘i became a major provisioning station for U.S. and British traders bound for China. Despite dramatic changes in Hawaiian social structure at this time, the economic subsistence base remained relatively unaltered. Given new demands for provisions, the elite could convert the subsistence surplus produced by the commoners into new avenues of wealth and commodities such as firearms (Ralston 1984), but such activities appear to have had a minimal impact on agricultural productivity.

The foreign demand for sandalwood from 1810 to 1818 adversely affected agricultural productivity. Commoners were often sent into the upland forests to harvest the valuable wood, resulting in the neglect of their agricultural plots (*The Missionary Herald* 1823:184). The demand for this export in conjunction with the massive depopulation of the native community (Stannard 1989) caused agricultural productivity in the Hawaiian Islands to plummet to a level lower than it had been for centuries.

By 1830 the sandalwood trade had collapsed, and the major economic stimulus in the islands was as a provisioning port for the booming whaling industry. Large increases in the number of visiting whaling ships after 1840 stimulated a corresponding increase in the demand for agricultural products. The provisioning of whaling ships had a much greater impact on the Hawaiian people than either the earlier provisioning or the sandalwood trade. For the first time the Hawaiian populace was drawn into the cash economy as workers and producers on a regular basis (Kent 1983:21). These transactions were still controlled by

the elite, who, according to the early missionaries, retained two-thirds of the gross receipts (Richards 1841; Dibble 1843).

Although the elite retained the majority of the agricultural revenues, their income was rapidly diminishing because of massive depopulation and emigration of rural people to urban centers (La Croix and Roumasset 1988). In order for the chiefs to retain their rurally based tenants in the face of new economic alternatives located in urban centers, wages had to be increased. Several legislative changes were enacted to promote agricultural productivity and increase the profits of the actual producers (La Croix and Roumasset 1988:14). The "Laws of 1842" shifted the burden of the tax base from rural farmers to families residing in urban areas. The laws lowered the number of days per year that tenants worked for the landlord and the king from 104 to 72. Furthermore, these laws prohibited tenants from leaving the land with undue cause.

During the same period the missionaries were encouraging native Hawaiians to increase their agricultural productivity. According to the minutes from an 1838 delegate meeting, it would be desirable for the missionaries "to devote a portion of their time to instructing the natives into the best method of cultivating their lands, and of raising flocks and herds, and of turning various products of the country to the best advantage" (Kuykendall 1938:179).

By the late 1840s there was an economic shift in Hawai'i from provisioning ships in transit to actual exportation of produce. The west coast of America experienced an unprecedented economic boom during the California gold rush. The massive influx of prospectors and merchants had to be fed. Hawai'i proved to be an excellent resource base for food staples because of its geographic proximity and low production costs. For example, Irish potatoes could be purchased for $2 a barrel in Hawai'i and sold for $27 a barrel in California (Morgan 1948: 155).

Figure 1 depicts the dramatic increase in exports between 1844 and 1850, which reflects the height of the California gold rush, and a tailing off of exports into the later 1850s. A corresponding graph shows the number of barrels of Irish and sweet potatoes exported from 1848 to 1854 (Figure 2). This graph clearly demonstrates the influence of the California gold rush in stimulating Hawai'i's agricultural productivity.

The Reverend W. N. Armstrong wrote in 1850 that "every bean, onion, potato or squash that we have to spare is at once snatched away to California to feed the hungry multitude there." In the same year the Reverend W. Alexander noted that "every lot and garden is planted and the islands will be able to freight a great number of vegetables during the coming year" (Alexander 1934:303). One center of potato produc-

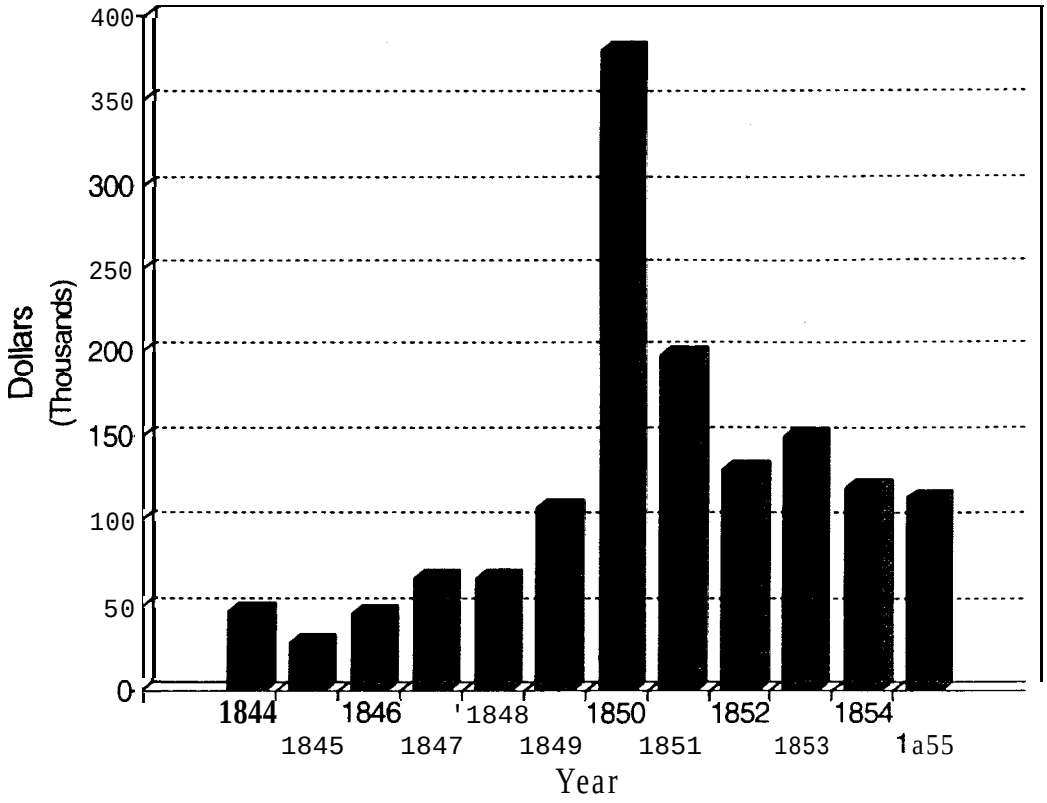

FIGURE 1. **Hawaiian commerce from 1844 to 1855.** (Data from Custom House reports, cited in Kuykendall 1938:305)

tion was the dry, open country of the slopes of Haleakala on Maui, which was often referred to as "Nu Kalifonia" (Morgan 1948:156), but other regions throughout the archipelago, such as the Kalaupapa peninsula of Moloka'i, were also export centers. An article written in 1857 for a Hawaiian newspaper states: "Kalaupapa is a good land because the crops planted are successful and the gain is large. . . . Many sweet potatoes are being planted now, four or five patches to each man. . . . Be on the watch you traders, for Kalaupapa is the best in all the islands for good prices and fast work. All the California ships come to Kalaupapa" (Napihelua 1857, quoted in Handy and Handy 1972:518).

Other descriptions of Kalaupapa indicated that agricultural activities on the peninsula peaked from the late 1840s to the late 1860s. Jules Rémy visited Kalaupapa in 1854 and noted that the fields surrounding the villages were planted in sweet potatoes (1893:20, 22). King Kamehameha IV visited Kalaupapa sometime during his reign from 1855 to 1863 and wrote: "I was glad that those men, by their hard work, had plenty of potatoes, and I was glad that from their abundance they wanted to give" (Curtis 1966:174).

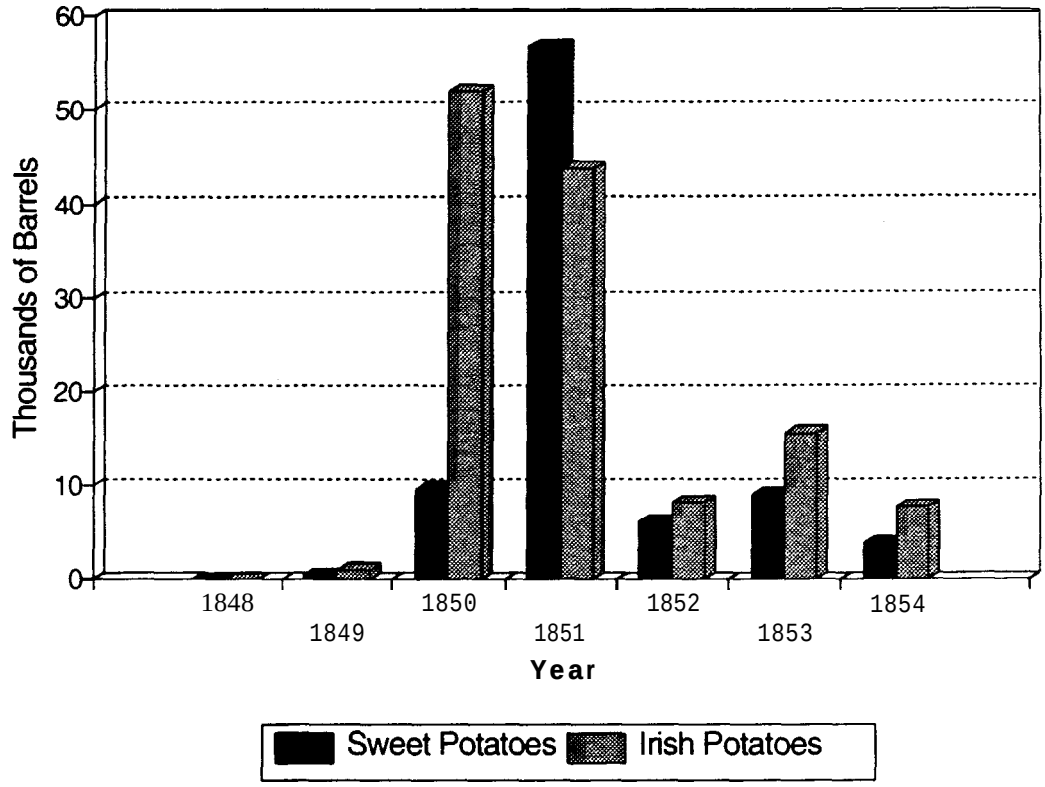

FIGURE 2. **Hawaiian potato exportation from 1848 to 1854.** (Data from *The Polynesian,* cited in Morgan 1948:155)

Twenty years later the situation at Kalaupapa had drastically changed. In 1873 Peter Kaeo, a patient at the settlement and a cousin of Queen Emma, wrote that there were a large number of abandoned sweet potato patches (Korn 1976:7, 17, 35). Similarly, Charles Nordhoff, who visited Kalaupapa in the 1870s reported: "Here lived, not very many years ago, a considerable population, who have left the marks of an almost incredible industry in numerous fields enclosed between walls . . . and . . . long rows of stone . . . to plant sweet-potatoes. Yet on this apparently desert space, within a quarter of a century, more than a thousand people lived contentedly and prosperously" (1974:100).

The agricultural decline at Kalaupapa can be attributed to two factors. The first is an abrupt halt of the export boom stimulated by the California gold rush as competition from local producers in Oregon and California pushed Hawai'i out of the market (Morgan 1948:156). The second influence was the growing concern over Hansen's disease, a post-contact introduction. In 1865 the Hawaiian government purchased two

of the three *ahupua‘a* (land divisions) on the peninsula, Kalawao and Makanalua, to establish an isolated settlement. In 1873 the final *ahupua‘a,* Kalaupapa, was acquired (Fortunato de Loach 1975:82).

In 1840 the population of the peninsula was approximately one thousand, but once the Hansen’s disease settlement was established in the 1870s only forty nonpatients lived there (Fortunato de Loach 1975: 82). With the much diminished population, agricultural production throughout the peninsula declined. The superintendent of the Hansen’s disease settlement noted that the residents of the peninsula were not interested in agricultural activities and that the majority of the food consumed by the settlement came from the neighboring valleys of Wailau, Pelekunu, and Halawa (Hawaii Board of Health 1886: cxxviii).

Although patients have lived throughout the peninsula since the settlement was established, an 1895 map drawn by Monsarrat depicts no structures or roads in the research area. Similarly, no structures or roads are shown on a map drawn by Wall in 1905. A United States Geological Survey topographic map dated 1921-1922 shows at least four structures and a road in the general vicinity, but none of these were in the research area. These maps suggest that the abandoned house, the cement foundations (features 37 and 38), and features 12 and 13 were not occupied until after the early 1920s. Frank notes that in the 1930s several patients had beach houses in the general area (1937: 191). There is no mention of agricultural activities, and it is assumed that the intensive field system dates to the mid-nineteenth century and not to the twentieth-century occupation of these beach houses.

Conclusions

Dryland field systems in Hawai‘i have traditionally been interpreted as predominately prehistoric phenomena (Rosendahl 1972; Schilt 1984; Clark and Kirch 1983). Kirch suggests that the three main dryland field systems on Hawai‘i island began to develop around A.D. 1300 and that by A.D. 1600 limits to their expansion were experienced (1990:333-334). From A.D. 1600 to A.D. 1800 further intensification took place, and increasingly smaller plots were created. The impetus for this phase of intensification has been attributed to prehistoric population pressure and the escalating demands of stratified political organization (Kirch 1985:233; Kirch 1990:334; Hommon 1986:65).

Although Kirch’s outline of prehistoric dryland intensification may be substantially correct, more attention should be given to how a later

phase of historic intensification affected the surviving archaeological remains of field systems. Clark notes that portions of the Waimea-Kawaihae field system were used during the historic period (1986, 1983: 50), and Kelly notes the same for the Kona field system (1983). The archaeological and ethnohistorical evidence from Kalaupapa suggests that the intensive field system found throughout the peninsula was not primarily a prehistoric phenomenon but was extensively elaborated during the historic period. In the research region of the peninsula, there is a high density of agricultural alignments associated with early historic shelters and residential features containing a single occupational component. Written descriptions indicate that agricultural production on Kalaupapa peaked in the 1850s or 1860s, and by the 1870s many of the fields were lying fallow and food supplies were imported from other parts of Moloka‘i.

The nineteenth-century agricultural intensification at Kalaupapa was affected by massive postcontact depopulation, the introduction of free-ranging animals, and Hawai‘i’s entrance into the Pacific economy. The postcontact depopulation of Kalaupapa and other parts of Hawai‘i decreased the number of farmers and created an economic environment where the remaining farmers were encouraged to maximize their productivity through agricultural intensification. The practice of enclosing a relatively small area was probably a strategy used to protect crops from free-ranging animals. Although these two factors were influential in the historic intensification, a more significant stimulus was Hawai‘i’s entrance into the Pacific economy. Initially Hawaiian produce was grown to provision visiting ships. It was not until the 1840s that exportation became profitable and agricultural productivity increased significantly. Due to the relatively smaller number of farmers, agricultural productivity never reached precontact levels, but certain regions throughout Hawai‘i were growing large quantities of produce. Recognizing the reasons for a historic-period episode of agricultural intensification creates alternatives to the often-cited interpretation that the extensive surface remains of dryland field systems throughout Hawai‘i are solely the result of prehistoric population pressure and the escalating demands imposed by stratified political organization.

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THE CAVE OF REFUGE, HAKUMA HORST, KALAPANA, PUNA DISTRICT, HAWAIʻI

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William R. Halliday, and Marlin Spike Werner
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The Cave of Refuge is part of a once-larger lava tube system formed on the southern flank of the Kilauea volcano 10,000 to 1500 B.P. It was truncated by two NE-SW striking high-angle faults along which a block less than 200 m wide, the Hakuma Horst, in Kalapana (Puna District, Island of Hawaiʻi) was lifted up. The cave system, 206 m long, consists of three tributary arms, the junction of which has largely collapsed. Into the breakdown a narrow entrance passage, 11 m long, has been built that allowed defense of the cave against intruders. Another, larger breakdown pit gives access to a small hall that probably has been used for dwelling. The system has six openings, one of which is in the fault face overlooking the Pacific. The system may soon be overrun by the ongoing Puʻu ʻOʻo-Kupaianaha eruption and should be studied archaeologically in detail before it is lost forever.

Introduction

The southern flank of the Kilauea volcano, Island of Hawaiʻi, is slipping seaward along roughly NE-SW striking lystric faults. This slipping is accompanied by frequent earthquakes (Klein et al. 1987). At the surface these faults are steep. At the base of the volcanic edifice, 5 to 10 km below the surface, these faults become subhorizontal. The individual wedge-shaped blocks slip at different rates, often pressing upward smaller blocks between them, forming small tectonic horsts. One of these, the Hakuma Horst, west of the site of Kalapana, District of Puna, rose up to 10 m above the adjacent landward block. The Kupahuʻa Cliff is the landward fault face of the horst; seaward it forms a steep coastal

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cliff. The horst is now threatened with inundation by the lava of the current eruption.

Kilauea volcano started erupting through its east rift on 3 January 1983 (Wolfe et al. 1987). In the initial phase of the eruption, forty-seven fountaining events built up a cinder and spatter cone, Puʻu ʻOʻo, 250 m high. In July 1986 the eruption center shifted 3 km to the east when a new fissure opened. This new eruption center (Kupaianaha) built up a low shield and produced large amounts of lava. Much of the lava flow occurred through tubes. By November 1986 the lava reached the ocean for the first time, 11 km south of the erupting rift. In the following years the lava created new land seaward and destroyed houses, roads, and vegetation in a large area. Periods of quiet tube flow were interrupted by periods of more pronounced surface flow. In March 1990 the lava made an excursion eastward and was deflected toward Kalapana by the Hakuma Horst. The new layer of pahoehoe lava reduced the height of Kupahuʻa Cliff to 1 to 6 m. In August 1990 Kalapana's famous black sand beach was covered by lava and its palms were burnt. Until late summer 1991 tube flow dominated again. Then the deeply buried tube system failed and a new phase of surface flow started.

This sequence of events shows that sooner or later the surface of the Hakuma Horst will be covered. In many places the new lava has already reached the brink of its landward fault. To document caves on the horst, in summer 1991 members of the Hawaiʻi Speleological Survey mapped the only generally known cave there, the Cave of Refuge (Hakuma Cave).

Two earlier descriptions of the main section of the cave have been published. In 1952 Kekahuna and Kelsey gave an account of the cave visited by them on 6 July 1951. Kekahuna (1951) also produced a sketch map of the cave below the fortified entrance that also records some interesting surface features. The map gives measured distances (not drawn to scale) but is wrong concerning directions, which apparently were only estimated and not measured. A second brief description was written by Hudson (cited in Barrera and Barrère 1971, their site 50-HA-A22-1) who listed the cave as site 182. Hudson and Barrera and Barrère concluded that the cave lacked archaeological interest. On the basis of additional spelean findings, however, we disagree.

Description of Cave

The cave is marked on many standard maps of Hawaiʻi. Because of dense bushes, its entrance is nevertheless difficult to find, and we in fact needed two trips to locate it. About 400 m from the eastern end of the

horst, the cliff is still relatively high. One can ascend the cliff over a talus cone (which actually marks the collapsed end of the cave). The main entrance to the system is the well-known fortified entrance to the Cave of Refuge (figures 1, 2). We found the pole of a fallen civil defense marker here. As reported by Barrera and Barrère (1971), the sign originally marked the cave as a shelter for 250 persons against nuclear fallout. It was erected after 1951, and the map of Kekahuna describes a hole, lined with small rocks "where an idol was placed," which may have been used to set the pole.

The entrance (Figure 2) is a narrow passage completely walled and roofed artificially, leading downslope toward the ocean *(makai).* Only one person can pass crouched at a time. The passage has two bends preventing penetration of light. An intruder therefore would crawl down into a gloomy darkness, not being able to see ahead but knowing that the defender could easily see him or her against the dim light of the passage. To enter the first stretch of the passage, which is 4.3 m long, 0.6 m wide, and 1.25 high, one has to lower oneself into the rectangular entrance pit, which is 0.6 m wide and 1.2 m long. Beyond, the roof is formed by elongated blocks covering the passage like beams. After the first bend the passage opens up a little until, after 3.1 m, a massive pillar forms the right-hand wall. At the pillar the cross section measures 0.7 x 1.6 m. A huge stone plate, 1.1 m wide, forms the roof above the pillar. Possibly the pillar and the roof plate are pieces of natural breakdown artfully incorporated into the entrance construction. Behind the pillar the passage opens up just enough to give a defender room to attack an intruder. The constructed passage continues for another 3.8 m, now under the original lava tube roof. Near the ceiling the wall has been destroyed. Two holes have been opened to give access to a void behind the well-stacked walls. At the end of the passage, one steps down and out of a kind of doorway into the Hall of Refuge. Its floor is 3.1 m below the lip of the entrance pit.

Here the lava tube becomes fully visible for the first time. It is sealed from side to side by an artificial wall. Near the central doorway this wall is well preserved. Facing the construction one notices that the right-hand side is stabilized near the floor by two large buttress rocks standing on their edges perpendicular to the wall. On the left-hand side, in the lower part of the wall, large blocks of the original breakdown have been incorporated. On both sides of the tube the wall is partly destroyed, and two holes have been opened connecting with the holes at the ceiling in the last stretch of the passage. The western hole leads into a cavity that receives light through the blocks of the entrance passage. Its right-hand wall is also made from stacked lava plates.

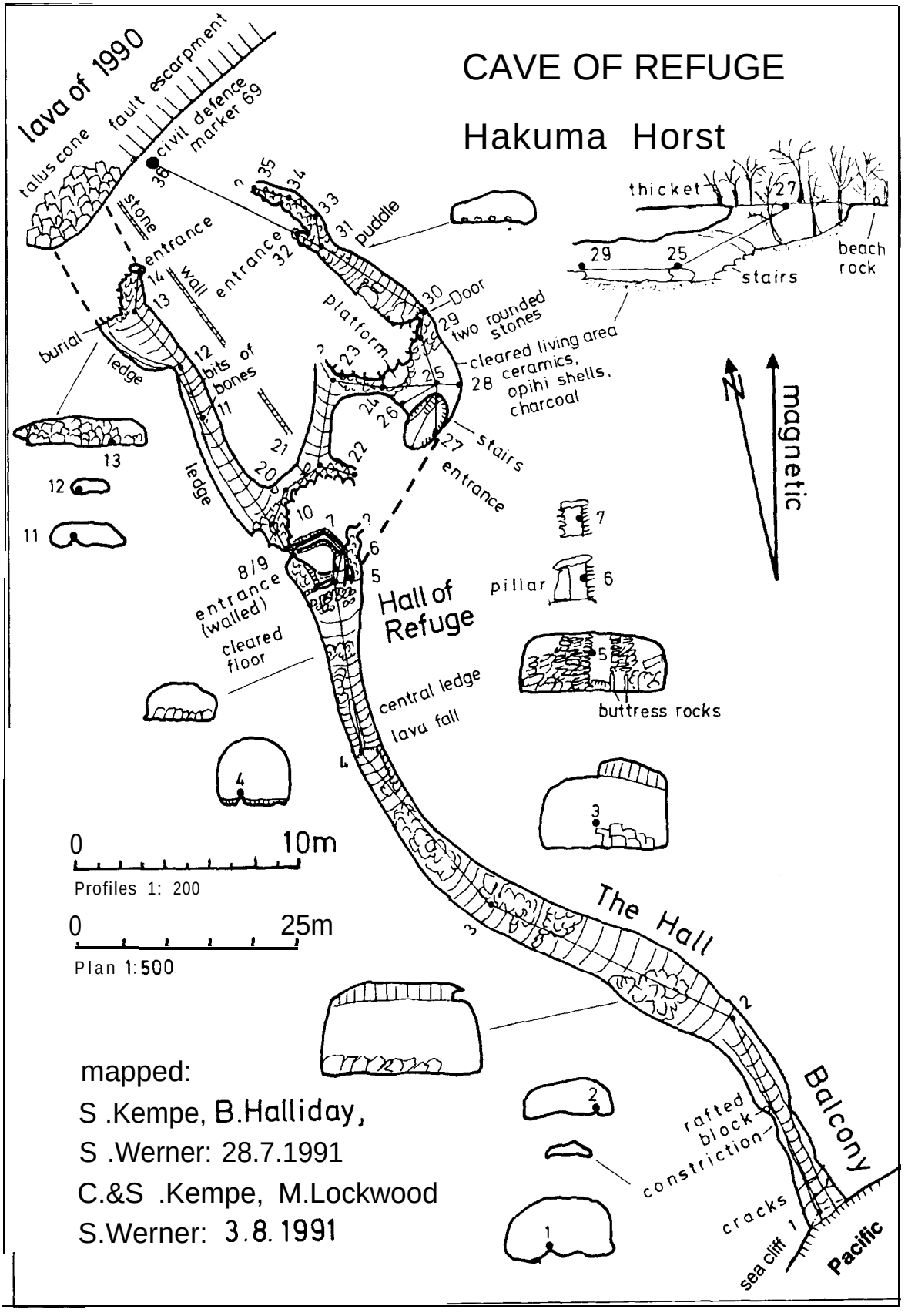

FIGURE 1. **Map of the Cave of Refuge, Kalapana, Puna District, Island of Hawai'i.**

FIGURE 2. **C. Ketz-Kempe at the fortified entrance to the Cave of Refuge. Note the nicely stacked walls and the roofing with larger slabs of lava.**

Thus, this hole and the entrance corridor appear to be parted only artificially by a large, elongated pillar with sides of carefully stacked rocks and probably backfilled with loose rubble. The eastern hole in the wall leads over loose stones down into natural breakdown that contains discarded *'opihi* (limpet) shells.

The Hall of Refuge had been cleared of rocks by the builders of the fortification. Now components of the partly destroyed wall litter the floor. The tube itself is quite large, 6.4 m wide at the artificial wall and 2.35 m high. The tube continues *makai* but soon narrows to 3.1 m, and the ceiling drops to 1.65 m. The builders of the fortification made no attempt to move rocks found here, making visits to the lower tube awkward. Given the effort required to construct the entrance, this obstruction comes somewhat as a surprise and may indicate that the population to be protected was not more than ten or twenty people at a time. For that number of persons the Hall of Refuge might have been sufficient as a hideout. However, the hall does not show signs of any extended use. Apart from a few *'opihi* shells, not much litter is noticeable. No fireplaces were set, and the floor was not filled with sand to make walking or sleeping more comfortable.

Makai of the constriction the tube opens up again. One notices a lava

"island" on the floor. The pahoehoe flows on either side soon encounter a 0.4 m-high lava fall. The tunnel gently bends eastward, and one enters a large hall up to 7.2 m wide and roughly 4 m high. No signs of human occupancy are noticeable apart from a few bits of charcoal. On the walls mineral deposits occur, and at places breakdown blocks litter the floor. The pahoehoe of the floor is granular. At the end of the hall, daylight is reflected off the wet lava. Through a constriction, 2 m wide and 0.5 m high (a tube-in-tube structure), one crawls out into the Balcony Passage (12 m long) high above crashing waves. Two cracks parallel to the seaward cliff cut across the tube. The Kekahuna map gives a length of 13 m for the Balcony Passage. Because we cannot reconstruct exactly where Kekahuna's stations were placed, the recession of the sea cliff cannot be precisely evaluated, but certainly it did not measure more than a meter within the last forty years. A few ferns grow inside the tube. It is a perfect spot for a caving picnic: the arch of the tube frames a semicircular piece of the Pacific and its eternal motion of waves (Figure 3). No land is encountered south of here until the Antarctic continent.

Climbing out of the constructed entrance, we asked ourselves how far the tube continues upslope *(mauka)* and tested a tight vertical hole just past the entrance pit. After lowering ourselves down among some siz-

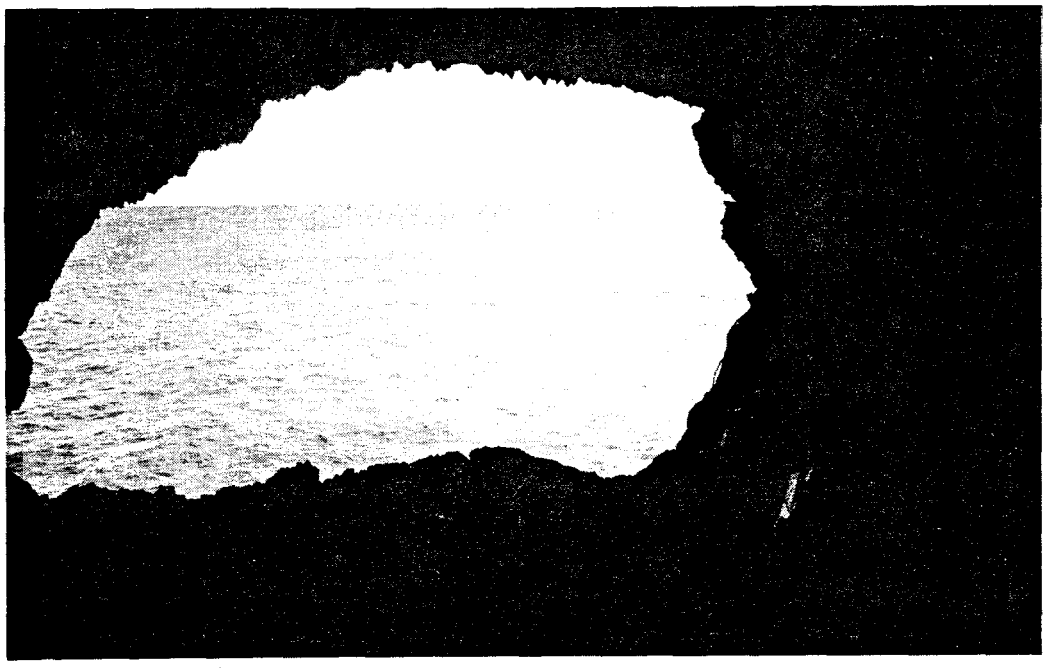

FIGURE 3. **The vista from the Balcony Passage, an opening in the sea cliff at the lower end of the cave.**

able breakdown blocks, we entered--as expected--the *mauka* continuation of the tube. Unexpectedly we discovered a crawl leading NE with breakdown on its right-hand side and a tube wall on its left-hand side. First we followed the *mauka* tube, which soon decreases from standing to crawling height. The floor is formed by relatively smooth pahoehoe. A few bits of bones were noticed on the otherwise rather clean floor. After a constriction the tube widens, and the ledge on the left-hand side becomes more prominent (Figure 4). After 30 m the tube ends in complete collapse. In the NW corner more bits of weathered or burnt bones were noted, partly underneath loose rocks, partly littered on the floor. Probably this was the site of a burial that has been looted. Dim daylight filters down among the blocks on the right-hand side of the breakdown, and the cave can be left through a narrow hole hidden in bushes and hard to find from the surface.

Next, we followed the crawl that leads around the entrance breakdown cone. *'Opihi* shells can be seen among the blocks. After 5 m an intact tube is encountered that can be followed for 10 m before it ends again in breakdown. To the right a crawl has been opened that leads upward on breakdown. From here a lighted hall at the northern end of

FIGURE 4. The westernmost of the three tributary branches in the *mauka* section of the cave. Note the large width but low ceiling of the passage. To the right is a lava ledge.

a breakdown pit is entered. It shows many signs of human occupation. Five to six steps have been set to facilitate access to the hall. Stones were removed from the floor. In the back a rough (sleeping?) platform has been erected. The floor *is* littered with charcoal, small *'opihi* shells, and a few pieces of broken ceramics. The cave apparently served as a dwelling well into the last century. The entrance itself is overgrown with bushes, and it was almost impossible to get out of it. This growth is the reason why we had not noticed the entrance previously. It also protected this part of the cave from the occasional visitor to the main section of the Cave of Refuge. The Kekahuna map shows this entrance ("B2 = women's working cave"), and Kekahuna and Kelsey wrote "an open cave mouth . . . was also used and connects with one of the lesser passages" (1952), but apparently they did not visit the northern passages themselves. Marlin Spike Werner crawled under the bushes toward the entrance pit and discovered a large, rounded beach rock in front of the pit. Two more beach rocks (20 to 40 cm in diameter) were found in the back of the cave. To the north of the hall, breakdown originally closed the tube, but a hole had been opened artificially (termed "Door" on the map). It may have served as an escape route or simply to provide access to the tube beyond where one could collect drinking water with calabashes. The tube starts out comfortably in size and narrows down after 15 m, when breakdown is encountered. To the left, another entrance to the system was found. To the right, the tube ends after 10 m in impassable breakdown. The entrance conveniently brings one back within 20 m of the landward fault scarp.

General Considerations

The total mapped length of the system is 206 m. The trunk section below the fortified entrance is 96 m long (Kekahuna's measurements add up to 104 m). The system undertunnels the width of the tectonic horst almost completely. No further faults are found within this part of the horst, but a few cracks cross the tube in places. The cave is older than the horst. According to Holcomb (1987), the lava of the Hakuma Horst belongs to flows of the age group 10,000 to 1500 years B.P. The tube is therefore one of the oldest caves presently known on Kilauea (Kempe and Ketz-Kempe 1993). Apparently the lava tube system started *mauka* with three smaller tubes (stations 35 to 27, stations 23 to 22, and stations 14 to 10 in Figure 1) that then joined to form the *makai* part of the Cave of Refuge, much larger in size than any of the upper arms. At the junction of the tributary arms the cave collapsed, forming

a complex and breakdown-dominated section. Including the Balcony at the cliff face, the cave has six entrances, five of which are caused by collapse of roof sections.

On the surface several stone walls and stone piles show that the area was intensively used in former times. Much of the area is thickly overgrown with bush, part of which was burnt when the approaching lava ignited the vegetation in 1990. The ashes of this fire sustained a thick undergrowth of plants in 1991, hiding any detailed surface structure in the vicinity of the cave system. When thrashing around in this vegetation, Werner found a surface (tumulus) cave, 7 m long, just 5 m from the Cave of Refuge entrance. It may have served also as a temporary shelter since *ʻopihi* shells litter its floor. This little cave ("B1 = women's working cave") was already noticed and sketched by Kekahuna (1951). Kekahuna also sketched some of the stone walls adjacent to the entrance area including a paved walkway, 1 m wide, leading to B1 from the east, now completely overgrown. Kekahuna also described some features of historic interest below Kupahuʻa Cliff that are now overrun by lava. These include four reclining coconut trees *(niu moe)* reportedly pulled down by Queen Emma (two), Ululane (wife of Governor John T. Baker), and Mrs. Kaʻimiʻola (wife of John Kanoelehua Kalehualoa, who owned one of the lots immediately adjacent to the cliff below the cave). He also mentioned a "bathing-spring, laboriously hewn from the hard pahoehoe lava that partially covers the land." It is conceivable that this spring was fed by groundwater conducted by the *mauka* extensions of the Hakuma cave system downfaulted at Kupahuʻa Cliff.

We think the Hakuma system is of major archaeological interest. The fortified entrance should be documented in detail, and the hall, conveniently accessible by steps in the breakdown pit, should be excavated before the Kupaianaha eruption covers this ancient Hawaiian site.

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EDITOR'S FORUM

A VIEW TOWARD SCHOOL/COMMUNITY-BASED MANAGEMENT: PERSPECTIVES OF PUBLIC SCHOOL PRINCIPALS IN AMERICAN SAMOA

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The past few years have witnessed increasing efforts to upgrade the quality of education in American Samoa's schools. In particular, efforts to increase both teachers' and administrators' competence have resulted in more rigorous standards for certification (Freese 1983). As an example, to attain (as well as retain) a principalship, a master's degree is now required. Consequently, growing numbers of Samoan educators are traveling to U.S. colleges and universities to extend their education and training and meet new certification requirements. Along with the degrees earned, they bring back with them the influence of Western ideas, education, and values--albeit in varying ways and degrees. With broadened perspectives and increased knowledge of educational issues and trends, many educators have become increasingly critical of American Samoa's highly centralized educational system. Not surprisingly, the concept of school/community-based management (SCBM), an innovative approach to school organization and management, has sparked the interest of many of these educators. Representing a welcome change from the current top-down and highly restrictive administrative structure of American Samoa's schools, SCBM has generated enthusiasm among both teachers and principals. Nonetheless, there is concern that conditions in Samoa may not be conducive to implementation of SCBM at the present time. The objective of this study is to describe and interpret education- and culture-related factors that might

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have a bearing on the possibility for successful implementation of this alternative approach to school organization and management.

While this investigation represents a first step in a much needed feasibility study, the data obtained also provide a picture of an important, previously undocumented segment of Samoan culture: school life. Although Samoan culture has captured the interest of numerous social scientists, relatively little has been written about Samoa's educational system. For example, there is little in the literature about the relationship between Samoan culture and education, the organization and management of Samoa's schools, the level of education and training of its teachers, or the views and attitudes held by its educators.

The selection of school principals as the focal group for this exploratory study was based on several considerations. First, there is a considerable body of evidence that identifies the school principal as the key figure in making and maintaining effective schools and a significant figure in implementing change. Second, the more rigorous standards for certification of principals has resulted in growing numbers of American Samoan educators returning to school for advanced degrees, the vast majority of them attending colleges and universities in the United States. Shaped by Samoan culture and tradition, yet influenced by Western ideas and education, these administrators possess the unique ability to analyze existing educational conditions in American Samoa and contemplate the potential for change in light of their own culture.

The following research questions were used to guide this investigation:

- To what extent do principals in American Samoa believe that teacher involvement in school management is important to student achievement?
- What perceptions do Samoan principals have about teachers' knowledge and skills? How accurate are their perceptions?
- To what extent do Samoan principals have authority to make decisions affecting their schools?
- To what extent do Samoan teachers participate in key decision-making areas?
- Is there a correlation between the extent to which teachers participate in school management and principals' perceptions of (a) the importance of teacher involvement, (b) teachers' abilities, and (c) their own decision-making authority?
- Can linkages be identified between background characteristics of principals, such as gender, educational background, prior teach-

ing, and administrative experience, and their perceptions of the importance of teacher participation in school management?

- Are there aspects of Samoan culture that may have a bearing on the potential for successful implementation of SCBM?

School/Community-Based Management: Concepts and Assumptions

School/community-based management may be defined as a democratic system that enables a school's community, comprising the principal, teachers, staff, parents, students, and other interested members of the community, to actively and directly shape the quality of education offered its students. SCBM is both an organizational structure that shifts authority from a centralized agency or department to local schools and an ongoing process that changes traditional roles and relationships within a school and between a school and its community. Underlying this shift in the educational management process is the belief that the education of students is best served when decisions affecting any given school are made by the people that are most directly affected by those decisions. As conceptualized in SCBM theory, each school is expected to determine its own organizational structure for decision making, seeking the involvement of all members of the school's community or, at least, representatives of the various groups in the school's community. Inherent in SCBM is the concept of shared decision making, a process in which members of the school community collaborate in identifying problems, defining goals, formulating policy, shaping direction, and ensuring implementation. Although numerous factors--both complex and diverse--must be present to accomplish this cooperative approach to school decision making, one factor in particular has proven to be essential: an environment in which members of the school community freely interact with one another openly, candidly, and with mutual respect. (For additional information regarding SCBM, the interested reader can refer to Cistone 1989, Cooper 1989, and Lindquist and Mauriel 1989.)

Under SCBM, the principalship takes on broader and more complex responsibilities, requiring new skills as well as new attitudes. As stated in a recent report, principals

> must understand change as well as [be able to] manage change. They must [be able to] build a group vision, develop quality educational programs, provide a positive instructional environ-

> ment, apply evaluation processes, analyze and interpret outcomes, and maximize human resources . . . all of this requires more than knowledge. It requires leadership; not ordinary leadership but astute leadership. (National Commission for the Principalship 1990:11)

The successful implementation of SCBM hinges on a number of key factors, not the least of which is the receptivity of the state and district leadership (i.e., the central office) to the concept of shared decision making and the degree to which they are willing to permit schools to move away from traditional top-down organizational structures. Equally important to the successful implementation of SCBM is the commitment of the school principal. The role of the principal as both school leader and change agent has been a persistent theme in research on school effectiveness (Berman and McLaughlin 1980; Bossert et al. 1982; Hallinger et al. 1983; Loucks et al. 1982; Wilson and Firestone 1987). Although the precise extent to which principals are the causal factor in school change is not known, considerable evidence suggests they play a significant part. Indeed, the very decision to adopt a particular practice or innovation often lies in the hands of these administrators (Clark et al. 1984).

Teacher participation in school decision making is often largely determined by the extent to which principals are willing to include teachers in the decision-making process. Chapman's (1988) research on teachers and decision making provides confirmatory evidence that the principal is of fundamental importance in determining the extent, nature, and pattern of teacher participation in schools. Yet little is known about principals' attitudes toward sharing their decision-making authority with teachers. Whereas teachers may view SCBM as a potential vehicle for gaining greater professional control (Futrell 1988), principals may fear that increased teacher participation will erode traditional realms of administrative authority (Geisert 1988). Although few public school principals would adhere to the view that teachers should not participate in school decision making, it remains unclear in which decision domains principals would be willing to allocate authority to them. Equally unclear are the factors that might predispose principals to include teachers in or exclude them from the decision-making process.

One such category of factors involves principals' perceptions. We have come to realize that the way we think about things often influences their ultimate reality (Denemark 1985). The way in which we

think about teachers often influences our dispositions and actions toward them and, consequently, their status. It follows that principals' perceptions of teachers' knowledge and skills in key decision-making areas may influence the extent to which they involve them in the decision-making process. It is not unreasonable to assume that principals who have confidence in teachers' knowledge and skills will be more inclined to engage them in school management than principals with negative perceptions of teachers' abilities.

Another potentially influential factor is principals' perceptions of the *importance* of teacher involvement in school management. Human nature and general experience have shown that we work harder to achieve the goals we believe are truly important. It follows that principals who view teacher involvement as a positive link to student achievement will be more inclined to engage teachers in school decision making than principals with negative views of teacher involvement.

In a related vein, one might also expect principals' perceptions of their own decision-making authority to influence the extent to which they engage teachers in school decisions. For example, principals who perceive themselves as having restricted decision-making authority may be reluctant to share with teachers what limited authority they do have. If it is perceived that particular kinds of decisions are generally made at higher administrative levels, then the issue itself of teacher involvement in that area becomes muted.

Procedure

Sample

A questionnaire, referred to as the Administrator Survey, was distributed to all twenty-six public elementary and secondary school principals in Tutuila, American Samoa. Tutuila is the largest of the seven islands constituting American Samoa, which lies about 2,300 miles southwest of Hawaii and 1,600 miles northeast of New Zealand. Being the largest island, Tutuila supports nearly all the territory's population and is the center of most commercial and government activities. Schools in American Samoa are operated as a single school district, with the Department of Education serving as both the state and the local education agency.

Of Tutuila's twenty-six public school principals, twenty-three returned completed questionnaires, providing an overall response rate of 88 percent. Select demographic data are shown in Table 1.

TABLE 1. **Demographic Data (*N* = 23)**

	Number of Respondents	Percentage
Sex		
Female	12	52
Male	11	48
Educational background		
Bachelor's degree	7	30
Master's degree	13	57
Doctorate	1	4
Not indicated	2	9
School level		
Elementary	18	78
Secondary	4	17
Not indicated	1	4
Teaching experience		
4 or fewer years	5	22
5 to 10 years	14	61
11 or more years	4	17
Mean = 10.3 years		
Administrative experience		
4 or fewer years	5	22
5 to 10 years	13	57
11 or more years	4	17
Not indicated	1	4
Mean = 7.1 years		
School size		
Schools ranged in faculty size from 8 to 138 teachers, with the average being approximately 41 teachers.		

Data Collection

Data were collected through both formal and informal methods. Informally, information was obtained through interviews and discussions with a number of American Samoan educators enrolled in the College of Education at the University of Hawaii, including teachers, principals, and "central office" coordinators. Interviews were also conducted with University of Hawaii faculty who teach courses in American

Samoa as well as with several directors and evaluators of special programs conducted there.

Data were collected formally via a 154-item questionnaire developed by the author, which was administered in May 1989. The questionnaire had five sections. The first focused on demographic information. Sections two through five focused on principals' perceptions of the following: importance of teacher involvement in key decision-making areas, extent of teacher involvement in key decision-making areas, teachers' knowledge and skills with respect to key decision-making areas, and principals' own decision-making authority.

The questions reference eleven categories generally thought to reflect the key decision-making areas affecting school life: curriculum development, textbook selection, student testing and evaluation, student promotion and retention, standards for student behavior, student placement, allocation of funds and discretion over expenditures, staff development, evaluation of teacher performance, selection of new faculty, and selection of new administrators. Each section is structured on Likert-type scales with responses coded so that higher numerical values represent more positive ratings. Respondents were also requested to provide written comments to each section as well as to provide recommendations for making their schools more effective. A panel of elementary and secondary public and private school principals reviewed the questionnaire to ensure its comprehensiveness and relevance, that is, the extent to which the decision-making categories included in the instrument encompassed those necessary to running a school.

Results and Discussion

Principals' Perceptions of the Importance of Teacher Involvement in the Decision-Making Process

An overall score of 5.4 (SD = 1.4) was obtained, indicative of a general perception among Samoan principals that teacher involvement in school management and shared decision making is "important." Still, there were no decision-making areas in which principals, as a whole, perceived teacher involvement to be "essential" or even "highly important" to student achievement. The areas rated highest in terms of importance of teacher involvement included curriculum development, student discipline, and staff development, while the areas viewed as least important for teacher involvement included school allocation of

TABLE 2. **Principals' Perceptions of the Importance to Student Achievement of Teacher Participation in Eleven Decision-Making Areas (*N* = 23)**

Area of Decision Making	Mean	SD
Curriculum development	6.8	.89
Standards for student behavior	6.3	.16
Staff development	6.1	.96
Student placement	5.9	.42
Textbook selection	5.8	.95
Student testing and evaluation	5.7	.64
Student promotion and retention	5.6	.99
Evaluation of teacher performance	5.3	1.02
Allocation of funds and discretion over expenditures	4.5	1.20
Selection of new faculty	3.4	.45
Selection of new administrators	3.3	.31
Overall mean	5.4	1.40

Scale values: 1 = no importance; 2 = slightly important; 3 = somewhat important; 4 = moderately important; 5 = important; 6 = quite important; 7 = highly important; 8 = essential to student achievement.

funds and discretion over expenditures, selection of new faculty, and selection of new administrators. In general, principals were more supportive of teacher participation in areas they perceived as most directly affecting students. Table 2 presents a breakdown of principals' perceptions with respect to each of the eleven key decision-making areas.

To put these findings in some perspective, it is helpful to know how principals elsewhere view similar issues. To date, however, there is only one known study that provides such comparative data (Ganopole 1991). One year prior to the implementation of SCBM in Hawaii, Ganopole conducted a similar study involving 139 public and 61 private school principals from all islands in the state of Hawaii (representing 59 percent of the total number of public school principals and 47 percent of the total number of private school principals, excluding private preschools, in the state). The results showed Hawaii's public school principals to be significantly more supportive of teacher involvement in school management and shared decision making than their Samoan counterparts (t = 3.37, p < .002). Overall, Hawaii's public school principals view teacher participation in decision making as "quite important," giving the highest ratings to the areas of curriculum development, textbook

selection, and student discipline. Staff development was rated fourth, while allocation of funds and discretion over expenditures was rated sixth. Of the eleven key decision-making categories assessed, the areas viewed as least important for teacher involvement were evaluation of teacher performance, selection of new faculty, and selection of new administrators. Although Samoan principals are, in general, less supportive of teacher involvement in school decision making than their Hawaii counterparts, there is considerable similarity between the two populations with respect to the decision-making categories they view as important in terms of teacher involvement.

It should be noted that although SCBM had not as yet been incorporated in Hawaii's schools at the time the survey was conducted, considerable groundwork had already been laid in preparation for its scheduled implementation in several schools the following year. Indeed, the concept of SCBM had been discussed in Hawaii's educational circles as early as 1987. In preparation for this major move, numerous plenary sessions involving district superintendents and principals took place throughout the state. Consultants were brought in to discuss concepts and issues related to SCBM and to share their experience with implementation as it occurred in their states and school districts. In short, public school principals were immersed in school-based-management dialogue and materials. As a result, these public school principals may have developed a greater awareness of the issues surrounding SCBM as well as a greater appreciation for the importance of teacher involvement in school management. Had the survey been conducted earlier, say in 1987, their responses might have been similar to those currently found among Samoan principals; there is evidence to suggest that this may be the case. Survey results from the Hawaii sample of private school principals (private schools were not subjected to the state push toward SCBM) were surprisingly similar to those obtained from Samoan principals with respect to their perceptions of the importance of teacher involvement. These findings suggest the necessity for ensuring that principals as well as other relevant groups understand the concepts underlying school-based management and appreciate the importance of teacher involvement in school decisions.

Principals' Perceptions of Teachers' Knowledge and Skills

Survey results indicate a general lack of confidence among Samoa's principals with respect to teachers' knowledge and skills (M = 3.8, SD = .56) (Table 3). In addition to the low means scores that were

obtained, principals' written comments on the questionnaire made it abundantly clear that they were reluctant to extend decision-making authority to teachers who, in the words of one principal, "are inadequately prepared to carry out the responsibilities they already have." These findings were not altogether surprising because the majority of teachers in American Samoa do not meet generally accepted (American or the recently mandated American Samoan) standards for teacher certification. For example, large numbers of elementary teachers do not have bachelor's degrees; many do not have even a two-year degree from a community college. For secondary teachers, the problem is somewhat different. Although as many as 90 percent have bachelor's degrees, the majority have no background in educational philosophy, issues, or methods. Yet efforts to upgrade teachers' skills have been ongoing for a number of years. For example, since 1980 the federally funded Territorial Teacher Training Assistance Program, coordinated through the College of Education at the University of Hawaii, has provided in-service training to resident teachers in American Samoa. A primary function of this program has been to provide coursework applicable to Samoa's teacher certification program. Other federally funded programs, such as the Multicultural Inservice Center and the National Dissemination Network, also provide in-service training. There are also a variety of "in

TABLE 3. **Principals' Perceptions of Teachers' Knowledge and Skills in Key Decision-Making Areas (*N* = 23)**

Area of Decision Making	Mean	SD
Student placement	4.6	.83
Standards for student behavior	4.6	.24
Student promotion and retention	4.2	.42
Curriculum development	4.0	.73
Student testing and evaluation	3.9	.79
Staff development	3.7	.92
Evaluation of teacher performance	3.7	.39
Textbook selection	3.3	.61
Allocation of funds and discretion over expenditures	3.2	1.04
Selection of new faculty	3.1	1.37
Selection of new administrators	2.9	1.47
Overall mean	3.8	.56

Scale values: 1 = strongly disagree; 2 = disagree; 3 = somewhat disagree; 4 = somewhat agree; 5 = agree; 6 = strongly agree.

house" staff development programs provided by the American Samoa Department of Education. However, in spite of these efforts, there remains a critical need for better-trained teachers.

Ironically, what innovative instructional practices teachers do learn as a result of these programs are often not implemented in their classrooms. Some principals attribute this to the general inflexibility of the central office to support teacher-initiated changes, which means, at the school level, that teachers are unable to obtain the books or other instructional materials needed to implement desired changes. On the other hand, conversations with several teachers suggest that principals are often equally unsupportive of or, at best, indifferent to teachers' efforts to bring about change. Although some teachers say they try to implement new ideas wherever possible, their efforts are usually short lived in the absence of support or encouragement. It appears that in spite of ongoing efforts to upgrade teachers' knowledge and skills, little effort is made by the central office or the school principal to support teachers' efforts to apply new knowledge and skills in the classroom.

Principals' Perceptions of the Extent of Their Decision-Making Authority

On average, the responses to the scaled items in this section of the survey instrument suggest that principals perceive themselves as having "moderate" (M = 4.2, SD = .88) decision-making authority for their schools. More specifically, principals report having "very extensive" decision-making authority in the area of student discipline and "extensive" decision-making authority in student placement, student promotion and retention, and staff development. However, in the remaining seven categories, principals' perceptions of their decision-making authority ranged from "moderate" to "none" (Table 4).

An analysis of the comments principals made on the questionnaire coupled with data obtained through interviews and discussions with Samoan principals, teachers, and program directors provides a more comprehensive portrayal of the decision-making process in American Samoa's schools and the extent of principals' decision-making authority. For example, all major decisions pertaining to curriculum development are made at the central office. Essentially, decisions are made by curriculum committees composed of subject-matter specialists for each of the major subject areas taught. Some effort is made to obtain input from the schools. To this end, each school is visited by a curriculum-committee coordinator, who meets with teachers to discuss curricular issues.

TABLE 4. **Principals' Perceptions of Their Decision-Making Authority (*N* = 23)**

Area of Decision Making	Mean	SD
Standards for student behavior	6.1	.81
Student placement	5.9	1.01
Student promotion and retention	5.8	1.04
Staff development	5.8	1.43
Evaluation of teacher performance	4.7	1.47
Curriculum development	4.6	1.52
Allocation of funds and discretion over expenditures	3.7	2.20
Student testing and evaluation	3.6	1.91
Textbook selection	2.8	.49
Selection of new faculty	2.4	.99
Selection of new administrators	1.8	1.56
Overall mean	4.2	.88

Scale values: 1 = no authority; 2 = very little; 3 = little; 4 = moderate; 5 = extensive; 6 = very extensive; 7 = complete authority.

Principals say these meetings give teachers a good opportunity for providing input into curricular decisions. However, principals see themselves as being only peripherally involved in such decisions and go so far as to say their views in these matters are "ignored." In spite of limited input, they are given to understand that once the decisions are made, they are not free to deviate from the prescribed curriculum. According to principals, then, teachers have more say in decisions about curriculum than they themselves do.

The fact that teachers in American Samoa have such ready access to "central office decision makers" stands in marked contrast to what sometimes occurs in schools in the United States. In a study by Blase (1990), teachers in one southeastern state described the various strategies that principals use in trying to control teachers, claiming that principals were often successful in controlling teacher influence over policy and programs by restricting teachers' access to superiors. Although the present study does not extend to an examination of control-oriented behaviors of Samoan principals, it appears that in American Samoa teacher access to superiors is largely determined by the central office rather than by the principal.

With respect to expenditures and allocation of funds, again decisions are made at the central office. Principals have virtually no budgetary

responsibilities. Although they can make requests for supplies, equipment, repairs, improvements of school facilities, or other purchases, there is no assurance that--or timetable for when--their requests will be approved. As one principal stated, "I submit my requests in 'priority order,' and after that all I can do is hope for the best."

A complaint about the inadequacy of custodial services surfaced, but principals acknowledged that the problem was only partly attributable to funding decisions. As explained during an informal discussion with several Samoan educators, some of the custodians are elderly and incapable of even minor repairs, and others are simply uncooperative. A particularly vexing aspect of the problem arises when these employees are of high rank in the village, requiring principals to be especially "delicate" in their dealings with them. Toward the end of a lively discussion focusing on school problems and politics, one member of the group wryly observed: "School management and politics go hand in hand, no matter where in the world you are. In Samoa, however, politics also means having to deal with people according to their social ranking."

With respect to teacher evaluation, principals were quick to point out that although this task falls within their "domain of responsibilities," they have no real control, because there is little recourse with inadequate teachers. Several principals expressed hope that current efforts to develop a teacher evaluation instrument would facilitate the evaluation process by providing appropriate documentation useful in making decisions about marginal or unsatisfactory teachers.

All staffing decisions are made at the central office. Central office personnel conduct interviews, make selections, and assign staff to school vacancies. Principals have neither hiring nor firing authority. The principals themselves are selected and placed in schools at the discretion of the director of education. They cannot "apply" for vacancies and have no "rights" to remain in their positions. Although they can communicate their desires to the director, many are painfully aware that they do not have the same mobility or control over their professional careers as principals in other locales.

The picture that emerges is clearly one of a highly structured, top-down educational system. The majority of decisions are made at the central office, and principals have limited influence over decisions affecting their schools. With increasing knowledge and understanding of research on school effectiveness, many principals are eager to implement new ideas. Their comments suggest a growing frustration as they find that their professional judgments are not being heard.

Perceptions of the Extent of Teacher Involvement

The results suggest that, in general, teachers participate only "occasionally" (M = 3.2, SD = .94) in school decisions (Table 5). A notable exception is curriculum development, an area in which principals say teachers are involved "more than half the time." However, principals report considerably less teacher involvement in all other decision-making areas. In the remaining decision-making areas, the extent of teacher involvement ranges from "less than half the time" (e.g., in student placement and setting standards for student behavior) to "never" (e.g., in selection of new faculty and administrators).

To provide some perspective, these findings were compared with those obtained from the Hawaii sample of public school principals referred to earlier. Again, the results showed a significant difference (t = 9.95, p < .0001) between the two groups, with Samoan principals reporting lower levels of teacher involvement in school management than their Hawaii counterparts. For example, Hawaii principals reported that teachers are involved in school decisions, on average, "more than half the time." According to these principals, teachers are "usually" involved in decisions regarding textbook selection and "often"

TABLE 5. **Principals' Perceptions of the Extent to Which Teachers Participate in Eleven Decision-Making Areas (N = 23)**

Area of Decision Making	Mean	S D
Curriculum development	5.0	1.50
Student placement	4.7	.67
Standards for student behavior	4.5	.54
Staff development	3.8	.95
Student promotion and retention	3.3	1.90
Evaluation of teacher performance	3.1	1.20
Textbook selection	3.0	1.40
Student testing and evaluation	2.7	1.40
Allocation of funds and discretion over expenditures	2.1	.68
Selection of new administrators	1.4	.10
Selection of new faculty	1.2	.20
Overall mean	3.2	.94

Scale values: 1 = never; 2 = seldom; 3 = occasionally; 4 = less than half the time; 5 = more than half the time; 6 = often; 7 = usually; 8 = always.

involved in decisions concerning curriculum development and setting standards for student discipline. In the areas of student placement, budget, and staff development, teachers are perceived to be participating "more than half the time." However, according to principals, there is less teacher involvement in decisions about student promotion and retention, student testing and evaluation, and the evaluation of teacher performance, areas in which teachers are said to participate "less than half the time." In the area of selection of new faculty, teachers participate "occasionally," but they almost "never" participate in the selection of new administrators.

Correlational Analyses

Correlational analyses were conducted to determine the relationships between principals' perceptions of (a) the importance of teacher involvement in the decision-making process, (b) teachers' knowledge and skills in key decision-making areas, and (c) their own decision-making authority, on the one hand, and the extent to which teachers in their schools are involved in key decision-making areas, on the other. The results revealed several significant relationships. First, a high correlation ($r = .53$, $p < .01$) was found between principals' perceptions of teachers' knowledge and skills and the extent of teacher involvement in key decision-making areas. These results may be interpreted as lending confirmation to the assertion that the more confident principals are about teachers' knowledge and skills, the more apt they are to include teachers in decision making. Second, a strong correlation ($r = .51$, $p < .01$) was found between principals' perceptions of their decision-making authority and the extent of teacher involvement in school decisions. In general, the more decision-making authority principals perceive themselves as having, the greater is the extent of teacher involvement in school decisions. And third, a significant relationship ($r = .44$, $p < .05$) was found between principals' perceptions of the importance of teacher involvement in school decisions and the extent of teacher participation. Although this finding tends to support the contention that teacher participation in decision making is linked to the importance principals place on teacher involvement in the decision-making process, interpretations must be drawn cautiously. Aside from the fact that correlations do not permit conclusions of a causal nature, it is important to remember that the findings are based on perceptual data. It is possible that principals' perceptions of the importance of involvement influence their

perceptions of actual participation. Put another way, principals may see what they want to see.

Clearly, for a more balanced perspective of the role of teachers in the decision-making process, data from teachers themselves are needed, Moreover, to develop a fuller understanding of the dynamics of decision making in Samoa's schools, future studies should also include the views of students, parents, and central office administrators. Although perceptual data is valuable, future studies should also include data from school-site observations. Through the use of multiple sources and methods of data collection, a more comprehensive picture will be provided.

Relationships between Background Characteristics and Perceptions of the Importance of Teacher Involvement in School Management

A nonparametric one way analysis of variance was used to examine the relationship between select background characteristics of principals and their perceptions of the importance of teacher involvement in school management and shared decision making. These background characteristics were: gender, educational background (degrees earned), number of years as a teacher prior to becoming a principal, and number of years as a school administrator.

Of the factors examined, only length of administrative experience was found to be significant: principals with fewer years of administrative experience rated the importance of teacher involvement in decision making significantly higher ($p < .05$) than did the more experienced principals. For example, principals with five to ten years of experience rated the importance of teacher involvement significantly higher than those with eleven or more years of experience, and principals with four or fewer years of experience rated the importance of teacher involvement in decision making significantly higher ($p < .05$) than either of the other two groups.

There are at least two explanations. First, because many of the less-experienced principals were also among those who had more recently completed their professional education and training, their views may reflect recent research on school effectiveness, much of which emphasizes the importance of teacher participation in school decisions. A second explanation is that the newer principals, having recently been teachers themselves, still identify closely with teachers and thus may be more sensitive to their needs than the "older" principals. It is reasonable to assume that the views of these principals reflect the combined effects of both explanations.

Cultural Characteristics: Implications for SCBM

The ethnological literature depicts Samoan culture as conservative and stable. In contrast to other Polynesian societies such as Hawaii, New Zealand Maori, the Marquesas, and the Cooks, which have retained little of their indigenous culture, the social organization in Samoa has changed little since the mid-nineteenth century, when it was first described by missionaries (Holmes 1980). Seeking to explain the relatively unchanging nature of Samoan culture, Peter Buck suggested,

> The pleasure derived from the exercise of native institutions is perhaps the most important factor that has led to the persistence of Samoan customs and helped them resist the disintegration that has taken place in other parts of Polynesia. The Samoans are thus more conservative than other branches of their race and this satisfaction with themselves and their own institutions makes them less inclined to accept the change that foreign governments consider would be of benefit to them. (1930:5)

A similar observation can be found in the Geographical Handbook Series, in which the Samoans are described as "people with such a conservative nature that . . . new elements (foreign goods, money, Christianity) have never been allowed to sweep the land with the devastating effects to be observed in some other Pacific island communities" (1943: 608). Almost three decades later, observing relatively little cultural change, Douglas Oliver commented on the unique ability of Samoans to "survive the strong impact of western civilization without changing their everyday lives" (1961:220).

Indeed, Samoans have managed to retain almost intact their local political system, which is based on elected family titleholders *(matais)* and village and district councils *(fonos).* To understand the *matai* system means to comprehend the complex system of titles, involving (a) rights over family lands, (b) local household groups, (c) titleholders, (d) other divisions of the same title, (e) common holders of the same title, (f) associated subordinate, coordinate, and superordinate titles, (g) dispersed, internally unranked descent groups, and (h) local, territorially based organizations. In his excellent description of the *matai* system, Holmes calls attention to the importance of the family and the village council (1980). As Holmes explains, the most important social unit in Samoa is the *'aiga,* a large extended family headed by a *matai,* who

holds the traditional title of that family. Each village has from ten to fifty *matai* titles that have been created at various times in history by important persons or by the village council. These titles are usually conferred on the basis of meritorious service.

Within each extended family, there are subgroupings known as *faletama* (houses of the children), established by the offspring of the original titleholder. If the original titleholder had two sons and a daughter, three branches would have been created in that family--two male lines and one female line (neither of which has a special advantage). The *matai* occupies the traditional dwellings and land associated with his title. As head of the family, *matais* not only oversee the everyday affairs of the household, but also represent the family in the village council, acting in accordance with relative rank in the village hierarchy of titles and their role as *ali'i* (chiefs) or *tulafale* (orator chiefs), which are the two categories of *matai.*

Chiefly rank is not achieved through inheritance, but rather through election by the kindred. Traditionally only males were elected as *matais,* but in recent years increasing numbers of women have been elected to a title. An individual retains his or her title until death unless he or she elects to give up the title. When either of these events occurs, the family holds a special meeting to elect a successor. Anyone who can trace descent to the former holder of the title is eligible to vote on the successor to the title or to hold the title himself or herself. Because descent is tracked through both parents, Samoans can typically trace a kinship relationship to numerous *matai* titles in their own or other villages. Consequently, a large number of people may be eligible for any given title. The successor, however, is typically selected by the family on the basis of his or her influence over the affairs of the family as well as personal stature in their eyes. In any family, one's stature is enhanced by skillful oratory, efficient handling of family crises, artful arrangement of celebrations, and, especially, generosity to family members.

Because titles are directly linked to land ownership, the benefits of achieving a title are increasingly viewed with an economic eye. Nonetheless, the social prestige and stature that accompanies a title is highly valued in Samoan culture. Although Samoans are quick to insist publicly that all holders of a title are equal, it is evident from observing political life in a village that certain members are accorded greater deference than others. Sometimes this seniority of rank is explicit, but more often it must be inferred (Keesing and Keesing 1956). Among the many criteria involved in such rankings, seniority appears to be determined by a combination of ascribed and achieved statuses. Age, wisdom,

length of village residence, prowess in war, genealogical knowledge, *tamatane* descent (male line of chiefly descent), and general political cunning all enter into the determination of particular rankings. However, one of the greatest difficulties in the determination of rank is that title autonomy is more relative than absolute. Thus, a title that is seen as subordinate to another in certain contexts may be recognized as defining an autonomous descent group in others. Shore (1977) suggests it is this complexity of social ranking and structure that is responsible for Samoans' close attention to social context as well as their cautiousness in interpersonal relations.

Given this complex sociocultural milieu, many educators in American Samoa are skeptical about the possibility for successful implementation of SCBM in their village schools. They are concerned that the prevailing attitudes and patterns of social interaction will ultimately undermine the "democratic" decision-making process inherent in the concept of school-based management. In the words of one Samoan educator, "Regardless of what you call it--collaborative decision making, school/community shared decision making, or school-site management --you can count on the fact that decisions will ultimately be influenced by the highest-ranking *matai* in the group." Thus, we are left to wonder whether the concept of SCBM would eventually serve to restructure Samoa's educational system or whether it would itself be restructured to fit into Samoan custom.

Nonetheless, some important changes are occurring in American Samoa that are presenting a serious challenge to the old *matai* system. For example, for generations the movement from untitled to titled rank required little more than aging, patience, and dedication to family welfare (Holmes 1980:195). In recent years, however, formal education and sophistication--which tends to be defined as an awareness of Western culture, ideas, and practices--have played an increasingly important role in determining one's social stature and, consequently, in the likelihood of being elected to chiefly rank. The changing nature of the criteria for attaining chiefly rank, which reflects a fundamental change in Samoan values and attitudes, takes on added significance in light of the growing number of Samoans who are pursuing degrees at U.S. colleges and universities. Given the "new" criteria for attaining a titled rank and the growing number of Samoans who meet the criteria, one should expect future *matais* to be significantly different from those of the past. However, one can but speculate as to how this "new breed" of *matai* will combine Western ideas and education with traditional Samoan values. Although definitive answers must await the test of

time, there is a growing sense among many that Samoa is changing. In the words of one Samoan educator:

> There is a quiet war going on between the old guard and the younger generation. The young are being pressured--sometimes subtly, sometimes not--to preserve *fa'a Samoa.* As a result, some things look the same on the surface, but change is bubbling underneath. I think when future generations look back on this period of time, they will say Samoa was "in transition."

Certainly, efforts at change are not new to American Samoa. However, what distinguishes today's efforts from those of the past is the source of those efforts. Whereas before such efforts typically came from "outsiders," the current calls for change--especially change directed toward Samoa's educational system--are coming from Samoans themselves. When Buck (1930) discussed the Samoans' resistance to change some sixty years ago, he attributed it to a general satisfaction with themselves and their institutions. Today, due to a heightened awareness of Western ideas, conditions, and practices, Samoans are less satisfied with the status quo and, presumably, are less resistant to change.

Indeed, some significant changes can already be seen in American Samoa's educational system. In addition to the establishment of more rigorous certification standards for teachers and principals, the educational agenda set by Samoa's director of education calls for an increasingly Americanized style of education in its schools. Already in evidence are "stateside" curricula, and English has been declared the official language of instruction.

Still, significant reform cannot be expected without appropriate preparation, and as it pertains to the restructuring of schools in American Samoa, adequate preparation may indeed be the single most important ingredient. Lessons learned from implementation efforts in schools across the United States have made it clear that this shift in school management cannot take place all at once. To begin with, in any community contemplating SCBM, regardless of locale, it is essential that all constituents understand how shared decision making is expected to work, how traditional roles will have to be redefined, and what parameters exist that define or limit the decision-making structure. Second, the need for a well-designed transition plan that includes sufficient time to educate and prepare teachers, principals, and community members to assume their new responsibilities cannot be overemphasized. To date,

efforts toward such understandings have not even begun to take place in Samoan communities, and little assistance or encouragement is forthcoming from top-level administrators. Moreover, the teachers and principals interviewed in the course of this study hold out little hope for any such assistance from the central office anytime in the near future. As one educator pointed out, "Little can be done to change things in individual schools until there is a change in attitudes in top-level governance."

As discussed earlier, the findings of this study also pose concerns about the adequacy of preparation and training of large numbers of teachers in American Samoa. Although many are anxious to play a bigger role in school decision making, for school-based management to succeed teachers must be highly knowledgeable and skilled professionals. Toward this end, there must be a continued emphasis on providing educational programs that strengthen both the intellectual and methodological foundations of teachers and prepare them to take an active role in school improvement and management.

Unfortunately, Samoan principals, too, appear ill prepared to assume the responsibilities of school-based management. This is not to say they are not good managers. On the contrary, they manage their schools quite well. However, as schools move away from traditional top-down administrative hierarchies, the role of the principal takes on greater breadth and sophistication, requiring new attitudes as well as new skills. Perhaps one of the most important of these requisite skills is the ability to nurture in their constituents (teachers, parents, and community members) the capacity to engage in the leadership task (National Commission for the Principalship 1990). Bringing people in each school's community together and using available talent effectively to accomplish collectively formulated goals lies at the heart of school-based management. The majority of principals in American Samoa have had little or no preparation for these new tasks and processes. They, like teachers, are in need of appropriate preparation that will enable them to meet the new demands of their jobs. The principals themselves are among the first to admit this need.

In sum, in spite of professed enthusiasm among growing numbers of Samoan educators for SCBM, many of the conditions deemed essential for successful implementation of school-based management are not present in American Samoa. On the bright side, Samoan educators are no longer complacent about the state of education in American Samoa and, increasingly, are seeking ways to bring about school reform.

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REVIEWS

Brigitta Hauser-Schäublin, *Leben in Linie, Muster und Farbe: Einführung in die Betrachtung aussereuropäischer Kunst* (Life in Line, Pattern, and Color: An Introduction to the Study of Non-European Art). Basel: Birkhäuser Verlag, 1989. Pp. 176, 33 color plates, 220 b/w illustrations, 25 in situ photos, 14 line drawings, map, bibliography. SwF 58.

Reviewed by Louise Lincoln, Minneapolis Institute of Arts

A bit more than a century ago, Abelam art was undoubtedly best represented in its place of origin, the Maprik district of Papua New Guinea, between the Prince Albert range and the Sepik River. Now, of course, we are so accustomed to the role of Western museums in world culture that it does not seem strange to find the most comprehensive collection of twentieth-century Abelam art at the Museum für Völkerkunde in Basel Switzerland. Yet there it reposes, well displayed (a sixteen-meter men's house facade and an "initiation scene" are installed in a relatively contextualized fashion) and a tribute to the work of the Swiss anthropologist Alfred Bühler, who together with the photographer and professional traveler René Gardi assembled most of the objects.

Brigitta Hauser-Schäublin has published 226 Abelam works from the Basel collection in *Leben in Linie, Muster und Farbe: Einführung in die Betrachtung aussereuropäischer Kunst.* The fundamental structure of this beautiful book is the collection itself: black-and-white photographs (some repeated in color) of a selection of objects, documented by information about materials, dimensions, and place of collection and supplemented by superb field photographs by Jörg Hauser and G. J. F. N. Gerrits. The author covers a broad range of object types, from two-dimensional painted works such as bark house-facade panels to

three-dimensional sculpture and a miscellany of art forms such as netted bags, body ornaments, and the extremely interesting and rarely published "foam carpets," evanescent images made from sudsing plants, feathers, and leaves.

A brief introductory section treats the rationale for the book, provides a brief overview of Abelam society and culture, and touches on the important issues raised by contact with the outside world. The objects are then divided into formal categories: Painting, which largely refers to bark panels; Art and Cult, which takes in miscellaneous forms such as fiber arts and material culture of initiation; and Carving, which includes everything from large wood sculpture to incised bone daggers. In each chapter the material is discussed both individually and comparatively. Herein lies one of the great strengths of the book: close readings of the formal properties of objects, enhanced by clear line drawings that schematize elements of surface pattern. Not only does this method explicate an iconographic system, but also, as like objects are compared, their similarities and differences noted, it establishes a coherent sense of Abelam visual style.

In her introductory chapter "Why This Book?" Hauser-Schäublin addresses herself to a novice audience unaccustomed to looking at non-Western art, and takes Abelam material as an example in a method that moves from the specific to the general. She makes clear that her primary focus is on art objects, not on their social context, and she proposes an analogy between visual and linguistic expression; comprehending unfamiliar art, she suggests, is like learning the vocabulary and grammatical structure of a foreign language. Unfortunately the analogy, admittedly imperfect, breaks down at the level of content. The author conveys the visual vocabulary of Abelam art extremely well but fails to elucidate the rules for assembling those elements ("grammar") and still less does she deal satisfactorily with issues of content: what meanings do these works convey? For example, she makes a careful formal distinction between figures with arms and legs folded up and those with limbs outstretched. How is this difference read in context? Is it significant in terms of iconography or function, or does it merely reflect individual style or technical skill of a particular artist?

It is instructive to compare the book with the much smaller book on the Abelam by Diane Loesch, published by the Australian Museum in Sydney. Like the Hauser-Schäublin book, Loesch's is intended for a non-specialist audience, but takes an opposite tack and begins with general observations about Abelam social and cultural context, making deft use of comparisons to Western examples. Only at the end does she deal,

rather briefly, with Abelam material culture, using examples from the Australian Museum collection; like Hauser-Schäublin, she leaves something of a gap between art objects and social structure. A general reader might find the approaches of the two books richly complementary.

This is not to say that Hauser-Schäublin is unable to go beyond the description of specific objects. She makes numerous observations of a general but pertinent nature, noting, for example, that in nonliterate cultures visual representation plays a central role in the replication of society, hence its importance in the context of initiations. In her discussion of netted bags, which are made by women, she offers linguistic insight into an Abelam view of the relation between art, creativity, and gender. Production of art in traditional society is sex-specific: women make small-scale utilitarian fiber works, while men control the much larger categories of painting and sculpture. For Abelam people, the principal focus of female creativity is childbirth, with net bags being its symbolic reflection; the same term is used for net bags, initiation rooms, and mothers. Male creativity, explicitly parallel to childbirth, is concerned with art and ceremonial activities.

Hauser-Schäublin has set an ambitious goal: nothing less than a reading of Abelam culture from a close study of artifacts. Yet the focus of her work remains for the most part on the objects themselves, without moving on to their contextual use and meaning. Nonetheless the book is of enormous value, to amateurs and professionals in the study of Pacific arts alike, for its systematic review of an important museum collection, its excellent photographs, and its close visual analysis of artifacts.

Christin Kocher Schmid, *Of People and Plants: A Botanical Ethnography of Nokopo Village, Madang and Morobe Provinces, Papua New Guinea.* Basler Beiträge zur Ethnologie, Band 33. Basel: Wepf & Co. for Ethnologisches Seminar der Universität und Museum für Völkerkunde, 1991. Pp. 336, maps, figures, appendixes, bibliography.

Reviewed by Terence E. Hays, Rhode Island College

The main settlement of Nokopo is located at about 1900 meters elevation in the heavily forested Yupna Valley of the Finisterre Range on the Huon Peninsula of Papua New Guinea. Neither “central highlanders” nor “seaboard Melanesians,” the peoples of this general area received little attention from anthropologists or other nonmissionary outsiders

until the late 1980s. Then several researchers from Basel, including Kocher Schmid, conducted intensive fieldwork there. Those scholars are moving quickly to fill a near-void, ethnographically speaking, and the Basel Ethnological Institute is to be congratulated for its role in this endeavor and especially for publishing this major monograph in English.

Following a decade of work in European ethnographic museums, Kocher Schmid undertook eleven months of fieldwork in Nokopo in 1986-1987 and 1988, resulting in a doctoral dissertation, of which this book is a revised version, at the University of Basel in 1990. By her use of "botanical ethnography" in the subtitle, the author means "an ethnographical description and ethnological interpretation of Nokopo culture based on data about plants and plant use" (p. 17). For her, the "main issues are: 1. To describe Nokopo vegetation and thus environment through the eyes of Nokopo people. . . . 2. To describe and [interpret] Nokopo culture by using data about plants and plant use. 3. To show relationships between vegetational patterns and culture" (p. 18). Throughout the work, her special emphasis is on Nokopo "plant classification and plant aesthetics" (p. 11), and both the "results and their discussion are arranged according to Nokopo concepts" (p. 20).

According to Kocher Schmid, her " 'museum' background has certainly influenced [her] approach to Nokopo culture" (p. 13). One can only applaud this "influence" if it was what drove her to collect hundreds of plant (as well as animal) specimens and to the countless hours of observation and interviewing that together were required as the basis for this meticulously detailed presentation of Nokopo conceptualization and utilization of their highly diverse flora. Cultivated plants are treated separately (pp. 61-186) from those the people collect from the forest (pp. 187-257), and all are described systematically and thoroughly with respect to their folk taxonomics, lore, and uses.

The section of the book formally titled "Ethnography" (pp. 38-60) might seem somewhat thin to some readers. Surely its length reflects a compromise given the space requirements of such an admirably full treatment of Nokopo ethnobotany. Still, Kocher Schmid provides a general background to the people's social organization, time and space conceptions, seasonal activities, and cosmology, and a wealth of other ethnographic information is incorporated in her discussions of plants, as would be indicated by an index had one been included. In sum, especially given our profound ignorance of this sizable part of Papua New Guinea, the ethnographic contribution made by the book is considerable.

Less satisfactory is the author's concluding "synthesis" (pp. 258-290), where she outlines the Nokopo plant taxonomic system using the descriptive and analytic framework established by Brent Berlin. The "deficiencies" (p. 258) she finds in that framework are not convincingly argued, in part because of what seem to be some misunderstandings of Berlin's work but also because her own data lend themselves to alternative interpretations. This latter criticism is only possible, of course, because of the fullness and care with which she has presented her material. These issues doubtless will be taken up by specialists, to whom the book appears to be mainly addressed. But, especially, in these days of "postmodern" ethnography, the richness and variety of basic information provided about these fascinating people and their intimate knowledge of their environment will amply reward the more general audience this book deserves.

John Patterson, *Exploring Maori Values*. Palmerston North, New Zealand: Dunmore Press, 1992. Pp. 191. US$13.95.

Reviewed by F. Allan Hanson, University of Kansas

Twenty-five years ago New Zealand complacently congratulated itself for harmonious race relations. Then the Maori people loudly denounced the discrimination they were suffering and demanded a better place in society. Many Pakehas (as New Zealanders of European descent are called) have been attentive to these Maori demands and have made honest efforts to incorporate Maori people and Maori culture more fairly and fully into New Zealand society and into their own lives.

John Patterson's book about Maori values will help Pakehas in these efforts. By examining Maori attitudes toward the environment, work and artistic creation, spirituality, and rights and responsibility, Patterson (a philosopher who teaches at Massey University) outlines a set of values that he claims are quite different from Pakeha ones but that can be useful to Pakehas not only for understanding their Maori compatriots but also for enriching their own lives and relationships.

The exposition is uneven. In my opinion the narrative falters in chapter 2, when Patterson teases sundry values out of a large number of Maori proverbs but does little to organize them into coherent themes. A similar problem is found in chapter 7, where values are extracted in a rather pedestrian way from Maori myths and folklore. On the other hand, chapters 5 and 6 contain very interesting discussions of Maori

values of reciprocity, balance, and collective responsibility, and illuminating contrasts of these with Pakeha notions of individuality and justice.

Probably it is fair to conclude that an author is particularly wedded to points that are repeated in a text several times. One such point for Patterson is that values are ideals toward which people more or less strive, but which are anything but perfectly realized in social life. Thus it is, in Patterson's text, with the value of respect for all persons. He acknowledges that in traditional Maori society people from hostile tribes were "eagerly" enslaved, killed, and eaten. He declines to account for this in terms of changes in Maori values between then and now, preferring to say that respect for all persons was only an ideal, and one that it has never been easy to live up to (p. 27). This leaves one with the curious picture of historical Maoris eagerly killing, enslaving, or eating enemies while deep down they knew they shouldn't be doing that, an image that scarcely fits with Patterson's later discussion of how one's *mana* could be enhanced by perpetrating insults and injuries against people from other tribes (p. 129).

Another reiterated contention is that values can be grasped without worrying about the metaphysical principles associated with them. Patterson's recommendation that we do this stems from his concern that, in Maori studies, overmuch attention has tended to focus on metaphysics, at the expense of values and ethics. Perhaps, but surely deeper understanding is achieved when values are seen not as standing by themselves but as systematically connected through the mediation of general metaphysical principles. While Patterson's account sometimes does take the disjointed form of an inventory of isolated values, his most illuminating and interesting contributions come when he considers values and metaphysical principles together. A good example is his linking of the notion of collective responsibility with Maori concepts of collective identity, kinship, human nature, spirituality, and the structure of the natural world (see p. 154).

The book contains a good bibliography. Unfortunately, there is no index.

BOOKS NOTED

RECENT PACIFIC ISLANDS PUBLICATIONS: SELECTED ACQUISITIONS, JULY-DECEMBER 1992

This list of significant new publications relating to the Pacific Islands was selected from new acquisition lists received from Brigham Young University-Hawaii, University of Hawaii at Manoa, Bernice P. Bishop Museum, University of Auckland, East-West Center, University of the South Pacific, National Library of Australia, South Pacific Commission Library, and the Australian International Development Assistance Bureau Centre for Pacific Development and Training. Other libraries are invited to send contributions to the Books Noted Editor for future issues. Listings reflect the extent of information provided by each institution.

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