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# demography and kinship as variables of adoption in the Carolines

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Adoption, which is widespread in Oceania, is a subject that has given rise to a growing body of literature; some of the more recent contributions include Carroll (1970a), Brady (1976a), Thomas (1978), Silk (1980), and Ritter (1981). Studies of adoption have ramifications that lead scholars to explore aspects of kinship, land tenure, social stratification, legal anthropology, and genetics. One important discussion, evaluating the relative importance of kinship and demography as variables influencing rates of adoption, focuses on the Caroline Islands. Ruth Goodenough (1970:337) attributes a high adoption rate on Romunum in the Truk lagoon to "unevenly reduced fertility in women, most notably as a result of venereal infection," and she predicts that the rate of adoption will decline in the face of more balanced fertility (1970:316). By contrast, Marshall (1976) reports an even higher adoption rate for the Namoluk atoll, despite a more favorable fertility picture. He argues that rates of adoption in Greater Trukese society must be understood within the context of "a larger pattern of sharing among relatives" (1976:47). More recently, Ritter (1981) examines the relationship between these two sets of factors for Kosrae in the eastern Carolines, finding both to be pertinent for understanding adoption there.

In this paper I consider the arguments of Goodenough and Marshall in light of material from the eastern Caroline atoll of Pingelap, first exploring the main features of adoption, including motives for adoption transactions. Then I examine some demographic data that are relevant to adoption rates, followed by an evaluation of kinship factors in adoption. Finally, I draw upon Ritter's Kosrae data and other comparative material to highlight similarities and contrasts in adoption practices within the eastern and central Carolines.

## ethnographic background

Pingelap lies halfway between the high islands of Ponape to the west-northwest and Kosrae to the east-southeast and probably was settled from the former. At first contact,

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*Ruth Goodenough stresses the role of sterility in adoption in the Truk lagoon, while Marshall reports a higher rate of adoption for Namoluk despite greater fertility and argues that adoption rates are best understood as expressions of behavior fundamental to kinship relations. Ritter finds both sets of factors to be important in adoption on Kosrae in the eastern Carolines. Frequency of adoption on Pingelap atoll shows a clear response to rates of childlessness, and the rate of adoption has declined sharply with removal of demographic pressures. [adoption, demography, kinship, Micronesia]*

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Pingelap was recovering from the effects of a typhoon, dated at 1775 by Weckler (1949), which had flooded the islands of the atoll and left a famine in its wake that reduced the population to about 30 people (Morton, Hurd, and Little 1973). Recovery during the next 100 years occurred mainly through internal growth, and by 1894 the population had reached 1000 (Eilers 1934). The number of people actually on the atoll varied between 600 and 850 during the Japanese period (1914–45) and throughout the American period that followed.<sup>1</sup>

Whalers and *beche de mer* traders were the chief source of contact before 1870. After that date, the copra trade dominated, operated first by German interests out of the Marshalls and later by the Japanese. The first Christian mission was established on the atoll in 1872 and was maintained thereafter by native catechists. During the period of Japanese control a resident trader usually lived there, and during World War II a small detachment of Japanese military personnel occupied Pingelap for about two years. The foreign residents on the atoll in the American period were Peace Corps workers and myself. Today, interisland supply vessels operating out of Ponape visit the island about once each month.

A brief sketch of the social organization of Pingelap is relevant to understanding adoption practices. Matriclans (*sou*) divide the population into four exogamous groups. It is said that these clans once also formed feuding units. Another descent unit, the *keinek*, has its closest referent in anthropological usage to patrilineages. The *keinek* represents a series of branching units, each of which traces its origin to, and gets its name from, an actual patrilineally linked ancestor. Succession to titles is channeled through the *keinek* according to principles of primogeniture and patrilineality.<sup>2</sup>

The three-generation patrilocal extended family, which was formerly the typical household unit, remains today as the chief unit of land use and inheritance. This extended family is called the *peineinei*, which is, however, also a term applied to the broad category of “relatives,” a kindredlike universe that includes affines as well as consanguines. Local considerations also operate as strong elements of social structure, but it is chiefly the bonds of kinship that figure in the discussion of adoption. I treat the interaction of kinship and adoption practices later in the paper, but here it is necessary to outline chief attributes of Pingelap adoption before analysis can proceed.

## main features of adoption on Pingelap

Students of adoption in Oceania seek to distinguish adoption from related phenomena. Brady (1976b:18) responds by preparing a table that spans the poles of behavior usually represented by the terms *adoption* and *fosterage*, practices requiring careful definition in a number of Pacific societies. On Pingelap the distinctions between true adoption and related practices are clear-cut.

Pingelapese use two terms to indicate adoption: the general term is *pwekipwek*, while adoption by grandparents is *neimato*. Adoption is kept separate from stepparenthood (*neiyapal*). In addition to the universally accepted criterion of duration, or intention to endure (Brady 1976b:14), there are several others that serve to set off adoption on Pingelap. True adoption implies change in residence, or at least spatial separation from natural parents, which usually comes in infancy. Another marker that distinguishes adoption is the possibility of change in patrilineal affiliation. Whether male or female, the adoptee becomes a member of not only the extended family, but also the *keinek* of the adoptive father, if this *keinek* is indeed separate from that of natural father.

Special land transferral conventions also mark adoption. When a child is given in adoption, a small plot of land and some rows in the taro patch of the natal family accompany

him and become part of the holdings of the extended family that he joins. This is true in terms of land use, though nominal ownership attaches to the child himself. Such transferral fails to occur only when the donating family is extremely land poor. While land allotments accompanying the child are usually small, each adoptive child also receives land from adoptive parents at the times of estate settlement. Ideally, there is no discrimination between natural and adoptive children in these distributions. For instance, if an adoptive child is senior in a sibling group, he will expect to receive the largest share of the estate as an application of the principle of primogeniture.

While the act of adoption, by definition, implies at least the *intention* of permanence, cases of returning adoptees are also known on Pingelap. These transactions may occur during childhood, adolescence, or the adult years. I discuss some expressed motives for returning adopted children in the next section of the paper.

There are related practices that do not meet the criteria of adoption as outlined above and as recognized by the Pingelapese themselves. Whether or not these practices fit the notion of fosterage is, in each case, problematical. Brady (1976b:15) suggests as a definition for fosterage "a temporary change in kinship identity through kin group and perhaps residential realignment where no permanent arrangement is either negotiated or intended." With respect to changes in kin groups, I have noted that true adoptions indeed imply changes in *keinek* or patrilineal unit affiliations. Other arrangements of the sorts described below do not; one never changes membership in the matrilineal clans through adoption or related practices. By contrast, residential changes of a less-enduring character than implied by true adoption are relatively common.

Today, one can identify cases that imply changes in residential affiliation as relating to interisland visiting of children within the context of the present-day dispersal of Pingelapese. In a number of cases, these temporary immigrants stay with grandparents or other relatives for periods of several years. However, informants carefully distinguish such cases from those of true adoption. During the summer months, a number of high-school students visit the atoll, staying with friends or relatives; they probably can be regarded as other instances of fosterage.

One traditional arrangement that does not imply a change in residence concerns teenage boys or youths who help work the land of an older man outside the household. This arrangement is designated *seweh mweitekela*, "not completely given away." It was usual that such helpers received a property grant at the time of estate settlement, though today the more immediate return of cash payment for services either replaces or supplements this traditional reward.

## **motives for adoption**

I have not met with great success in my attempts to discover a comprehensive and consistent ideology of adoption motives from informant statements. Rather than a system of rules, there emerges a series of anecdotes relating to individual cases that reveals a congeries of tendencies. First, from the standpoint of the recipients, there is general acknowledgment that children are desirable and that, if possible, each nuclear family should have children of both sexes. Usually, informants stressed affection over service or recompense, though some admitted to the idea of "old age insurance" with regard to adoption of grandchildren. Case histories also show as a putative motive for adoption by recipient parents a concern for providing an heir. Only one informant cited an adoption situation whereby land had been awarded in an estate settlement as recompense for earlier giving a child in adoption. Other cases point to providing successors to titles. Adoption is the principal means to maintain father-to-son succession when male issue is lacking.

While the state of childlessness in itself may offer an understandable rationale for recipients—whether or not the consciously designated motive is phrased in terms of affectional needs, service considerations, or land or title inheritance—the motives for giving children in adoption are particularly difficult to comprehend in a number of instances. Often, no evident benefits accrue to the donor family, and no clear statements of rationale for giving children in adoption emanate from the donors themselves.

The most frequent reactions to queries regarding reasons for agreeing to donate children were such statements as “They had no children” or “They had only a girl so we gave them a boy.” If I pressed informants regarding the possible sacrifice implied in giving up children, the usual answers were “That is our custom” or “If I loved my sister and she wanted one of my children, it would be difficult for me to refuse her.” Statements such as the latter point to the normal practice of giving children in adoption to relatives and comprise the closest expressed approach to evidence for anything that could be called kinship “claims” in adoption.

Other sorts of considerations influence the potential donor. The wishes of the children themselves are sometimes a factor in adoption. Anecdotes point to circumstances whereby parents gave children to couples whom the children had visited frequently and for whom they felt a special attachment. Donors also refer to property considerations, chief among which is provision of adequate land for the use of the child when he reaches adulthood. If a man has little land to bequeath to his offspring, he may give a child in adoption, expecting that the child would thereby acquire a more substantial estate. This would seem to be a largely altruistic motive, but one informant pointed out that in the case of death of adoptive parents, the adoptee would return to his father’s household and the land inherited from the adoptive parents would revert to the natural father’s usufruct holdings. The eventuality of such a return is so uncertain, however, that it is difficult to interpret this as a leading motivation for the donor. Most often, the donor suffers the double loss of a child and land.

One repeatedly cited motive for adoption in Oceania is providing parentage for illegitimate children. On Pingelap, unmarried girls with children, and also divorced women with children, are handicapped in the marriage market. By giving their children in adoption, these mothers can reduce their handicap.

Regarding reasons for returning children who have been adopted, it is clear that natural parents continue to exercise some control over children who have been “given away.” Sometimes adoptive parents are pressured to return children along with their original land allotment in the event of mistreatment of the children. In other cases, when natural parents regard the land allowance given by the adoptive parents as too small, return of children may occur. In one recent example, a titleholder regarded his remaining sons as unfit for succession, so a son previously given in adoption rejoined the *keinek* and eventually succeeded to the title in question.

It is clear from the above that the expressed motivations for adoption are quite varied and are at times ambiguous, especially when the position of the donor is considered. It is not possible to judge their relative importance from anecdotal information alone. Indeed, these expressed motives do not provide a satisfactorily explicit guide to be used as a chart for mapping the total picture of adoption on Pingelap; they only offer leads for investigating the empirical evidence. Accordingly, I devote the bulk of the paper to examining the empirical data available on Pingelapese adoption.

## demography and Pingelapese adoption

Given that the motive most often stated for seeking adoptees is childlessness, and that for giving children in adoption is consideration for the childless, a logical first step in

analyzing adoption on Pingelap is to explore the conditions of recipient families. Indeed, it was the discordance between the state of recipient families on Romonum (Goodenough 1970:315) and Namoluk (Marshall 1976:46) that gave rise to the discussions regarding the contrasts in adoption practices at those two places. Such an approach is also consistent with the premises of Dunning's (1962) *demographic hypothesis*.

The Eskimo area shares with Oceania a high frequency of adoption (Guemple 1979), an occurrence that suggests further expansion of comparative studies. For purposes of this paper, Dunning's discovery is most relevant. In his Eskimo sample, he found that a large percentage of adoptions could be understood in terms of the number of children in each nuclear family. Those families with no offspring or few offspring tended to adopt, while those with the largest families tended to give children in adoption. Dunning also found that those families lacking female children adopted females and those lacking male children adopted males. In the donor families, the number of children and the sex ratios also directly related to a willingness to give children in adoption (Dunning 1962:164-165).

Following Dunning's lead, and in order to test similarities and contrasts with Romonum and Namoluk,<sup>3</sup> I examined Pingelapese genealogies covering about 150 years and found 223 cases of adoption for which I had varying amounts of information.

Tables 1 and 2 show conditions of recipient families in the 196 cases for which the necessary information is available. Nearly half of the adoptive parents point to apparently sterile matings. This finding alone lends support to the proposition that Pingelap represents a situation similar to Romonum, where sterility itself is the important factor in the rise of adoption rates, and that adoption rates will be affected by whatever conditions result in a large number of sterile matings. I return to consideration of the likely etiology of such apparent sterility later in the paper. At this point, however, it is important to heed Carroll's (1970b:12) statement that "childlessness is . . . a frame of mind caused by many factors of which physiological capacity for parenthood is only one." On Pingelap, one of the conditions of mind identified with childlessness refers specifically to the state of recipient families *at the times of adoptions*.<sup>4</sup> Thus, there is a very definite synchronic aspect to the

Table 1.

Number of children adopted (six generations of women)				
	Males	148		
	Females	75		
	Total	223		
"Childlessness" in recipient families (196 cases)				
	No issue	No other children at time of adoption	No other children of same sex at time of adoption	
n	94	115	163	
Percentage	48.0	58.9	83.1	
"Childlessness" in donor families (187 cases)				
	By order of birth		Present at time of adoption	
	Adoptee first-born	Adoptee first- born of sex	Adoptee only child	Adoptee only child of sex
n	68	92	68	104
Percentage	36.4	49.2	36.4	55.6

Table 2. Total number of natural or adopted children in families involved in adoption.

	Number of named children	n	Percentage
Recipient family (immediately before adoption)			
	0	113	59.2
	1	66	33.7
	2	11	5.6
	3	3	1.5
Total		196	100.0
Donor family (immediately after adoption)			
	0	70	37.4
	1	56	29.9
	2	29	15.5
	3	32	17.1
Total		187	99.9

demographic elements affecting adoption. This interpretation is important not only in the more obvious cases where grandparents adopt children after their own children reach adulthood, but also when all other children have been given in adoption.

Table 1 takes into account this aspect of "childlessness." Note that the column "no other children at time of adoption" adds 11 percent to the 48 percent of recipient families without issue. Since it is desirable to have children of both sexes, I have added a third column to include in "childlessness" those recipient families with one sex unrepresented before adoption takes place. When these cases are added to the others, there is overwhelming support for Dunning's demographic hypothesis as it applies to recipient families. Further, the expectation that small families will tend to adopt children is documented in Table 2, which shows that in 93 percent of the cases the recipient families had no children or only one child at that stage in the family's history. This figure compares closely with Goodenough's (1970:316) figure of 91 percent and contrasts sharply with that of Marshall (1976:46), who found that only 43.5 percent of recipient families on Namoluk fall into those two categories. This difference in percentages comprises the basis for the contrasting interpretations of adoption rates for the two Truk area societies and highlights an actual and basic distinction between adoption practices in the two places.

Dunning's hypothesis contains another element, however—the condition of the donor family: As noted above, Goodenough's (1970) argument enlists the effects of sterility on rates of adoption, but she indicates that relief of parents with large families is also an important condition for giving children in adoption: "Where some have many children and others have none, adoption is a way of redressing the imbalance" (1970:316) and "A mother of many children appears to be relieved rather than threatened when . . . a couple agrees to take on the full care of a particular child" (1970:325).

For Pingelap, the data on donor families (Tables 1 and 2) show that the element of childlessness intrudes in a way inconsistent with these expectations. Table 1 shows that not only did more than one-third of the donor families give up their first-born,<sup>5</sup> but that in nearly half of the 187 cases for which there is information, the first-born of each sex was given in adoption. An even higher figure is revealed for "adoptee only child of sex at time of adoption." The lack of congruence with the notion of large families being relieved through adoption is also evident in Table 2, which shows that over two-thirds of the children adopted came from families with no other child or only one other child.

All of these figures argue against the notion that adoption on Pingelap acts as a balanc-



ing mechanism to level differences in family size. Not only does Goodenough refer to this idea of balancing, but, interestingly enough, Marshall (1976:32) also mentions it, despite downplaying demographic factors in adoption. More generally, Silk (1980:816) relies on such a principle in her arguments concerning genetic effects of adoption in Oceania as a whole:

The general pattern of Oceanic adoption is consistent with the hypothesis that adoption provides a means of adjusting family size in response to economic needs. Childlessness and imbalances in family composition figure heavily in the decision to adopt while having too many children apparently contributes to parents' willingness to allow adoption.

In addition to Goodenough and Marshall, others working in the Pacific (Lieber 1970:179; Brooks 1976:58; Brady 1976c:148; Smith 1976:268; Wilson 1976:90)<sup>6</sup> enlist the argument of adoption from larger to smaller families, usually citing economic motives. However, Silk's generalization for Oceania would not seem to be justified, as these cases together represent less than a third of the 25 societies considered in her paper, and only one of these (Brady 1976c) supports the hypothesis with statistics. Evidently, Silk is following the lead of other anthropologists who have endorsed the view by applying the assumption of logical association, for she asserts that "adjustment of natural variance in family size appears to be an obvious and perhaps fundamental consequence of adoption" (Silk 1980:801).

Returning to the sources whose work is most germane to this paper, out of fairness to Dunning (1962) it should be noted that his conclusions have strong support in his statistics and that he also accounts for special cases that depart from the hypothesis in the Eskimo examples. Goodenough (1970:330) expresses some reservations regarding the argument from excess family size: "After all one might more appropriately help a relative with a large family by giving him trees or land or by working for him."

The material on adoption from Pingelap argues that adoptees move not from large to small families but rather from small families or families not yet formed to small families or families just being formed. It is not difficult to infer the reasons for this apparent anomaly from observation and informants' statements. Couples who have demonstrated fertility are likely to be regarded as selfish if they deny a request from a couple who has been childless for some time. In the case of actual sterility, some years pass before the union is judged unproductive. Requests for adoption are thus made by people not only from an ascending generation (as in cases of grandparental adoptions) but also from older siblings and people over 30.

Another demographic attribute of adoption is evident in Table 1: male adoptions are predominant over female adoptions by nearly two to one. Several factors provide possible explanations for this. Males figure more prominently in estate settlement than do females, and among the motives for adoption from the point of view of recipients is provision for heirs. From the point of view of donors, one of the stated motives is providing for the estate of one's children given in adoption when natal family holdings are small. All titles are inherited by males, and the former practice of patrilocal household residence, as well as the existence of the patrilocal extended family as the unit of land use, also figures in this preference. Males contribute to the main economic unit for a much longer period than out-marrying females. Finally, attitudinal ingredients may be important as well, since various indicators point to lower status for women on Pingelap.

In taking stock of the demographic factors treated in this section of the paper, several points can be made: (1) The relationships between childlessness in its various forms in recipient families and rates of adoption are undeniable. (2) While I argue that these conditions in recipient families are most crucial at the actual time of adoption, there is also a strong relationship between these factors and that of absolute childlessness or apparent sterility. (3) The demographic conditions of donor families do not support the notion of relieving



large families by giving children in adoption. (4) There is a definite preference for adopting males over females, even though children of both sexes are sought.

### time perspective and the demography of Pingelapese adoption

Brady (1976b:24) points out that few of the studies of adoption in Oceania have dealt with temporal considerations and that most are "cast on a structural rather than processual frame." This is not surprising, considering the detail in which anthropologists have treated other aspects of adoption and the difficulties inherent in dealing with historical problems in the area as a whole. Nevertheless, early in my study it became apparent that I would have to make some attempt to look at adoption in light of the history of the atoll. The present-day picture was out of focus with what I could infer from genealogies. A June 1976 census showed only 9 adopted children in a total population of about 600; in June 1978 a second census revealed only 11 cases in a population that had increased to slightly over 700. These figures present a marked contrast to the much greater frequency of adoption that emerged from the genealogical record, as the following indicates.

In attempting to test the relationship between apparent sterility and rate of adoption over time, it is the record of childbearing that is crucial. Therefore, I arrange the information in Table 3 in terms of generations of women. It is unfortunate that there are no birth records available and that a precise arrangement of individuals according to year of birth is not possible. However, a number of informants could supply birth dates, and it was apparent that everyone knew his or her age relative to others. Using the birth dates of such individuals as benchmarks, it is possible to assign generational values in 206 cases which should have a fair degree of accuracy. Rather arbitrarily, I use 25 years as the generational interval (except in the case of the current generation of women). I arrange the data according to rough correspondences with significant periods of Pingelap history.<sup>7</sup> Thus, generation 1 comprises those women of childbearing age born during the American period of trusteeship in Micronesia. Generation 2 are those women born in the period of Japanese mandate under the League of Nations. Women in generation 3 are those representing a time spanning Japanese World War I occupation, the German period, and the latter part of the Spanish period. Generation 4 corresponds to the time of first missionization and most of the Spanish period. Women born during the period of most intense whaler and *beche de mer* trading are of generation 5, while generation 6 women are those from the period of initial contact with these same elements.

One index that derives from considering adoptions spread over this rough generational

Table 3. Adoption and childlessness by generations of women.

Generations of women		Adoption			Childlessness	
Years	No.	No. of children	No. of adoptions	CAR <sup>1</sup> (%)	No. of women	Percent childless
After 1944	1	115	5	4.7	81	32.0
1920-44	2	791	43	5.4	191	12.6
1895-1919	3	554	73	13.1	179	21.2
1870-94	4	420	74	17.6	186	25.3
1845-69	5	207	11	5.3	73	8.2
1820-44	6	61	0	0.0	10	0.0
Totals		2140	206	9.6	720	

<sup>1</sup> CAR = crude adoption rate

frame is *crude adoption rate* (CAR), a measure used by Goodenough and Marshall to indicate frequency of adoption on Romonum and Namoluk, respectively. In matching the number of "named children born in the last three generations" on Namoluk to the number adopted during the time span represented, Marshall (1976:50) cites a figure of 13 percent, as compared to 10.9 percent given by Goodenough (1970:314) for Romonum from a similar sample. Table 3 reveals, for the total corpus of 206 cases for which there is generational information, a CAR of 9.6 percent, which is slightly below either of the figures from further west in the Carolines. However, it should be evident from the table that this overall averaging of information from the six generations obscures very important differences and distinct trends. There is a sudden rise in adoptions with respect to children of generation 4 women, a slight fall but still high rate associated with generation 3 women, and a sharp drop in adoptions among children born to generation 2 women, with a continuing low rate in generation 1.

These figures offer better bases for comparison with material cited from the Truk district. The rate of 17.6 percent for children born of generation 4 women is well above those given by Goodenough and Marshall, and the generation 3 figure of 13.1 percent matches Marshall's overall CAR, while children of women in all other generations show much lower rates of adoption than found in either of the two Truk district societies. Given the average minimum age for adoption as 30, it is apparent that adoption on Pingelap began in earnest toward the end of the 19th century, reached a peak sometime after 1900, showed a slight decline in the 1920s, but remained high until it dropped sharply to early contact levels after 1950.

In the immediately preceding section of this paper, in which I consider the demography of Pingelap adoption, I note a correlation between absolute childlessness (or apparent sterility) in recipient families and a high rate of adoption in such families. Table 3 presents data that make it possible to explore this relationship over time, since it includes data on childlessness in addition to the already cited adoption rates, both data sets of which are spread over the same temporal frame. The table shows that both the rate of adoption and the percentages of childless women reached peaks during generation 4, fell slightly during generation 3, and then dropped sharply for women of generation 2. The two curves are not in agreement for generation 1 because a large number of those women are either in the early years of marriage or still unmarried, and possible barrenness is not yet established for them. However, the correspondences that do exist in the other generations give added support to that part of the demographic hypothesis that concerns the states of the recipient families.

While these figures document demographic associations with frequency of adoptions, there is a variable revealed by other figures that weakens this association to some extent, namely, a declining tendency for childless couples to adopt children. If the link between childlessness and adoptions were an exact one, all slots would be filled. One would expect that every couple without children would eventually arrange an adoption. However, supplementary information indicates that while in generation 4 only 2 (4 percent) apparently sterile women did not adopt, in generation 3 there are 7 childless women (18 percent) who did not adopt at any time; the figure rose to 8 (33 percent) childless women in generation 2. Thus, it appears that before about 1920 people who had despaired of having children were generally successful in arranging adoption, while after that time the practice of filling these genealogical gaps declined. Phrased in another way, however, one could say that before 1920 nearly all those who were permanently childless adopted children, while those parents in generation 3 who were childless in the absolute sense adopted in about 82 percent of the cases, and those in similar circumstances in generation 2 adopted about two-thirds of the time. While these figures still give important support to the relationship be-

tween demography and adoption, they do beg investigation of the sorts of pressures, claims, or obligations that must obtain for the system of adoption in Pingelap to operate.

### kinship and adoption on Pingelap

Marshall's (1976) hypothesis—that adoption in Greater Trukese society can be understood best as sharing personnel resources among kindred—is consistent with the general emphasis of studies in Oceanic adoption, almost all of which have dealt at length with kinship factors. While my informants were usually vague or noncommittal regarding the role of kinship as a motivating force in adoption, it is apparent that the kin network must influence decisions for giving and receiving adoptees. I drew upon the corpus of 223 cases of adoption and could demonstrate evidence for previously existing kinship connections between adoptee and adopting parent in 168 (75 percent) of the cases. This percentage establishes much of the adoption on Pingelap as “transactions in kinship,” but it is much lower than in the other two societies considered here, with Namoluk showing 97 percent (Marshall 1976:31) and Romonum, 91 percent (Goodenough 1970:318–319). The figure for Pingelap also represents the lower end of the range for the societies sampled by Silk (1980:806) from the Pacific at large. Consequently, we would expect that the motivations for giving children that do not imply kinship obligations, some of which have been discussed above, have a significant role in adoption transactions on Pingelap.

Table 4 shows the sorts of kinship ties that obtain between adoptee and adoptive parents. The greatest number of adoptions are to siblings of both parents. There is an apparent anomaly in the relatively low number of children adopted by mother's sister, so there would appear to be a definitely greater preference for a woman to give a child in adoption to a brother and his spouse, rather than to a sister and her spouse. A strong avoidance and respect relationship involving deep affection marks the relationship between brother and sister and might account for greater favoritism in adoption. It is equally likely that the special relationship existing between a woman and her brother's wife may be the key factor. This relationship, called *mwa*, also implies respect. Indeed, informants say that *mwa* implies “deeper respect than for mother.” One manifestation of this respect is the obligation to work for one another without pay. This element of sharing in labor may also be extended to sharing of personnel resources (see Marshall 1976, 1977); however, I do not have direct informant statements to support this hypothesis.

Table 4. Relationship between adoptive parent and adopted child.

Relationship of adoptive parent	Number in category
Father's brother	22
Father's sister	22
Mother's brother	25
Mother's sister	12
Paternal grandparents	8
Maternal grandparents	32
More distant patrilineal kin	18
More distant matrilineal kin	9
Stepfather	3
Siblings	11
Other affines	5
Father (cases of illegitimacy)	1

The kinship category most likely to identify with the status of adoptive parent is that of maternal grandparent. In directing my chief informant's attention to the preference for giving children in adoption to maternal rather than paternal grandparents, he replied that the daughter's husband may be asked to pay for the work of his wife by donating a child to the maternal grandparents. Also, in most cases unwed mothers live with their parents and divorced women return with their children to their parents. Upon marriage or remarriage, these women tend to leave their children behind to be formally adopted by the grandparents.

Most accounts of adoption in Oceania focus on current census situations. On Pingelap, adoption rates among most categories of kin have declined to the extent that such a sample is meaningless in its small size. In the case of grandparental adoptions, however, such a procedure is justified for understanding current trends in adoption. The 1978 census of households on Pingelap reveals that of the 11 existing cases of true adoption, 8 children were adopted by maternal grandparents, 2 by a classificatory maternal grandparent (mother's father's brother), and the remaining child by a paternal grandparent. In 7 of the first 10 cases mentioned, the children were illegitimate; in 2 others the children came from an earlier marriage of a daughter who had remarried. It is apparent from these figures that adoptions by maternal grandparents comprise nearly the total picture of adoption on Pingelap today, and that kinship ties, rather than providing the basis for "claims" by prospective adoptive parents, now serve chiefly to provide sanctuary for apparently unwanted children.

In reviewing the role of kinship in Pingelapese adoption over time, the importance of bilaterality is evident. By contrast to matrilineal emphases in marriage regulation and patrilineal biases in succession and inheritance of land, the network of kinship as it applies to adoption was spread over the affinal, including kindred or *peineinei*. With regard to involvement in adoption, kinship ingredients were highly opportunistic; the tendencies to give children in adoption to parents and to siblings have been strongest, but requests also came from more distant kin and from outside the network of kindred, when necessary.

I return now to another matter regarding kinship and adoption raised earlier, the declining rate of adoption by childless couples. The decrease in this rate points to probable weakening of the efficacy of kinship ties in bringing about adoption. There is some support from other quarters for decline in kinship unity. The changed residential alignments suggest such a trend. While the patrilocal extended family continues as the reservoir for food crops and the chief unit of land inheritance, it is breaking down as a tight residential unit. The practice among brothers and between fathers and sons of sharing copra profits also is falling into disuse. Informants relate outside influences to these changes, especially in cases where sons have left the island and achieved a high level of formal education.

## discussion

To return briefly to questions of demography and Pingelapese adoption, we have yet to consider the likely factors accounting for the apparent sterility that existed at high rates during certain phases of the history of the atoll. Among anthropologists who have dealt with the problem of sterility in Micronesia, Fischer's (1970) contribution is most notable. He dismisses infanticide and abortion as probable determinants of childlessness, while citing such possible factors as filariasis, intestinal parasites, dietary deficiencies, patterns of sexual intercourse, and venereal disease (1970:303, 305, 307, 312-313). Of these factors, Goodenough (1970:315, 338) accepts venereal disease as the most likely cause of the sterility that she found was affecting adoption rates on Romonum. This interpretation is consis-

tent with the findings of a World Health Organization (1975) scientific group.<sup>8</sup> Venereal diseases affect the pregnancies of women who have primary infections. This being the case, it is apparent that the highest rate of venereal infection came at the end of the 19th century and the beginning of the 20th century and appears to have continued as an important influence on the population until the end of World War II (see Table 3). Thus, the peak of apparent sterility and the venereal infections that probably lie at its base did not occur at the time of whaler-beche *de mer* trader contact, but rather during the period of decreased contacts with Europeans and increased contacts with Ponapeans and other Micronesians, continuing through the period of Japanese occupation of the islands.<sup>9</sup>

There has been a tendency to separate too sharply the demographic from the kinship aspects of adoption. Any consideration of the two sets of variables should avoid "either/or" formulations. While Goodenough (1970:318–321) argues strongly for the influence of demographic imbalances on adoption on Romonum, she also devotes considerable attention to kinship in the context of actual adoption transactions. On the other side of the argument, although Marshall (1976:32) generally downplays demographic aspects while emphasizing kinship, he does state that "childlessness is both a reason for adopting a child on Namoluk and a rationale for giving a child in adoption." The chief points of contrast in the picture of adoption that emerge from the two accounts are the degrees to which childlessness is related to adoption rates, as discussed above, and the extent of involvement of the practice in the total social structure. With regard to the latter, Marshall (1976:29) sees adoption on Namoluk as being "explained as part of a greater pattern of resources sharing that is the essence of kinship solidarity." By contrast, Goodenough (1970:316) finds a "lack of institutionally elaborated significance" for adoption on Romonum, and "no strongly operating factors other than childlessness or the occasional orphaning of children to sustain adoption."

Understood in terms of these contrasting descriptions, adoption practices on Pingelap resemble more closely those on Romonum than those on Namoluk. The histories of Romonum and Pingelap show a close parallel regarding adoption trends. In neither case does it appear that adoption played an important part in the precontact or the early contact phases of history, but the significant rise in the rate of adoption relates to the probable demographic responses to secondary introduction of venereal disease, which occurred later. However, in the case of Pingelap, a decline from a peak rate of adoption was already manifest at the time of my study and had not yet expressed itself on Romonum in 1964–65 when Goodenough carried out her study there.

With regard to the question of the extent of institutional elaboration of adoption, for Pingelap one can cite the lack of sanctions, other than those of public opinion, for refusing to grant children in adoption. In my view, the traditional lack of these sanctions, as well as the implications of the double loss of both land and children on the part of the donor, suggests that the system of adoption on Pingelap operated under a good deal of strain even in times of peak adoption rates. When both demographic pressures and the force of kinship obligations on the donor were relaxed, the rate of adoption also declined dramatically.

The notable exception to the general decline in adoption on Pingelap involves the "sanctuary factor," whereby maternal grandparents adopt children of divorced daughters who remarry or children of unwed daughters who marry. This tendency contrasts with the situation on Romonum where, at the time of Goodenough's (1970:317) study, grandparents did not adopt. Whether or not increases in rates of illegitimacy and divorce, which often accompany increased culture contact, will bring about the emergence of the pattern of maternal grandparental adoption, as on Pingelap, remains for future study on Romonum to reveal. However, the situation on Pingelap in the 1970s shows agreement with that

predicted by Goodenough (1970:316) for Romonum that "the rate of adoption will fall off appreciably in the immediate future, back to a level that reflects a more balanced fertility picture."

Ritter (1981) enters the discussion of the relative impact of demographic and kinship variables on adoption as applied to Kosrae. His study is especially germane to the present one in its close geographical focus. Ritter's article is also an important contribution to adoption studies of Oceania as a whole, for he addresses himself to the often ignored diachronic aspects of adoption, considering as he does the generational changes and circumstances of individual life cycles. He also confronts problems of adoption processes, distinguishing adoption *agreements* from adoption *outcomes*. In this regard, I should emphasize that the high rate of fosterage, of unrealized adoptions, and of returning, as reported by Ritter for Kosrae, do not have parallels on Pingelap; the adoptions recorded here are those that were consummated and that endured.<sup>10</sup>

Taking into account these differences between the adoption situations on Pingelap and Kosrae, Ritter's material lends considerable support to the thesis endorsed here that childlessness strongly affects adoption rates, for he states: "When we consider only those adoptions which appear to have succeeded in the sense of having become true adoptions, we find that sterility is a significant factor" (Ritter 1981:58). This is said to be true even though the number of those regarded as being either adopted or fostered for long periods remains very high, as compared to Pingelap for the same period (1975). Clearly, as in the case of Namoluk further west, "some other 'strongly operating factor' must exist to sustain the high rate of adoptions and fosterage" (Marshall 1976:46). In this regard, Ritter follows Carroll (1970b) and Marshall (1976) in endorsing the view, as applied to Kosrae, that "if we consider all adoption, fosterage and *kuhlaconsap* relationships, sharing of resources among kin is clearly an important factor in maintaining the high rate of transfer of children" (Ritter 1981:58).<sup>11</sup>

Ritter seems to have resolved some of the evident confusion over the relative importance of sterility and the force of kinship by applying his distinction between true adoptions and related phenomena. But how widely can this interpretation be applied? In my view, both Marshall and Ritter have undervalued Goodenough's material, especially since her interpretations are strongly supported by her data. This paper argues that there are places in Oceania, such as Pingelap and Romonum, where the rise and fall of adoption rates are highly sensitive to demographic changes, such as those caused by fluctuating fertility rates, and where systems of adoption are drastically modified by altered demographic conditions. At the same time, I acknowledge that there will be other ethnographic examples that parallel the situations on Namoluk and Kosrae, where there is elaboration of adoption rates beyond the tendency to fill genealogical gaps, with adoption in those cases serving a number of special purposes, and where the system of adoption will show greater persistence under changing conditions. Marshall (1976), in extending his conclusions regarding the primacy of sharing in kinship to apply throughout Greater Trukese society, obscures this very important distinction. Ritter (1981:60) concedes that there will be degrees to which the notion of "sharing of resources (including children) is encouraged and demanded as a manifestation of kinship and social solidarity." However, when he hypothesizes that "adoption rates are often higher in smaller, more traditional societies . . . and lower on larger and less traditional islands" (Ritter 1981:60), one must dispute his thesis in terms of the evidence from Pingelap and probably Romonum as well, neither of which can be classified accurately under the latter rubric.

Some other variable must be involved in influencing the contrasting pictures of adoption. In the final analysis we must examine the operation of kinship systems as they articulate with adoption transactions in various societies in order to gain a clearer under-



standing of such contrasts. It is not within the range of problems that I address in this paper to enter into a discussion of the nature of kinship; but with regard to the involvement of kinship in adoption, the two sets of societies considered here appear to present two contrasting emphases. On the one hand, there are places like Kosrae and Namoluk where adoption and related practices are said to serve to *affirm* and *maintain* solidarity of kinsmen;<sup>12</sup> on the other hand, there are cases like Pingelap and apparently Romonum, as well, where kinship ties are *utilized* when adoption is seen as necessary and can be ignored when pressures to adopt are removed.

The similarities and differences in the two sets of societies tend to argue against subareal distinctions in adoption usages, since one member of each set lies in the eastern (Ponape District) Carolines and one member of each set in the central (Truk District) Carolines. Further, material from two other eastern Carolinian locales, Mokil (Weckler 1953) and Ponape (Fischer 1970), show significant variation from Pingelap in adoption practices. However, there are two similarities that occur in the east but not in the central area of the archipelago. One of these is the lack of involvement of adoption in the matrilineality, as it exists throughout the Carolines. Matrilineal descent units are reported for Ponape (Fischer 1970; Bascom 1965; Riesenbergs 1968), for Kosrae (Wilson 1968; Peoples 1977; Ritter 1981), for Mokil (Weckler 1949), and for Pingelap (Damas 1979, 1981), with only the Ngatik atoll still not reported on in this regard. Yet, in none of these places is there evidence for involvement of matrilineal units in adoption. Contrast this with the picture from the Truk district. Marshall (1976:48) reports "that two thirds of the fosterage events on Namoluk are by matrilineal relatives of the child." For Romonum, Goodenough's (1970:319-321) data show that both considerations of membership in mother's matrilineage and filiation to father's dominate in adoption transactions.<sup>13</sup>

The second feature of adoption that is widespread in the eastern Carolines and apparently absent further west, and which may relate to the first, is numerical dominance of male over female adoptees. For Mokil, Weckler (1953:556) cites as reasons for this imbalance "the emphasis that Mokilese place upon patrilineality and the resulting desire of every man to have sons 'to carry on his line,' " as well as the dominance of occupational importance of men. Fischer (1970:300) finds the predominance of males on Ponape "strange . . . in view of the importance of matrilineal descent" and notes that "there are a number of customary privileges which boys have with respect to high-ranking fathers which are not shared by matrilineal political heirs of these same men."<sup>14</sup> These interpretations of the preference for males are in harmony with those given here and are symptomatic of a shift from matrilineality in the eastern Carolines which has sometimes manifested itself in patrilineal tendencies (Damas 1979). Both the lack of matrilineal involvement in adoption and the preponderance of males in adoption, as understood above, exemplify a subareal dampening of matrilineal emphasis.

## notes

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<sup>1</sup> Support for these generalizations about the population of Pingelap is drawn from several sources. Morton, Lew, Hussels, and Little (1972) supply the following figures for the population of the atoll in



earlier times: 1775—30; 1853—450; 1899—1000. Bascom (1965:10) gives figures for the Japanese period as follows: 1920—601; 1925—601; 1935—694. St. John (1948) notes that in 1945, at the end of World War II, 75 men who had served as laborers on Ponape returned to the atoll. One year later there were 639 people on Pingelap but also 190 Pingelapese on Ponape (Bascom 1965:10). The population expanded rapidly after Americans took over administration of the Trust Territory for the United Nations; but, beginning with the establishment of the Mand colony on Ponape in 1953, much of this expansion was reflected in emigration. Morton et al. (1972) give a figure of 1600 for the total Pingelapese population for 1967, but only about half of these appear to have been living on the atoll, since in 1970 there were 849 on the atoll according to Bryan (1971). A typhoon in 1972 contributed to further emigration, and at the time of my first visit in 1975–76 the population of the atoll was about 600. When I returned in 1978, a number of young people had returned; there were about 700 people living there at that time.

<sup>2</sup> More complete discussions of descent emphases on Pingelap are presented in Damas (1979, 1981).

<sup>3</sup> It was necessary to modify somewhat the procedures of Marshall and Goodenough. In treating the matter of the condition of the recipient families, Goodenough (1970:316) cites "number of children in adopting family," while Marshall (1976:46) indicates "number of natural children in adopting family." Since on Pingelap one is not childless if there are adoptive children present, this distinction is not relevant. I have included a number of cases where adoptive, but not natural, children were present. Marshall is explicit in stating that his figures refer to the total number of children at any time, but Goodenough does not so specify, and I must assume that she is using the same procedure.

<sup>4</sup> While I could get direct statements regarding states of families at times of adoptions for recent generations, often it was necessary to make inferences from the genealogical data for earlier populations.

<sup>5</sup> In order to include those cases where unmarried women were donors, they had to be included under "donor families" in Tables 1 and 2.

<sup>6</sup> The degree of commitment to this thesis varies considerably among these authors and, as Lieber (1970:179) notes, we must consider giving children in adoption by large families both from the point of view of the donor and from that of the recipients, who often refer to altruistic motives.

<sup>7</sup> An anonymous reader stresses that genealogies cannot yield the precise numerical information that is necessary for a thorough-going demographic analysis. I acknowledge that the genealogical data used here, which show considerable time depth, are liable to some error. For instance, the number of women, the number of children, and possibly the complete lack of adoptions reported for generation 6 in Table 3 are suspect and suggest gaps in the record. I have collated Dr. Newton Morton's and my own independently collected genealogies and have noted discrepancies in these data bases, but most of these discrepancies relate to people born before the mid-19th century, after which correspondences between our records is very high.

<sup>8</sup> This report distinguishes between actual infertility, pregnancy wastage, and child loss, all of which are lumped together here as "apparent sterility." Such distinctions would be valuable if they could possibly be made, since the etiology of actual infertility appears to differ from the causes of pregnancy wastage and child loss, but my data are not complete in this regard.

<sup>9</sup> The possibility of secondary introduction of venereal disease is suggested as well for Romonum, where Goodenough (1970:338) reports that one of her informants attributes the introduction of venereal disease to Truk as originating from Kosrae and the Marshall Islands, rather than directly through European contact. An anonymous reader of an earlier draft of this paper points out that whaler-trader contacts with Pingelap would be much less frequent than for Ponape and other high islands because of the lack of both a ship passage and a surplus of food and water on the atoll.

<sup>10</sup> The two or three exceptions to this degree of involvement are cases in which adoptive sons returned to their natal *keinek* in adulthood in order to inherit titles. It is, of course, impossible to judge the exact proportion of returnees for the early generations treated here, but they were exceptions in recent times.

<sup>11</sup> *Kuhlacsap* is a service category involving young women which Ritter (1981:46) characterizes as follows: "The transfer is temporary, and the household receiving the service generally takes on the duty to provide food, care, and shelter for the 'servant.'"

<sup>12</sup> Other statements emphasize this view of kinship: "Adoption and fosterage are not unique responses to typical events. Rather, they flow logically from the system of kinship and represent just two of many ways for demonstrating what it means to be 'close kin'" (Marshall 1976:47). Also, "fosterage . . . and Kosrean *kuhlacsap* are alternatives to adoption used to maintain kin solidarity through sharing of resources" (Ritter 1981:60). These statements are consistent with Marshall's (1977:655) general view of kinship: "What is central to kinship is not shared genealogy alone but sharing itself."

<sup>13</sup> An anonymous reader questions this interpretation of the involvement of matrilineality in adoption in the Truk subarea on the grounds that the apparent preference for adoption being biased along matrilineal lines may be an artifact of classification. Both Goodenough (1970:318–319) and Marshall (1976:31) show that in the majority of cases one of the adoptive parents stands in the relationship of classificatory "mother" before the transaction. In the case of Namoluk, Marshall's (1976:43) statement

regarding the high proportion of matrilineal ties between adoptee and adopter is fortified by his discussion of the importance of clan hospitality in interisland fosterage. Goodenough (1970:319) shows 19 cases of adoption to mother's sister, 12 to father's sister, and a total of only 12 for mother's brother and father's brother. Contrast these figures with those given above for Pingelap (Table 4), where the matrilineal clan member among parent's siblings (mother's sister) is the category least involved in adoptions. The same reader cites the high frequency of adoptions to father's matrilineal lineage revealed in Goodenough's material as a violation of the principle of matrilineality. However, the importance of ties with the opposite matrilineal group is often an integral part of the structure of relations in matrilineal societies. In this regard, Thomas (1978) develops the role of the genitor and his living lineage members for Namonuito, a description that appears to find a close parallel in the discussion of male-female roles in conception and concomitant kinship relations by Marshall (1976:37-38) for Namoluk.

<sup>14</sup> While Marshall does not indicate anything regarding sex preference in adoption for Namoluk, Goodenough (1970:339) notes for Romonum that "the actual number of boys and girls were roughly the same." For Namonuito, also in the central Carolines, Thomas (1978) points out that the predominance in number of males over females in adoption is in harmony with the preponderance of males in the total population. Fischer (1970) has no figures to support his observations regarding preference for males in adoption on Ponape. For Kosrae, the picture is not clear on this matter. While Wilson's (1976: 84, 86) figures show an apparent preference for females being adopted by grandparents, this imbalance is more than compensated for by the preponderance of males adopted by other relatives or by persons unrelated to the adoptee. Ritter (1981) supplies no figures on sex ratio of adoptees.

## references cited

- Bascom, William  
1965 *Ponape: A Pacific Economy in Transition*. Berkeley: University of California Press.
- Brady, Ivan  
1976a (ed.) *Transactions in Kinship: Adoption and Fosterage in Oceania*. ASAO Monograph No. 4. Honolulu: University Press of Hawaii.  
1976b *Problems of Description and Explanation in the Study of Adoption*. In *Transactions in Kinship: Adoption and Fosterage in Oceania*. ASAO Monograph No. 4. Ivan Brady, ed. pp. 3-27. Honolulu: University Press of Hawaii.  
1976c *Socioeconomic Mobility: Adoption and Land Tenure in the Ellice Islands*. In *Transactions in Kinship: Adoption and Fosterage in Oceania*. ASAO Monograph No. 4. Ivan Brady, ed. pp. 122-163. Honolulu: University Press of Hawaii.
- Brooks, Candace C.  
1976 *Adoption on Manini Atoll, Tuamotu Archipelago*. In *Transactions in Kinship: Adoption and Fosterage in Oceania*. ASAO Monograph No. 4. Ivan Brady, ed. pp. 51-63. Honolulu: University Press of Hawaii.
- Bryan, E. H., Jr., comp.  
1971 *Guide to Place Names in the Trust Territory of the Pacific Islands (The Marshall, Caroline and Mariana islands)*. Honolulu: Bernice P. Bishop Museum.
- Carroll, Vern  
1970a (ed.) *Adoption in Eastern Oceania*. ASAO Monograph No. 1. Honolulu: University Press of Hawaii.  
1970b *Introduction: What Does Adoption Mean?* In *Adoption in Eastern Oceania*. ASAO Monograph No. 1. Vern Carroll, ed. pp. 4-17. Honolulu: University Press of Hawaii.
- Damas, David  
1979 *Double Descent in the Eastern Carolines*. *The Journal of the Polynesian Society* 88:177-198.  
1981 *The Keinek of Pingelap and Patrilineal Descent*. *The Journal of the Polynesian Society* 90: 117-122.
- Dunning, R. W.  
1962 *A Note on Adoption among the Southampton Island Eskimo*. *Man* 62:163-167.
- Eilers, Anneliese  
1934 *Inseln um Ponape*. In *Ergebnisse der Sudsee-Expedition, 1908-10*. B. Thilenius, ed. pp. 405-464. Hamburg: DeGruyter.
- Fischer, John L.  
1970 *Adoption on Ponape*. In *Adoption in Eastern Oceania*. ASAO Monograph No. 1. Vern Carroll, ed. pp. 292-313. Honolulu: University Press of Hawaii.
- Goodenough, Ruth G.  
1970 *Adoption on Romonum, Truk*. In *Adoption in Eastern Oceania*. ASAO Monograph No. 1. Vern Carroll, ed. pp. 314-340. Honolulu: University Press of Hawaii.
- Guemple, Lee  
1979 *Inuit Adoption*. *Canadian Ethnology Service Paper No. 47*. Ottawa: National Museums of Canada.

- Lieber, Michael D.  
 1970 Adoption on Kapingamarangi. *In* *Adoption in Eastern Oceania*. ASAO Monograph No. 1. Vern Carroll, ed. pp. 158–205. Honolulu: University Press of Hawaii.
- Marshall, Mac  
 1976 Solidarity or Sterility? Adoption and Fosterage on Namoluk Atoll. *In* *Transactions in Kinship: Adoption and Fosterage in Oceania*. ASAO Monograph No. 4. Ivan Brady, ed. pp. 28–50. Honolulu: University Press of Hawaii.  
 1977 The Nature of Nurture. *American Ethnologist* 4:643–662.
- Morton, N. E., R. Lew, I. E. Hussels, and G. F. Little  
 1972 Pingelap and Mokil Atolls: Historical Genetics. *American Journal of Human Genetics* 24: 277–289.
- Morton, N. E., J. N. Hurd, and G. F. Little  
 1973 Pingelap and Mokil Atolls: A Problem in Population Structure. *In* *Methods and Theories in Anthropological Genetics*. E. H. Crawford and P. L. Workman, eds. pp. 315–332. Albuquerque: University of New Mexico Press.
- Peoples, James G.  
 1977 Deculturation and Dependence in a Micronesian Community. Ph.D. dissertation. Anthropology Department, University of California, Davis.
- Riesenberg, Saul H.  
 1968 The Native Polity of Ponape. *Smithsonian Contributions to Anthropology*, Vol. 10. Washington, DC: Smithsonian Institution Press.
- Ritter, Philip L.  
 1981 Adoption on Kosrae Island: Solidarity and Sterility. *Ethnology* 20:45–62.
- Silk, Joan B.  
 1980 Adoption and Kinship in Oceania. *American Anthropologist* 82:799–820.
- Smith, Jerome J.  
 1976 Rotanese Fosterage: Counterexample of an Oceanic Pattern. *In* *Transactions in Kinship: Adoption and Fosterage in Oceania*. ASAO Monograph No. 4. Ivan Brady, ed. pp. 247–270. Honolulu: University Press of Hawaii.
- St. John, Harold  
 1948 Report on the Flora of Pingelap Atoll, Caroline Islands, Micronesia, and Observations on the Vocabulary of the Native Inhabitants: *Pacific Plant Studies* 7. *Pacific Science* 2:96–113.
- Thomas, John Byron  
 1978 Adoption, Filiation, and Matrilineal Descent on Namonuito Atoll, Caroline Islands. Ph.D. dissertation. Department of Anthropology, University of Hawaii.
- Weckler, J. E.  
 1949 Land and Livelihood on Mokil: An Atoll in the Eastern Carolines. Ms. Files of the author.  
 1953 Adoption on Mokil. *American Anthropologist* 55:555–568.
- Wilson, Walter S.  
 1968 Land, Activity and Social Organization of Lelu, Kusaie. Ph.D. dissertation. Department of Anthropology, University of Pennsylvania.  
 1976 Household, Land and Adoption on Kusaie. *In* *Transactions in Kinship: Adoption and Fosterage in Oceania*. ASAO Monograph No. 4. Ivan Brady, ed. pp. 81–92. Honolulu: University Press of Hawaii.
- World Health Organization (WHO)  
 1975 The Epidemiology of Infertility. Technical Report Series No. 582. Geneva: World Health Organization.

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