The EAST-WEST CENTER Honolulu, Hawaii 96822

EAST-WEST POPULATION INSTITUTE

February 5, 1973

ATOLL POPULATIONS PROJECT - Circular #12

Dear Friends:

Enclosed are the notes on Population Definitions which you were promised in the last mailing. This supercedes the previous handout (at the conference) on this topic, which may be safely discarded.

Enclosed also an update to the bibliography circulated last summer. If you know of any other articles or books dealing either with method or with results that are as valuable as those listed and more-or-less equally valuable to all of us, then please let me know.

If any of you discover errors or inconsistencies in the model tables distributed in the last mailing, please let me know. Also, if you feel that a table could be more instructively arranged than it has been, or that more tables (or columns) are required--then please let me know as soon as possible, so that the suggestion can be passed on to the others.

Similarly, if you find the checklist of chapter topics defective, please advise. Also the scope of the volume--as reflected in the list of chapters...

Finally, I enclose a list of corrections and additions to the model tables, occasioned by the further work on population definition. Please modify your tables accordingly.

Sincerely,

Vern

Vern Carroll

P.S. I hope everyone is getting an adequate supply of comments on his (or her) work. I myself have received four excellent sets of comments. Interestingly, they are from the four most "junior" members of our group (of ethnographers). These are also the folks whose first drafts were closest to being acceptable as final drafts. Do you suppose there is a relationship between writing good papers on a topic and (carefully) reading (and commenting upon) other papers on the same topic? Maybe us "oldsters" ought to read more!

VC:lkt
Enclosures

The EAST-WEST CENTER *Honolulu, Hawaii 96822*

EAST-WEST POPULATION INSTITUTE

ATOLL POPULATIONS PROJECT -- Circular #13

6 February 1973

Dear Friends:

Things get started faster than they get finished.

Enclosed also two new goodies:

(1) A set of conventions established by me and the ASAO Cartography Editor for features ordinarily plotted on village maps. In preparing a draft map you should xerox your basic map, then white out all irrelevent detail on the xerox copy, and rexerox. If your map uses others symbols, you may do one of two things: white out old symbols with correction tape and (neatly hand letter a new one; or (if your symbols are differentiated to the same degree as these) you may provide a conversion key thus:

now on map	rewrite as
⊙	
□	▭

etc.

Do not underdifferentiate: e.g., it is useless to map "structures" (regardless of function or occupancy).

(2) Griff Feeny has produced an admirably succinct discussion of the logic behind a "Lexis Diagram." I enclose a copy for your bedtime reading.

Best wishes for an early masterpiece,

Vern

Vern Carroll

Defining Populations

The notion of 'a population' may be considered from two points of view: formally, or ethnographically. Formally, a population is a certain kind of construct: a "set" to be precise. Regarded over time, it is a set whose membership changes. This approach to population definition (which Feeney began with at the conference) slights one major problem: how the members of a population are assigned to it (by the data-collector) in the first place. The formal demographer is ordinarily reduced to working with the data that are available, and it is the demographer's task to make the best of this situation. The ethnographer, however, collects his own data; therefore he is faced with the problem of how to conceptualize the population he is studying, and how to decide which particular people should be included, and which particular people should be excluded.

From an ethnographic point of view 'a population' is the name for a naturally-occurring collection of individuals in a specifiable place (or places) at a specifiable time (or times). In this book we are interested in certain naturally-occurring populations, each of which is discrete and subject to the ordinary population processes of birth, death, and migration.

There are four approaches to the definition of actual populations: the "de facto approach"; the "ethnic approach"; the "jural approach"; and the approach from the standpoint of a "reproducing population". Each of these approaches (to be defined more carefully after an introductory discussion of the issues) yields a different sort of population. If one were to take the entire population of the planet, then all four approaches would define the same population. Even for a segment of the world's population as

small as the population of a large nation, there are insignificant divergences (percentage-wise) between the populations defined in these four different ways. But at the scale of community-size populations the different approaches may lead to populations of vastly different composition: Not all of those who happen to be present on an atoll at a particular time (the de facto population) have land rights there (i.e., belong to the jural population); not all of those with land rights are necessarily present; the ethnic population is not necessarily the jural one; and the population involved in the reproduction of the next generation (comprised as it often is of many 'aliens') may be something different from all of the foregoing.

Thus it becomes important to the anthropologist to decide how his data on persons will be categorized, for he will eventually want to refer to tables (also of his own devising, normally) in which his population data is presented, and it is important for everyone to be clear about what the table is a tabulation <u>of</u>. The importance of clarity in population definition is really three-fold: In the first place, there is the usual scientific goal of absolute clarity. By this criterion a tabulation should be "reproduceable." That is, another fieldworker, given only the procedural information in the published report should be able to conduct his own fieldwork, and arrive at the same tabulation. There is a second reason for clarity: the comparison of time-stratified data is only possible if the data pertain to "the same population" (a notion which is discussed further on page 6). If it can be said fairly that the data pertain to "different populations" (because the population definitions have shifted over time) then any changes in time (including zero changes) cannot easily be sorted into those changes attributable to changes in the population, and changes

attributable merely to shifts in population-definition. Finally, clarity is essential if one hopes to make cross-cultural comparisons between different populations. In fact, at this juncture we need more than just clarity: we need standardized population definitions.

The simplest standardized population definition is that of the "de facto population." It comprises all of those (live) individuals who are within a particular, well-defined, area of enumeration at any (specified) moment in time. If the area of enumeration is defined clearly, and if it can be assumed that the enumeration was exhaustive (of those present) and accurate (with respect to the data collected), then the tabulations concerning a de facto population (resulting, of course, from a "de facto census") are unambiguous.

This is the most common sort of census; it is also the one most liable to be found in historical documents, and in the results of national censuses. Besides their availability and practicality, there is an additional interest for the anthropologist in de facto population figures: they reflect a continuing association between people, and the area in which they live (including the resources included in that area). From another point of view, a series of de facto censuses record the demographic changes in a localized community.

The major defect of a de facto census is that it may count people who are only present temporarily; conversely it may omit people who are temporarily away. As long as these two groups are very small (percentage-wise), or are of like composition (in age and sex, as well as total number) then no great distortion has been introduced. But if, for example, a census were conducted when a large number of aliens had been invited to a feast, then the results of the census might be skewed, (in comparison with

the composition of the ordinarily resident population). The conventional solution to this problem is to organize the census so that the only individuals assigned to an area of enumeration are those who are "usually resident" there. Temporary visitors are excluded; those away from home temporarily are included. This kind of census is called a "de jure" census (and defines a de jure population).*

The distinction between "usually resident" and "visiting temporarily" seems to be reasonably unambiguous in the European cultures which use this distinction in their censuses, but these categories do not correspond with anything in the languages and cultures considered in this volume. Since the distinction is ethnographically unreal, it cannot be (anthropologically) useful. Presumably this is why very few anthropologists have ever used the notion of 'de jure population.' Since census decisions about who is or is not "usually resident" are made on the basis of respondent's answers to the census enumerator's questions, and since no meaningful question incorporating this notion can be phrased, it follows that no fixed meaning can be attached to the results of de jure censuses. The fact that certain government censuses (notably those for TTPI) purport to provide de jure population data should not be allowed to obscure the fact that there is no way of getting such information. In other words the published results of de jure censuses in the Pacific are quite useless.

Much more real, from an ethnographic point of view, is the notion of who does or does not 'belong' to a certain population. On Nukuoro, one is

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*This problem is one which is far more likely to be troublesome to the census-taker who does not know whether an area of enumeration is temporarily enlarged or depleted. The anthropologist living in a village is normally aware of this sort of thing, and times his census accordingly.

either a 'native of Nukuoro' (tangada de henua, literally 'a person of the land'), 'an alien from another island' (tangada mai moni, literally, 'a person [who has come] from a canoe,' or 'a European' (tangada abasasa). While the last category tends to remain undifferentiated, the 'aliens from other islands' are classified according to their place of origin. E.g., one is a Kapingamarangi person, a Ngatik person, a Ponape person, etc. It is easy enough to inquire about ethnicity: goe se dangada hee? (literally, 'you are a person from where?') is the phrase you would use. The only possible difficulty in interpreting the responses to this question is that such a question may imply that the answer is not obvious. Therefore, if a person has mixed parentage (as many do) the answer may be interpretable as "the ethnic identity I would opt for if my Nukuoro identity were cast into doubt." This can be corrected for by asking respondents what most of their neighbors think with regard to their ethnic identity.

An ethnic population can include dead people as well as living, allowing for the inclusion of much population data obtained from genealogical inquiry. An ethnic population also includes all members of the ethnic group (e.g., all 'Nukuoro') regardless of location.* This is especially useful in the following way:

In the absence of any migration (i.e., movement in or out of the population, including by adoption), two de facto censuses of the same area would clearly pertain to "the same population." Indeed the very same individuals would constitute the two populations, except as new members

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*There is an unfortunate tendency (on the part of the uninformed) to use the term "de jure population" for the "ethnic population," or for those who seem to "belong" to the ethnic group represented by the community one is studying. Such idiosyncratic uses of a standard technical term are doubly regretted because of the confusion they breed.

had joined through birth, and old members had been lost through death. By convention, any additions to a natural population by birth--and any deletions by death--are part of the "natural increase" (or "natural decrease") of "the same population." But in very small populations (such as those characteristically found on coral atolls) the picture is confused by the comparatively large number of persons who (at least in recent years) are in one stage or another of going to, or coming from, another island.

For example, table 1 reveals that in the nine years between 1963 and 1972 the de facto population of Nukuoro was greatly affected by migration in that 33% (90/267) of those present in 1963 (and still alive in 1972) had subsequently left, while 9% (20/215) of those present in 1972 but not in 1963 were former emigrants who had returned. Many of those present on both census dates had been away for extended periods between censuses, and some people who were not present on Nukuoro Atoll at either census date were mostly present in the intervening years.

With this degree of shifting around it is obvious that the effects of migration are of sufficient magnitude in this local (de facto) population that it is difficult to sustain the fiction that the natural increase (from birth) and the natural decrease (from death) are occurring to "the same population," since births and deaths will be haphazardly recorded according to the vagaries of a person's location at the moment.

By focusing on a population consisting of all members of an ethnic group, one can virtually eliminate the effects of migration, since, by definition, one can enter an ethnic group only by birth (or, rarely, adoption) and leave it only by death (or, rarely, adoption).

If the members of an ethnic group married only among themselves then it would be a straightforward matter to assign all births (and deaths)

to this population in the certain knowledge that one were continuing to refer to "the same population." But a population like that of the (ethnic) Nukuoro poses a definitional problem in that increasing numbers of Nukuoro are marrying 'aliens' (i.e., persons whose ethnic identity is not primarily Nukuoro). The natural increase to the population is therefore owed partially to the presence of large numbers of fertile adults who are not counted as part of the ethnic population. Later in this discussion I shall return to this difficulty and propose a method of dealing with it, by establishing a convention about a "reproducing population." But first I shall discuss the notion of a "jural population."

An ethnic population is by its nature "inclusionary," the criteria are lax and the-more-the-better. However a jural population is "exclusionary," in that rights are involved, and (especially in the face of scarcity), the-fewer-the-better. Full jural rights (e.g., to land) may attach (at least potentially) to all living members of the ethnic population, but it may also be convenient to have a way of discussing that portion of an ethnic population which is of full status in this regard.

The basis on which a jural population is defined can be any factor that is ethnographically real, culturally important, and operationally feasible. Actual or contingent rights to land on Nukuoro atoll are the basis on which I establish a jural population for Nukuoro. Since no one in Nukuoro acquires any fixed rights to land until the owner (normally a parent, own or adoptive) dies--and not even then if he (or she) is not of mature years--many ethnic Nukuoro, especially youngsters, have no determinate claims. When their rights are conveyed there are many possible impediments to taking up these rights: first of all one

must be clear about what these rights are (i.e., one must acquire possession of an unambiguous written or oral testament); one must know what these rights attach to (i.e., where the plot boundaries are); and one must exercise these rights sufficiently to discourage other claimants. The key criterion of whether one ever really "owns" a plot is whether one succeeds in willing it to one's heir. Naturally, heirs who are away from the atoll most of their lives find it almost impossible to meet these criteria.

Since the purpose of defining a "jural population" is to be able to keep in focus the population of likely claimants to a community's resources, we exclude the children of those Nukuoro who have married alien spouses, and who live abroad with their families.*

The "reproducing population" is, in a manner of speaking, the population which produces the jural population. It excludes not only the children of Nukuoro who marry aliens and live abroad (as in the jural population) but it also excludes (i.e., treats as "emigrants") their Nukuoro parents. Similarly, all parents of full-status 'Nukuoro' are included in the reproducing population (i.e. treated as "immigrants"), even if some of them are 'aliens.' The use of a population defined in this way is in fertility studies: a jural population (as defined above) would exclude some children, but not their parents; use of such a population would therefore present a false picture of fertility.

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*There is a practical reason for taking this position: information about such children is inevitably less complete, because their relatives on the home atoll (where most of the interviewing usually takes place) tend to have incomplete information about them.

Given these general background remarks I should now like to operationalize these definitions.

The field anthropologist normally begins with the study of a "home-atoll community" (i.e., the place where most members of the ethnic group would be located if there had not been recently expanded opportunities to migrate), but the ethnic population, in its entirety consists of those members who are away, as well as those who remain at home.*

Genealogical inquiry among the 'natives' present will usually elicit some mention of all other living natives if it be remembered to check for all descendents of all ascendents [see chapter on field methods]. Inquiries will also turn up a large number of non-natives who are parents, spouses, half-siblings, adoptive children, etc. of natives. All of the foregoing (whether living or dead) along with anyone else who lived on the atoll for any length of time (and therefore might have figured in a de facto census) comprise the Known Population (KP). It is nothing more (or less) than the list of all names for which you have some information.**

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*It may not be possible to localize a population on one atoll. If Hatanaka is correct then it may be necessary to consider the populations (at-home and away) of both Pukurua and Reao together. Similarly, Ottino suggests that a wider group of atolls should be considered together as the "home-atolls" of his population. Conversely, a large atoll, such as Arno or Ontong Java, may subdivide neatly into separate (village) populations each with a "home-islet" and each capable of being treated as a separate population. Another problem altogether is raised by the situation, as among the Kapingamarangi, where the ethnic population abroad (in one village) becomes as large as the "home atoll" population.

**A personal name is not required for listing: "John Smith's father," "Mary Smith's third husband," "Judy Smith's stillborn child (following Tim)," "The Danish Trader around 1880"--all are legitimate members of the KP.

The Known Population (KP) can be conceived of (see figure 1) as comprising the Genealogical Population (all those, including aliens, who figure on a genealogy which includes Nukuoro), plus those 'de facto aliens'(DA) who figure (or might figure) in a de facto census, but who are not members of the Genealogical Population (GP).

The GP divides into the Ethnic Population (EP) of 'natives,' and the aliens (GA) who appear on genealogies ('genealogical aliens'). The Ethnic Population (EP) of Nukuoro includes everyone who has at least one Nukuoro parent.

The Ethnic Population comprises 'full status Nukuoro'(NN) and 'Nukuoro emigrants' (NE). The latter are the Nukuoro who marry aliens, have children with their alien spouses, and live abroad. In consequence, their children grow up abroad and tend not to return to the home-atoll population. However, the Ethnic Population includes these 'alien children' (AC).

When the AC children are excluded from the Ethnic Population, leaving only NN and NE (who retain full jural rights despite their absence), then a Jural Population (JP) results.

It will be remembered that the 'genealogical aliens' (GA) were of two sorts: (1) those ("immigrants") who married Nukuoro, settled down on Nukuoro and had children which they raised on Nukuoro (which are collectively designated as NI); and (2) the other aliens who do not qualify for this designation.

If we exclude "emigrants" (NE) from the jural population, and at the same include "immigrants" (NI) then we have a new sort of population, which I call the Reproducing Population (RP).

To recapitulate: the anthropologist working with small populations (such as those inhabiting coral atolls) which are not wholly localized (i.e., which have considerable migration) may find it useful to work with four types of populations:

1. A de facto population (DP)
2. An ethnic population (EP)
3. A jural population (JP)
4. A reproducing population (RP)

For the purposes of this book a de facto population will normally be referred to as a "de facto population," unless there are several; other populations may be more conveniently referred to by their acronyms (above).

It will be noted that every population must be defined with respect to a particular time. E.g., we should talk about a "KP as of 1 March 1952," or the "RP as of 15 Sept. 1965," etc. If constant text reference to different empirical populations is essential then the full list of these can be provided in a note, and each of them designated with a subscript. E.g.,

DP_1 - de facto population as of 1 May 1930

DP_2 = de facto population as of 15 April 1935

DP_3 = de facto population as of 30 May 1957

DP_4 = de facto population as of 15 Nov. 1963

DP_5 = de facto population as of 15 Mar. 1965

A population not only has a terminal date, but a beginning date as well. This should be specified. In Nukuoro, for example, I consider only those born after 1890 as members of the RP or JP since it was then that birthdates were recorded in a register. Although I have a wealth of

genealogical data pertaining to earlier periods, I do not attempt to use it in tabulations of the reproducing population, because I am not certain at what point it becomes incomplete.

As will be clear from the foregoing, every member of the KP must be designated as to ethnicity and location (as of particular de facto censuses) in order that he (or she) be properly classified as a member of the correct populations. Specifically, provision must be made in the coding scheme for the following classes of information. (1) the location of each individual as of particular dates (of all de facto censuses), along with the reason for being there; (2) the ethnic status of each individual (as of a particular date if ethnic status is held to be changeable); (3) the inclusive dates of all sojourns abroad for each individual (and the reasons).

There is considerable redundancy to this information with other information in the census records (e.g., status as a Nukuoro emigrant is inferable from information on marital status, ethnicity of spouse and parenthood). There is also obvious overlap between (1) and (3) if information in both categories is complete. But in many cases only one class of information will be available. It is therefore simpler to make provision for both sorts.

The above coding requirements would be met (to take the Nukuoro case) if each member of the KP were given one of the following labels, as of particular dates.

'Nukuoro' (EP)

NN Full status Nukuoro.

NE Nukuoro "emigrants" (including those adopted by aliens living abroad).*

AC Children of Nukuoro "emigrants."

'Others' (DA and GA)

AR Aliens who are unrelated to any Nukuoro, but who resided on Nukuoro Atoll for a year or longer. (This is the class of DA 'de facto aliens.')

NI Nukuoro "immigrants" (spouses and adoptees).*

The remainder (GA) can be lumped together, or sub-divided in terms of their primary genealogical attachment. E.g.:

AA Aliens who are (or were) ancestors of 'Nukuoro'

AP Aliens who are (or were) spouses of 'Nukuoro,' but who never became "immigrants"

AS Aliens who are half-siblings and step-siblings to 'Nukuoro'

While the solutions proposed above may not fit every case, it should be reiterated that ethnographers must consider this range of problems. Many of us are preoccupied exclusively with coding the data we have, tabulating this data and interpreting the tabulations. But we must consider also the data we don't have, the people who should have been included in our tabulations but aren't, the people who are included in our tabulations but shouldn't be. These problems CANNOT BE IGNORED. Every table should contain same mention of all those who fit the population

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*Note that both emigrants and immigrants can resume their previous status.

definition, even if it must reported that, with respect to particular characteristics, we just "don't know."

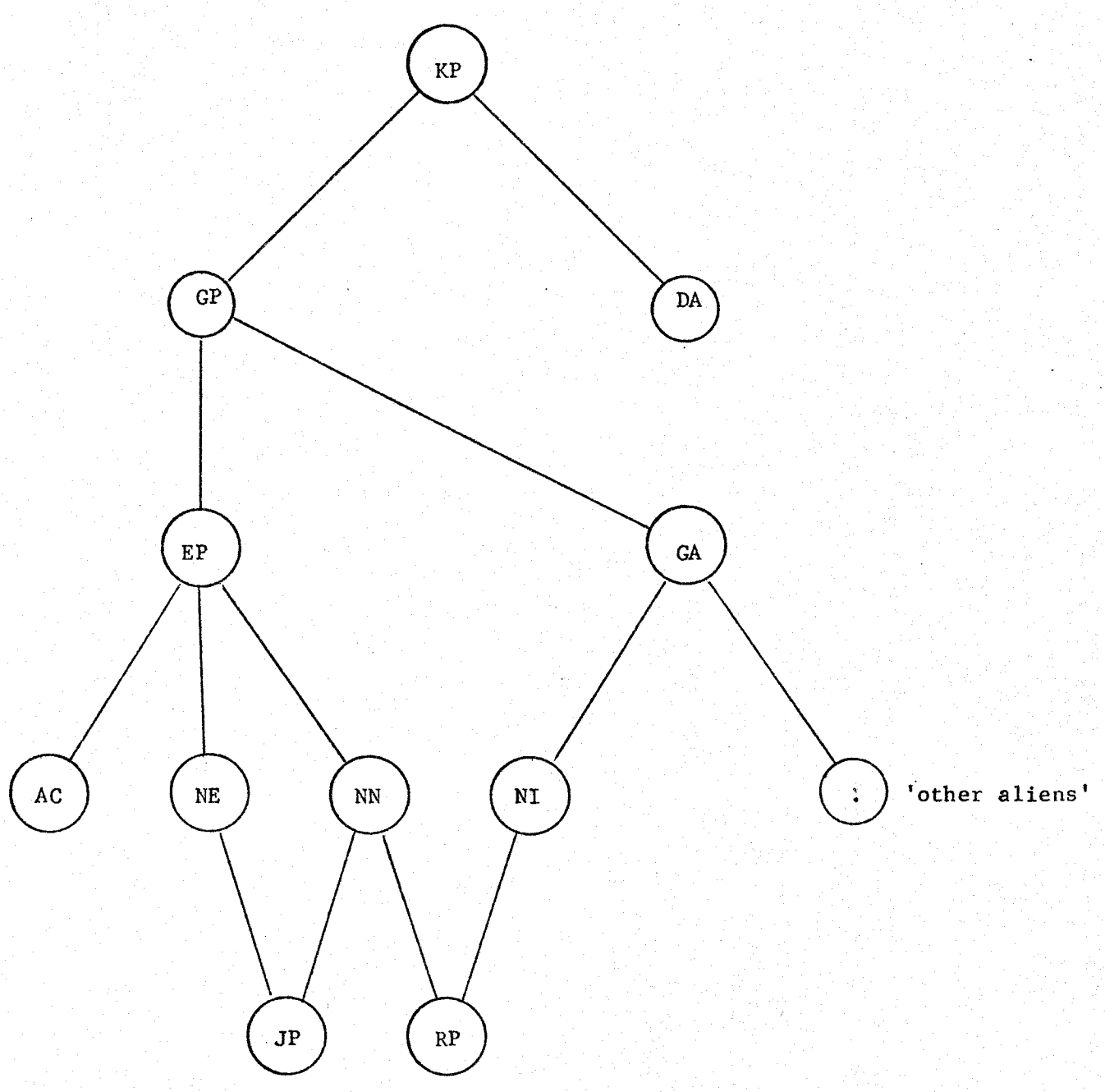
Attempts should be made to work with the above definitions. If they are not entirely suited to your situation, why not try to use them to the extent possible, and state where you feel you must diverge (in the interests of ethnographic reality and/or methodological practicality)?

We agree that de facto populations are useful because they are unambiguous; but we cannot work exclusively in terms of them. Besides, we usually have more data (from genealogical inquiry) than they display. We also agree that de jure populations (defined in the conventional way) are not in the least useful. We therefore agree that new definitions are necessary. If enough people think about how to modify those proposed so that they will work, then we might eventually get to a more satisfactory solution, achieving both better comparison and better conceptualization.

Table 1. Comparison of Nukuoro de facto populations

Age Grouping	Present in 1963	Present in 1972	Lost (by category)	Gained (by category)
NATIVES				
Old persons	25	11	14 { 10 - died; 4 - living abroad with children }	none
Adults	99	63	40 { 29 - emigrated; 11 - died }	4 - returned from abroad
Adolescents	63	50	24 { 20 - away at school; 3 - married out; 1 - died }	11 - returned from abroad (school)
Children	64	84	23 { 21 - emigrated with parents; 2 - adopted out }	43 { 38 - natural increase; 5 - returned with parents }
ALIENS	16	7	11	2 - married in
Totals	267	215	112 { 90 emigrated; 22 died }	60 { 38 born; 20 returnees; 2 immigrants (married in) }

Figure 1. Relationships Between Populations



In addition: a de facto population consists of all those present on census day. It has no obvious relationship to the populations above, which are not localized.

VC&EW 1/73

ASAO STYLE SHEET FOR VILLAGE MAPS

- Unoccupied sleeping house or hut - Native style
- Occupied sleeping house or hut - Native style
- Small hut used for storage etc. (except copra warehouse, cooking etc.)
- Unoccupied or unfinished European-style house (non-traditional: frame, cement block, etc.)
- Occupied European-style house
- Canoe house
- Canoe house also used as regular sleeping quarters
- Canoe house also used as occasional sleeping quarters
- Canoe house used as meeting house (or men's house, etc.)
- Menstrual hut
- Work area reserved exclusively for women
- Earth oven in regular use (with or without covering structure)
- Dug well in use
- Abandoned dug well or cistern
- Permanent cistern (cement or metal)
- Church (irrespective of architecture)
- School (classroom) building (irrespective of architecture)
- Dispensary (irrespective of architecture)
- Municipal office building (irrespective of architecture)
- Copra dryer
- Copra storehouse (individual household)
- Copra warehouse (community, village etc.)
- Store
- Goods warehouse
- Toilet on land - permanent with enclosing structure
- Toilet over-water (benjo), including sorts elaborated into sleeping huts
- Toilet over-water - in regular use as sleeping hut
- Pier, jetty, or other stone works
- Taro bog
- Shore outline (high-water mark)
- Seaward reef outline
- Sand spit
- Village path or road (kept clear)
- Plot boundary

Indicate section markings (to be reproduced as grey lines) in colored pen on draft map

Do not map vegetation unless essential to monograph (in which case consult with series editor for symbols)

Label shoreline "lagoon" or "open sea" where applicable

N.B. All structures should be differentiated as above. If certain classes are omitted or undifferentiated, so note. Draft maps should contain only these symbols (or a conversion chart should be supplied). If additional symbols are required, check with the series editor.

M. Levin

ASSOCIATION FOR SOCIAL ANTHROPOLOGY IN OCEANIA

MONOGRAPH SERIES

8 March 73

TO: All ASAO Volume Editors

FROM: Monograph Series Editor

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/s/ Vern Carroll

Trust Territory Censuses During the Japanese Period

Sachiko Hatanaka and Vern Carroll

There is a persistant myth to the effect that Japanese censuses of the Trust Territory are not available. This is not quite true. There are very detailed published censuses for 1920, 1925, 1930, 1935, 1940, and possibly one later year as well. Each of these was published in several volumes under the following title.

Japan. Nanyō chō [South Seas Government]

Nanyō guntō tōsei chosa-sho [A Summary of Conditions in the Japanese Mandated Territories]. Palau.

The University of Hawaii Library holds vol. 2 of the 1930 census, which is the main one dealing with "natives", and vol. 1 of the 1935 census, covering approximately the same ground. The attached information for Nukuoro gives some idea of the scope of the island-specific information. Larger atolls (such as Arno) and islands (such as Ponape) are reported upon in the same depth village by village!

There are many other Japanese sources of demographic data which are more ellusive. At the moment we are trying to track down copies of the Statistical Yearbook for Micronesia [Nanyō-chō tokei nenkan]. We are also trying to locate copies of the quarterly reports from each district, which are said to have a great wealth of information.

Anyone having any information about the location of copies of any of this materials should contact

Vern Carroll
East-West Population Institute
East-West Center
Honolulu, Hawaii 96822

We can arrange to have such materials microfilmed here, and the original copies returned to their owners.

The Population of Nukuoro

During the Japanese Period

Newly available information (pointed out to me by Sachiko Hatanaka, to whom I am very grateful) indicates that the enumerated population (TRP) on Nukuoro was as follows:

	Sex		
Year	Males	Females	Total
1920	u	u	159
1925	u	u	184
1930	82	86	168[A]
1935	97	94	191[B]

[A] in 35 households
[B] in 30 households

The Composition of the 1930 Population (TRP) was as follows:

	Sex		
Ages	Male	Female	Total
0-14	41	39	80
15-59	33	40	73
60(+)	8	7	15
Total	82	86	168

add 1 line space

The details are noted in table 1.

The Composition of the 1935 population (TRP) was as follows:

Ages	Sex		Total
	Male	Female	
0-14	48	37	85
15-59	43	50	93
60(+)	6	7	13
Total	97	94	191

add 1 line space

The details are noted in table 2.

Marital Status (TRP) for the two years is noted below:

Year	Never Married			Now Married			Widow, Widower			Divorced			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
1930	50	47	97	25	26	51	4	11	15	3	2	5	82	86	168
1935	65	51	116	30	33	63	0	7	7	2	3	5	97	94	191

In the 1930 census the place of birth of (and of honseki registration) of those enumerated on Nukuoro (TRP) was as follows:

Sex	Born on Nukuoro	Born off Nukuoro but in Ponape District	Born outside Ponape District	Total
Males	78	3	1	82
Females	83	3	0	86
Total	161	6	1	168

In the same census the location of each ethnic Nukuoro ITLP) was given as follows:

Sex	Ponape District	Truk District	Marshall Is. District	Total
Males	91	1	0	92
Females	96	2	1	99
Total	187	3	1	191

The Comparable figures for 1935 are as follows:

TRP

Sex	Native Nukuoro enumerated on Nukuoro	Others enumerated on Nukuoro	Total enumerated on Nukuoro
Males	97	0	97
Females	94	0	94
Total	191	0	191

The actual location at census time of those registered as 'Nukuoro' (honseki registration) was as follows:

TLP

Sex	Nukuoro living on Nukuoro Atoll	Nukuoro living elsewhere in Ponape District	Nukuoro living outside Ponape District	Total Registered as 'Nukuoro'
Male	97	2	0	99
Female	94	5	0	99
Total	191	7	0	198

Table 1. Population of Nukuoro (TRP) in 1930

Age Cohort	Sex		Total
	Male	Female	
0	3	3	6
1	5	4	9
2	2	4	6
3	6	3	9
4	0	2	2
5	2	3	5
6	2	2	4
7	0	2	2
8	5	2	7
9	3	4	7
10	3	3	6
11	2	3	5
12	2	2	4
13	5	1	6
14	1	1	2
15-16	3	1	4
17-19	4	2	6
20	2	0	2
21-24	2	5	7
25-39	10	19	29
40-59	12	13	25
60(+)	8	7	15
Totals	82	86	168

Table 2. Population of Nukuoro (TRP) in 1935

Male Birth Cohorts	Number of Males	Female Birth Cohorts	Number of Females	Total
0	5	0	1	6
1-5	21	1-5	9	30
6-13	20	6-13	24	44
14	2	14	3	5
15-16	5			
17-19	8	15-19	12	25
20	1			
21-24	7	20-24	2	10
25-39	8			
		25-44	26	
40-59	14			58
		45-59	10	
60-64	0	60-64	2	2
65-69	5	65-69	4	9
70(+)	1	70(+)	1	2
Total	97	Total	94	191

Outline:

Differential Fertility on Ontong Java
(BAYLISS-SMITH and LEVIN)

I Marriages
- Age at marriage (♀ and ♂) — not all ♂
- Difference in age of spouses — ✓
- Number of spouses ✓
- Biological relationships of spouses (✓)
- Endogamy-exogamy for the two atolls ✓ — villages

(detain later spouse (in-mighty females.))

II Fertility
- Age at birth of first child (♀ and ♂) — not all ♂
- Age at ~~birth~~ first pregnancy (♀ and ♂)
- Total pregnancies — if at the start
- Total surviving children ✓
- Spacing of pregnancies — sex ratio of all births
- Spacing of surviving children ✓
- Spacing of surviving children by sex ✓
  - Sex of eldest live offspring ✓
- Sex ratios of siblings ✓
- Comparison: pregnancies with live births
- Length of period of effective reproduction
- Age at menopause ✓
- Survivability (differential) ✓

III Time Depth
- Miscarriages) combine
- Still births)
- Offspring dying in first (week if you like) year — } numbers by age, sex, place in order of children born
- Fertility by year for each age (♀ and ♂) ✓
  - ♀/♂ ratio by year
  - Total offspring of parents

/ infanticide, gradual with-drawal of food. effect leads to death.

VC 1/73

ATOLL POPULATIONS VOLUME

Working titles of chapters other
than ethnographic ones:

1. Introduction - Vern Carroll

2. Demographic 'data', concepts, and methods (incomplete data techniques) - and their relationship to the study of small populations. G. Feeney

3. Variation (in respect of various demographic characteristics) between the sample atolls, other atolls, and other islands. Ko Groenewegen

4. Atoll societies as a type of small society, in respect of cultural accomodation to demographic events. A. Yengoyan & R. Harrison & A. Howard

5. What we have learned about atoll populations, and what we still do not know. Peter Pirie

Appendix 1. Field Procedures for the study of atoll populations. V. Carroll

Appendix 2. Methods of compilation for analysis of demographic information for atoll populations. M. Levin

N.B.: If your name is listed above and you don't like the working title of your contribution, then send me another (which is adequately descriptive). V.C.

Aspects of Fertility among ~~Villages~~ the Yanomama population

⟷

CHAGNON, LEVIN, WEISS

Fertility Paper

1. Take the most fertile marriages (largest # children) and → all marriages with 6 or more surviving offspring

   a. determine kinship relation (bio-genetic) between spouses

   b. determine duration by subtracting ages of oldest/youngest offspring

   c. polygyny (sororal) – see if other wives are closely related to "fertile" wife and check their reproductive performance. OR if more fertility correlates to sororal polygyny

   Check to see if

   I fertile marriages showing pattern distinct from the "average" marriages in Types of Consanguinity (eg – 1st MBD, 2nd MBD, FZD etc)
   Amount of Consanguinity ("F")
   B.P. of Spouses
   Lineages of Spouses

   II if there is any correlation to either population (1 or 2) or Village Size.

2. Arrange the fertile women by age and develop a matrix to show when in their life they had the children – i.e. did they have them in "clumps" or in even spaced intervals.

   a. Check to see how many marriages are like that (most fertile by genealogical type) in popns. 1 and 2 – to see if popn. 2 has a greater "fertility potential" based on best estimate from existing marriage pattern. Eg if 2nd x-cousins turn out to be the most fertile, then find out how many per popn. and see if there is any correlation to Village Size, lineal composition etc

OVER

5. a. Fertility by year for ♂♂ & ♀♀ separately (Weiss). ?? Sex ratio at birth

   b. cumulative (Pankata is working on this program here.) Total children by [illegible] for any year.

4. Compare ages of a [illegible] [illegible] within sibships for spacing.

   a. Sex of [illegible] in sibship tends to be a male.

   b. Sex ratios of sibships — {compare to lineage of parents to sex of lineage "arranged" infanticide

   c. to speculate about infanticide based on space between male/female, male/female.

5. Marriage stability and fertility — calculate divorce rate.

Fertility

Hawaii address ...

...
...
Honolulu, Hawaii 96822

I ~~Features~~ Intro. Summary of Yano. work & Lewin's methodology.

II Artificial, ideal "anthropological" population – age, sex, lineage, village, I.D., Spouse, Fa, Mo.

How to write program to handle these parameters.

Pairwise comparisons & matricies

III Genealogical data & how to relate to computer methods.

a. determine relations between spouses

b. between any two random people within group or rel.

c. inbreeding coefficient.

IV Suggested fieldwork formats for data collecting.

a. list of variables – endless & how to systematize.

b. How to create genealogy array.

c. How to add other demographic & sociocultural variables.

V Mishimishimaböwei –

differences between real world & ideal pop.

How Monograph # 2 was

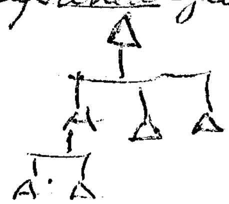
VI Appendices of programs & Fortran (Language Statements.)

Fissioning — Two papers [Theoretical (with [illegible]) / Specific — Yanomamö applications.

outline this on Sunday

1. Distribution of lineages by village - Shamatari / Namowei-teri (from, or expansion of, Monograph with "Cleaner" data)

a. Examine males in sibships of each lineage to arrive at an estimate of probability of a founder's sons Sons being in different villages... i.e. look at distn of descendants by ~~[illegible]~~ generation.



GEN. I — .01 of Sons in more than one Vill.

Gen. II — .20 " Grandsons

GEN. III — .80 " Greatgrandsons.

Chagnon Letter

Exploration of the effect of marriage rules vs demographic characteristics

the Random mating Paper: ALL Genealogies of Villages

NEWTON
Morton's Contribution is that marriage rules have no effect on marriage patterns.

A. Actual Marriages

I. By Total Population

II. By Village

III. By Village within Population

IV By Lineage

VI By Kinship/Biology type

B. Random mating with Restrictions: Simulations

I. Restrictions

a. Types of marriages by Biol. types to see effects of marriage rules. Inbreeding.

b. By age

II Lineage preferences

a. outside lineage into any lineage in popn.

b. outside lineage into lineages within popn.

c. outside lineage into village

III Age —

a. Males 18+ and females 13+ whole popn

b. Males 18+ and females 13+ within popn

c. Males 18+ and females 13+ within village

C. Develop an estimate for inbreeding coefficient of ancestors for future simulations. (by examining youngest generations & actual count).

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PACIFIC ATOLL POPULATIONS PROJECT -- A Supplementary bibliography of important background material (limited to published work)

I. General Reference Works

Bryan, E. H., Jr.
1972 Guide to Islands in the Tropical Pacific (Polynesia, Micronesia, Melanesia). Honolulu: Pacific Science Information Center, Bernice P. Bishop Museum.

Fong, Monica
1970 A Bibliography of Population Censuses of Asia and the Pacific in the Libraries at the University of Hawaii as of October, 1970. Honolulu: East-West Population Institute, East-West Center.

U.S. Bureau of the Census
1971 The Methods and Materials of Demography, by Henry S. Shryock, Jacob S. Siegel, and Associates. 2 vols. Washington, D.C.: U.S. Government Printing Office.

II. Other Reference Works

Davis, Kingsley and Blake, Judith
1956 "Social Structure and Fertility: An Analytic Framework." Economic Development and Cultural Change : 211-35.
Reprint: Bobbs-Merrill Reprints. Reprinted in Readings in Population, edited by Carl Reiterman. New York: Selected Academic Readings.

Hawthorn, Geoffrey
1970 The Sociology of Fertility. London: Collier-Macmillan.

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Levinson, Michael et al
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Morton, N. E. et al
1971-72 "Pingelap and Mokil Atolls: . . ." [Sections of the study were published as separate articles, listed below with journal volume number (year) and page numbers] American Journal of Human Genetics.

"...: Migration." 23(1971): 339-349.
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Newton, W. F.
1967 "The Early Populations of the Ellice Islands." Journal of the Polynesian Society 76: 197-204.

Pirie, Peter
1972 "The Effects of Treponematosis and Gonorrhea on the Populations of the Pacific Islands." Human Biology in Oceania 1: 187-206.
Reprint: East-West Population Institute, Reprint number 24.

Schmitt, Robert C.
1968 Demographic Statistics of Hawaii, 1778-1965. Honolulu: University of Hawaii Press.

Taeuber, Irene, and Han, Chungnim C.
1950 "Micronesian Islands under United Nations' Trusteeship: Demographic Paradox." Population Index 16: 93-115.

Underwood, Jane Hainline
"Preliminary Investigations of Demographic Features and Ecological Variables of a Micronesian Island Population." Micronesia 5: 1-24.

Vines, A. P.
1970 An Epidemiological Sample Survey of the Highlands, Mainland and Islands Regions of the Territory of Papua and New Guinea. Port Moresby: Dept. of Public Health, T.P.N.G.

IV. Other Studies in Demographic Anthropology

Fox, J. R.
1965 "Demography and Social Anthropology." Man 65: 86-87 (art. 71).

MacClue, Jean W., Neel, James V., and Chagnon, Napolean A.
1971 "Demographic Structure of a Primitive Population: A Simulation." American Journal of Physical Anthropology 35: 193-207.

Kelly, Raymond C.
"Demographic Pressure and Descent Group Structure in the New Guinea Highlands." Oceania 1968: 36-63.

V. National Censuses in Which the Commentary and Organization are Especially Instructive

Gilbert and Ellice Islands Colony
1964 A Report on the Results of the Census of the Population, 1963. [Supervised by Norma McArthur and J. B. McCraig.] Suva, Fiji: Government Press.

1970 A Report on the Results of the Census of the Population, 1968. [Supervised by F.H.A.G. Zwart and K. Groenewegen.] New South Wales: V.C.N. Blight, Government Printers.

Groenewegen, K. and Van de Kaa, D.J.
1964-7 Resultaten van het demografisch onderzoek Westelijk Nieuw-Guinea [European Economic Community Project 11.41.002, "Demographic Research Project, Western New Guinea.] 6 parts [date and titles listed below]. The Hague: Government Printing and Publishing Office. [In Dutch, Summaries in English]
Part 1: Nieuw-Guinea als gebied voor demografisch onderzoekingen. [New Guinea as an Area for Demographic Research.]

Part 2: Methoden en Opnamegebieden. [Methods and Canvass Areas.]

Part 3: Tabellen (Series A, B en C). [Tables Series A, B, and C.]

Part 4: Tabellen (Series D en E). [Tables (Series D and E).]

Part 5: De Papoea bevolking van de Opnamegebieden. [The Papuan Population of the Canvass Areas.]

Part 6: De Progenituur van Papoea Vrouwen. [The Progeny of Papuan Women.]

Groenewegen, K.
1972 Report on the Census of the Population, 1970. Honiara: Western Pacific High Commission, British Solomon Islands Protectorate.

ADDITIONS TO THE HANDOUT ON "STANDARD TABLES"

The handout on tables (KG & VC 1/73) does not clearly specify which populations should be used for each table. The following are suggested:

Table 3: RP for latest date available, and for each decade (1960, 1950, 1940, 1930...) back as far as possible

Table 4: RP for latest date available.

Table 6A: RP for latest date available.

Table 6B: RP for latest date available.

Table 8A: [as for table 3].

Table 8C: RP for latest date available.

Table 8D: RP for latest date available.

Table 8E: RP for latest date available.

The following corrections should be made to the following tables:

Table 2A: note 2: change "TKEPL" to "JP."

Table 3: Caption: change "TKEPL" to "RP."

Table 2D: 1st col. add "N.S." after "65+"

Table 4: 1st col. add "N.S." after "65+"

Table 3: 1st col. add "N.S." after 65+"; also add a col. for "marital status N.S."

Table 6B: add a col. (after "20+") for "difference N.S."

Table 6B: boxhead: change "15/19" to "15-19"

The following old tables should be discarded, and the attached ones of the same number inserted in their place: 1C, 5A, 7

The following new tables (providing longitudinal data) should be added to your stack: 1D, 5C, 10

Change the instructions (pp. 1 & 2) as follows:

Pg. 2: change "men and women" to "couples."

Pg. 2: add "1D whole table
5C whole table
10 whole table."

Table 1C. Population (EP & JP & RP) by sex and age group, Area..., Date...

Age	On-Atoll									Off-Atoll									Total		
	NI			NN			Total RP[A]			NE			Total JP[B]			AC			Total EP[C]		
	M	F	P	M	F	P	M	F	P	M	F	P	M	F	P	M	F	P	M	F	P
0																					
1-4																					
5-9																					
10-14																					
15-19																					
20-24																					
25-29																					
30-34																					
35-39																					
40-44																					
45-49																					
50-54																					
55-59																					
60-64																					
65+																					
N.S.																					
TOTAL																					

[A] RP: NN + NI

[B] JP: NN + NE

[C] EP: NN + NE + AC

Table 5A. JP by period of birth, and age at first marriage for ever-married.

Status	Period of Birth					Total
	Unknown	1880-1884	1885-1889	. . . .	1965-1969	
	MALES					
Unknown if married						
Known never married						
Known ever-married, but age at marriage unknown						
Known married first at age: under 15						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35-39						
40-44						
45+						
N.S.						
TOTAL						

Note to authors: do similar table for females, and for total persons. Marriage is de facto marriage.

Table 7: Native males and females (JP) married to native/alien spouses and the number of children ever born to them, Area..., Year...

Age of man	Native males married to								Age of woman	Native females married to							
	Native women				Alien women					Native men				Alien men			
	Number of		Average chdrn. per couple	S.E.	Number of		Average chdrn. per couple	S.E.		Number of		Average chdrn. per couple	S.E.	Number of		Average chdrn. per couple	S.E.
	Couples	Children			Couples	Children				Couples	Children			Couples	Children		
under 15									under 15								
15-19									15-19								
20-24									20-24								
25-29									25-29								
30-34									30-34								
35-39									35-39								
40-44									40-44								
45-49									45-49								
50-54									50-54								
55-59									55-59								
60-64									60-64								
65+									65+								
N.S.									N.S.								
TOTAL									TOTAL								

Table 1D. JP by period of birth and age at death.

Age at death	Period of Birth			. . .	1965-1969	Total
	Unknown	1880-1884	1885-1889			
	MALES					
Unknown						
0						
1-4						
5-9						
10-14						
15-19						
20-24						
25-29						
30-34						
35-39						
40-44						
45-49						
50-54						
55-59						
60-64						
65-69						
70-74						
75+						
TOTAL						

Note to authors: do similar table for females, and for total persons.

Table 5C. Female JP by period of birth and age of mother at first birth for those who have given birth.

Status	Period of Birth of Mother					Total
	Unknown	1880-1884	1885-1889	. . . .	1965-1969	
Unknown if had child						
Known to have had no children						
Known to have had children, but age at first birth unknown						
Known that age at first birth was:						
under 15						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35-39						
40-44						
45+						
N.S.						
TOTAL						

Table 10. Female births to female birth cohorts of the RP population, by age of mother at birth.

	Period of Birth of Mother					
	Unknown	1880-1884	1885-1889	. . .	1965-1969	Total
Number of females in cohort						
Total number of female births to cohort mothers						
Number of female births to cohort mothers at the following ages: 10-14 15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 54+						
TOTAL						

M. Levin

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EAST-WEST POPULATION INSTITUTE

March 29, 1973

ATOLL POPULATIONS PROJECT - Circular #14

Dear Friends:

Our project is slowly getting behind schedule. Since we must catch up to the original schedule, I am trimming the rigging, and throwing overboard all unnecessary ballast.

Ethnographic papers not received by the end of this month will not be duplicated and sent to the other ethnographers. This is because there is no way I can get them through the duplicating process here and through the U.S. mails, and into the hands of commentators, in time for them to provide feedback which can be taken account of in time to have revisions into my hands by May 1st. (I will, however, circulate your paper to those writing conclusions and to our correspondents--so they can perform their role.) Therefore, if you want copies circulated to your friends, then you must arrange to do it yourself. (This will also save reproduction expenses and postage at this end.) Also, make xerox copies for your own use.

Similar rules will apply to all "Conclusions" not received here by the end of April.

When I have received a sufficient number of ethnographic chapters to make a book, I will send the rest of you telegrams advising of my inability to keep you in the project. This is of course regretted, but there are limits to the amount I can do in a finite period of time. Similarly with the conclusions.

If by the final deadline I do not have a version of your contribution which meets the volume's standard, or one that requires much editorial work, then I will have to return it to you and not consider it further. All this is regretted, but essential to the preservation of our collective sanity.

I am eliminating from the project all computer tabulations and comparisons. Those of you who have been working with Levin will have to decide whether additional investment of time is worth it, and on what basis and schedule. You should also make it clear as to what state you require your data to be in (with respect to completeness and accuracy) before you will release it to Levin for illustration of his thesis. Ko's comparisons will be limited to the tables provided in the ethnographic chapters.

I hope that all of you who do receive papers in the mail will take the time and trouble to comment. Your help is greatly appreciated.

Sincerely,

Vern

Vern Carroll

VC:lkt