

ATOLL RESEARCH BULLETIN

No. 10

Anthropology-Geography Study of Arno Atoll, Marshall Islands
by Leonard Mason

Issued by

THE PACIFIC SCIENCE BOARD

National Research Council

Washington, D. C.

September 1, 1952

TABLE OF CONTENTS

	<u>Page</u>
Land and Water	2
Population	3
Natural Resources	5
Effects of the War	6
Arno - a study in Contrasts	7
Communication between Arnoese and Americans	9
Commercial Enterprise	11
Political Authority	13
Land	15
Miscellaneous	20
Marshallese Phonemes and Orthography (by S. H. Elbert)	21
	FIGURE
Map of Arno Atoll	(facing p. 20)

ANTHROPOLOGY-GEOGRAPHY STUDY

This report covers the field activities of the anthropology-geography section of the Coral Atoll Project at Arno from June 12th to September 13th, 1950. Transportation, living accommodations, and facilities for this work were made possible by a grant from the Office of Naval Research through the Pacific Science Board (National Research Council), and with the generous cooperation of the Office of Island Governments, Department of the Navy, and the Civil Administration staff, Marshalls District, Trust Territory of the Pacific Islands. The University of Hawaii very graciously contributed funds to support the making of a comprehensive photographic record of Arno anthropology and geography.

Within the framework of the Arno Atoll Project, the problems of human relations and of certain cultural adjustments by Arnoese to their physical environment were investigated by the author, with the aid of two assistants, Mr. John Tobin (anthropology) and Mr. Gerald Wade (geography), both graduate students from the University of Hawaii. Tobin and Wade were part of the first contingent of the expedition which departed from Hawaii on June 10, 1950. Due to another commitment, the author was not able to join the group until July 3rd at Majuro. Tobin remained with us at Arno until August 9th, when he left for Majuro to assume his new duties as anthropological adviser to the Civil Administrator, Marshall Islands. Wade and the author were among the last to leave Arno, and returned to Honolulu on September 15, 1950.

One of the reasons why Arno Atoll was selected as the site for the Coral Atoll Project was because of its relative accessibility, as compared with other possible sites in the Trust Territory. In most cases,

team members arrived at Arno within two to five days after departure from Hickam Field, Hawaii. The Navy furnished air transportation from Hawaii to Majuro. Flight time via MATS (Military Air Transport Service) planes from Hickam to Kwajalein is approximately twelve hours, that from Kwajalein to Majuro via the PBM air logistics service is less than two hours. Surface transportation from Majuro to Arno, about eleven miles airline distance from Majuro, required varying periods of time, depending on wind, weather, and type of shipping. Primary dependence was placed by the team on sailing craft, either under contract from Marshallese owner-operators or as a service provided by the Civil Administration school facility at Majuro. Some trips were as short as three hours, the longest was three days.

Daily MATS schedules from Hawaii and weekly logistics flights within the Marshalls, together with almost weekly freighting trips between Arno and Majuro, provided members of the expedition with a fairly regular mail and supply service. With few exceptions, communication with the outside world was most satisfactory, and the success of the project will depend in no small part on this factor.

Land and Water.

The index map of Arno Atoll, which accompanies this report, shows a land area of approximately five square miles, divided into 133 islands of varying size and for which there are 106 Marshallese names. The spelling of these names follows the new orthography which is being worked out in cooperation with Dr. Samuel H. Elbert, University of Hawaii linguist, and the Trust Territory administration. A key to

pronunciation is presented on the map itself. The author proposes that this place-name terminology be used by members of the Coral Atoll Project when submitting their final reports for publication on their respective areas of interest. Copies of this map are being distributed to other members of the project.

Some of the islands are little more than rises of sand above the coral reef, supporting only beach scrub and perhaps a few coconut trees. Other islands, such as Arno or Ine, are several miles long, as much as half a mile wide, and heavily forested in the interior. Although all land in Arno Atoll is owned in accordance with Marshallese custom, just one-third of the islands are permanently occupied by Arnoese. The remaining two-thirds are visited for short periods to harvest coconuts in the production of copra. The main lagoon and the northern and eastern enclosed, smaller lagoons, all of which total approximately 130 square miles of surface area, provide adequate fishing grounds. The lagoons are also utilized as the primary area for communication by outrigger canoes operating between islands within the atoll.

Population.

According to the mid-1950 Civil Administration estimate, Arnoese numbered 1,155. Census samples taken by us during the summer, however, indicate the probability of a somewhat smaller population. The problem of determining accurate totals is rendered difficult by the Marshallese custom of constant migration from one landholding to another in the routine of copra production or for visits to relatives for varying periods of time. A not insignificant movement was also noted between

Arno and the nearby atolls of Majuro and Mili. Limitations of time restricted us to detailed population surveys at only three islands: Arno, Ine, and Jab'ü. When the results of this work are compared with the atoll scribe's official register, discrepancies in the latter reveal that a fairer estimate of Arno's present population might be around 850. The atoll register still includes names of war refugees from other Marshall atolls who were temporarily resident at Arno during 1944 and 1945. Nearly all of these transients were repatriated in 1946 by Military Government, except where ties of friendship, adoption, or marriage bound a few of them more permanently to Arno.

Available statistics on births and deaths at Arno since 1946 indicate a preponderance of births in a ratio of 3 to 1. It appears that this trend will not provoke any serious problem of overpopulation at Arno for many years to come, if we are to accept statements from older Marshallese regarding the more densely populated character of the atoll several generations ago. When the team's analysis of Arno's present food resources, both agricultural and marine, is completed it is certain that additional support for the above statement will be forthcoming.

The Arno people today are scattered in many groups of less than 150 persons each throughout the larger islands of the atoll. The greatest concentrations occur at Ine and at Arno Islands, others of lesser size are at Matol-en, Tutu, Bikarej, Tinak, L'angar, Malel, Kilange, Jab'ü, and Ül-en. The anthropology-geography section of the team visited, for varying periods, the islands of Ine, Matol-en, Jab'ü, Kinäjong, Lukwoj, Arno, Tutu, Takleb, Tinak, Kilange, and Malel (one month was spent at Arno Island, one to three weeks each at Ine, Tinak, and Jab'ü).

Natural resources.

Tutu Passage on the northern side of Arno's main lagoon is located at 7° 7' N. latitude and 171° 41' E. longitude. Thus Arno is well within the tropics. Its position in regard to the equator and the tradewind area ensures that the atoll is well supplied with rain throughout the year. Expedition members experienced some difficulty toward the end of the summer in scheduling outdoor work due to an increasing number of rainy days. Although the soil of coral atolls is generally not good, the vegetation picture at Arno is encouraging, especially in the larger islands, where more than enough food plants grow to meet the subsistence needs of the present population. The range of food-producing flora includes coconut, pandanus, breadfruit, bananas, some papaya and limes, arrowroot in great quantities, a little taro-like Cyrtosperma, and small plantings of sweet potatoes. For use in fiber handicraft manufactures, there are adequate reserves of pandanus, hibiscus, coconut, and the beach creeper Triumfetta procumbens.

While the southern Marshalls do not constitute the best stocked fishing area in the archipelago, there appears to be sufficient marine life to support several times the present Arno population. Reef, lagoon, and deepsea areas at Arno are not utilized by the local inhabitants to the fullest extent possible. The customary land and sea birds of eastern Micronesia are found at Arno, but play no important role in the subsistence economy of Arnoese. Rats and mice, practically the only wild mammalian life, provide somewhat of a pest problem. Insect life includes the annoying mosquito which we found a nuisance in most islands

both night and day. Numerous dogs and cats serve the people more as scavengers than as pets. Pigs and chickens are raised in a haphazard manner as a primary source of meat on festival occasions. Detailed studies of the natural resources of Arno were made by other members of the expedition, and will be reported by them elsewhere.

Effects of the war.

Apart from the general collapse of export-import trade and shipping, Arnoese suffered only minor disturbances during the war. Such was not the experience, for example, of Marshallese at Mili, to the southward, where a large Japanese-garrisoned airbase was bombed continually by American planes in the last year or two of the war; or at nearby Majuro, where the establishment of an important American forward area activity resulted in considerable disruption of another order for Majuro Marshallese. The one outstanding incident of warfare at Arno was the crash of a four-engined American bomber in the lagoon off Jab'u Island, at which time several of the crew were killed, and others imprisoned by the Japanese. Arnoese buried the crash victims and tended their graves until 1946 when Americans exhumed the remains for more permanent interment in the United States. The plane still rests on the lagoon reef, a tragic reminder of the war, but a source of valuable metal for coconut-grater blades, husking-stick points, and numerous other Arnoese artifacts.

Both Arno and Tutu Islands served as relocation areas from 1944 to 1946 for Marshallese refugees whom American night raiders had spirited away from the by-passed, Japanese-held atolls of Mili, Jaluit, and Maloelab. Some dislocation of Arno community life was occasioned by these temporary residents. Increasing contact with Americans and with

Marshallese from other atolls brought Arnoese out of their previous isolation, and contributed notably to the Western orientation observed today in certain segments of the population.

Arno - a study in contrasts.

At Arno Atoll we had the opportunity to observe a remarkable gradation of population groupings, each of which in a way represented a development in the cultural history of Arno during the past century. Among the islands visited by us, the inhabitants of the eastern horn (known to Arnoese as Baranailingin - "head of the atoll") constitute one extreme in this series. Here, the small communities of L'angar, Tinak, Kilanga, and Malel, now nearly two hundred people, have through decades of geographic isolation continued to maintain a profound respect for ancient Marshallese tradition. Greater regard for persons of nobility, stricter observance of tabus in behavioral relationships between certain kinfolk, less concern about exactness of land boundaries, and similar prehistoric emphasis combined to impress us with an atmosphere of antiquity. This primitive provincialism was at once refreshing for its anthropological interest, but at the same time distressing because of the disadvantages met by Baranailingin people in their transactions with more acculturated Arnoese in other parts of the atoll.

The other extreme was observed at Ine village where more than 150 people live in close proximity, in Japanese-style houses antedating the war and in Marshallese constructions remodeled with boards, plywood, and corrugated iron sheeting scrounged from American military bases at

Majuro and Kwajalein Atolls. In its shanty-town aspect, Ine recalls the impoverishment of slum sections in many of our larger cities. The diet of Ine inhabitants includes more of rice and tinned meats than is the case elsewhere in Arno. Ine is the political and economic center of the atoll, as well as the primary port for small boats operating between Arno and Majuro. Even the mission is established at Ine, thus making that village the spiritual focus of the predominantly Protestant population of Arno. It was natural enough that Ine served us as expedition headquarters from which sporadic survey trips were undertaken to the outer islands for sampling purposes.

Arno Island, the richest in natural resources and supporting the largest population of all islands in the atoll, assumes an intermediate position with respect to the cultural extremes noted at Baranalingin and Ine. Arno inhabitants depend more upon local foods than do those at Ine, and build their houses more often of thatch and local timbers. One observes at Arno a fair degree of cultural awareness of the West -- not as prominently as at Ine, but quite different from the relative lack of sophistication in the eastern horn. As a result of decades of contact with traders and missionaries, who divided their labors between Arno and Ine, the social life of Arno Islanders is interwoven with that of Ineans. However, cultural equilibrium at Arno Island is well maintained, and appears likely to continue in that manner for years to come. Not so at Ine, where the population as a whole seems committed to a new life oriented toward the West.

As the above situation is viewed in its atoll-wide aspect, with special reference to economic and political affairs, these cultural differences combine with personalities to present a confusing organizational scheme replete with conflict and intrigue.* Since 1944, American administration contacts with Arnoese have been concerned with ramifications of this conflict. We devoted much of our time to an analysis of the situation, realizing that as long as it persists a more complete utilization of atoll resources and manpower cannot be attained. We trust that our observations will be of assistance to Civil Administration officials in their future relations with the Arno people.

Communication between Arnoese and Americans.

The presence during the summer of twelve American scientists at Arno afforded the islanders considerable diversion from their usual routine. At one time or another most of the villages were visited by small parties from our headquarters at Ine. Quite obvious on these occasions was a general lack of understanding of American custom by Arnoese, for they eagerly sought opportunities to learn from us more about America and Americans. We communicated with the people almost entirely through Marshallese interpreters, although one or two members of the expedition acquired sufficient facility before the summer's end to converse in limited manner in the vernacular. Only eight or ten Arno residents understood English well enough to speak with us easily. We hired one local man as regular interpreter, while two others

* A more detailed description of the economic, political, and land administration of this situation is presented in subsequent sections of this report.

(school teachers from Ine and Arno Islands) were taken on for short periods when their teaching duties permitted. Majuro provided two additional fulltime interpreters for the first part of the season. All interpreter personnel was under the supervision of James Milne, a Marshallese and official interpreter loaned to us by Kwajalein Navy officials. Without Milne's assistance the anthropology-geography work of the expedition could not have been accomplished in the three months available.

Ordinarily, Arnoese have almost no contact with Americans in their own atoll. Official field trips visit Arno (either Tutu or Ine Islands) only four times each year, for a period of several hours on each occasion. Field trip parties normally include representatives from the Political Affairs, Medical, and Education Departments, and from the Island Trading Company. Time ashore is too limited for adequate discussion of problem areas. The inability of the people to speak English and a comparable lack of Marshallese facility by American officials (recently, there are one or two important exceptions) requires that practically all contacts be effected through interpreters. Some difficulties in the conflict situation noted in the previous section of this report have emanated from the fact that certain official interpreters at Majuro are Marshallese from Arno, or otherwise prejudiced in favor of one Arno group or another, and fail to be impartial and objective in their interpretation of the situation to American officials.

The short distance to Majuro and the small boats now available for

trips from Arno have provided certain Arnoese with greater opportunity to present their own problems at Majuro where, with more time and with their own interpreters, more satisfactory communication with Civil Administration is achieved. Even the latter course, however, does not necessarily provide a fair presentation of the Arno situation. It must be obvious that before more adequate comprehension of the Arno conflict can be attained, American officials must learn more and better Marshallese or else exercise greater caution when depending upon Marshallese interpreters. Furthermore, the complexity of the Arno conflict is such that it cannot be understood by any one in the course of four short field trips each year or through casual conversations with Arnoese visitors at Majuro.

Commercial enterprise.

From 1944 to 1947, Arnoese produced large quantities of fiber handicraft (fans, doilies, mats, belts, cigarette cases, and cup coasters) for sale to traders of the U. S. Commercial Company (USCC), the predecessor of Island Trading Company (ITC). Later, as shipping improved and copra production was revived, handicraft declined in favor of copra as the primary source of money income for Arnoese. Present income from handicraft is almost nil, due to an ITC policy whereby handicraft purchases are being restricted until surpluses of USCC stock are moved. In the year beginning July 1, 1949, Island Trading Company at Majuro, the only buyer of Arno copra, purchased approximately \$40,000 worth of copra from Arno producers, averaging about \$50 per capita. We collected considerable data on copra production by the month, by district, and by shipment to Majuro, and on distribution of copra income

among the Arno population according to a complex social stratification and land ownership system. A more detailed analysis of this material will be forthcoming in the near future.

Retail stores are maintained at Ine, Arno, Tutu, and Malel Islands. Storekeepers acquire their goods through the Arno Wholesale Company at a retailer's discount which enables them to make some profit on sales to the Arno consumer. The Arno Wholesale Company is an organization built on a capital investment by twelve Arno Marshallese, who control all trade imports to Arno (with the recent exception of mail order purchases from U. S. mainland firms on direct order from Arno consumers). The Arno company buys its supplies at wholesale prices from ITC Majuro. Until recently, prices at wholesale, retail, and consumer levels were controlled by Civil Administration order, but now only certain commodities remain in this restricted category. In practice, the Arno Wholesale Company continues to dictate retailer and consumer prices to some extent at Arno. Storekeepers sometimes act as copra brokers, buying from the Arno producer and shipping at their own expense to Majuro for resale there at a better price. Many Arno producers, however, prefer to deal directly with ITC Majuro because of alleged malpractice in weighing and grading by certain Arno storekeepers. This involves shipping at the producer's expense, but appears to be profitable in view of the number who continue to follow this course.

Since outrigger canoes are not suitable for shipping heavy cargo between Arno and Majuro, some groups and individuals at Arno have built or acquired larger boats for this purpose. In July, 1950, the Atoll

Council purchased a newly converted ketch from the administration-sponsored boatworks at Kwajalein. With such sailing craft, ranging from 28 to 50 feet in length and carrying from three to 16 tons, copra and trade goods are being freighted on fairly regular and frequent schedules to provide Arno boat owners and operators with an additional source of money income. It is important to note that Arnoese are now completely independent of Navy shipping in their trading requirements, and maintain all necessary contacts with Majuro by using Arno sailboats, or craft from other atolls for which contracts are made on a trip basis. This situation should improve so long as Majuro remains the center of ITC activities, for Arno is most fortunately located of all Marshall atolls in respect to its position near Majuro. Should the trading center be removed to Jaluit or to Kwajalein, as has been rumored in the islands, the Arno people would fall into a very sorry state of affairs from an economic viewpoint. Their copra output would undoubtedly slump if larger craft were not available to make the longer hauls worthwhile.

Political authority.

The government of Arno is a function of the Atoll Council, an American innovation since the war and composed of the headmen of more than 100 extended families. The atoll officials are theoretically elected by popular vote, even secret ballot -- Magistrate, Scribe, and Judge. Traditionally, Arno is divided into four areas, roughly north, east, south, and west (Jabonwör, Rearlab-lab, Ajeltokrök, and Keb-jeltok respectively; or more popularly referred to by Americans as Tutu, Malel,

Ine, and Arno). For each of these four areas the Council appoints a Village Headman, a Policeman, and a School teacher, all on salary and paid from atoll funds. The atoll budget, providing primarily for the salaries of fourteen officials (the Judge receives no salary), is met by taxes levied on male adults to the extent of \$13 per annum, by licenses derived from stores and bakeries, and from fines assessed by the Village Headmen or the Atoll Court. (Schoolteachers are selected and trained by the Civil Administration Education Department, and installed in their positions with the approval of atoll officials. An additional category of "official" is the Health Aid, of which there are three (Arno, Ine, and Malel), selected and trained by the Civil Administration Medical Department, but paid by the Administration from non-atoll funds.)

The preceding paragraph describes Arno council government as conceived in theory. In practice, it fails to conform even to minimum standards of American democracy. This is not only the fault of improper indoctrination of Arnoese by Civil Administration officials who instituted the system, but stems also from a basic conflict between the concept of council government and the traditional hierarchy of Marshalllese authority which still flourishes in most of Arno. The conduct of an election held just before our arrival was described in such terms that strong doubt exists as to the extent of popular support for any "elected" official at Arno. Indeed, the Arno Council is dominated by the same group of individuals that organized the Arno Wholesale Company, which controls nearly all of Arno's import trade. Since the Village

Headmen, as appointed by this minority group in the name of the Council, are probably the most active of Arno officials, a situation pregnant with dissension has been created whereby "villagers" are supervised by leaders not always of their own choosing. It was our observation that council meetings were not properly announced in advance (consequently, were not well attended nor representative). Schoolteachers have not been paid for many months because the system of tax collection as set up by the council does not function properly. Many Arnoese refuse to pay their taxes until a more representative and efficient type of local government is established.

Land.

The real source of the conflict at Arno is land and the privileges of its use and ownership. According to Marshallese custom, all land on an atoll is owned by royalty (iroij). It is administered by an older man or woman of the royal lineage, which position (iroij lab-lab, or paramount chief) is inherited from the mother's side of the family. In some atolls, there may be only one royal lineage in control, as was the case at Arno in the late nineteenth century. In other atolls, two or more lineages may hold the area in separate and independent portions, which is the case today at Arno as the result of a family quarrel 60 or 70 years ago. In any case, the land is always divided into small landholdings, each of which is occupied or worked by commoners (kajur) under the direct supervision of a headman, the alab. Between the alab(s) and their iroij lab-lab there is usually (although not always) an intermediate supervisor, who may be of the royalty himself (iroij erik, or little chief), or of common birth but raised to privileged status.

(läatök-tök) because of his or his ancestor's abilities. The position of each person in the hierarchy is hereditary in relation to the land, except when the paramount chief wishes to effect a change at his own pleasure or under pressure from his advisers. Thus, the royalty own the land and receive tribute from the commoners who occupy it and work it for them. The intermediaries receive their share of the tribute as it passes up the line, in proportion to the relative importance of their positions. The paramount chief once was responsible for the welfare and safety of the people on his lands, a reciprocal feature which must have been a strong supporting factor, but which appears now to be more prominent in its oversight.

The conflict at Arno is not recent in origin. It began just before the turn of the century when the paramount chief attempted to take the wife of his maternal cousin, initiating a quarrel which split the lineage and the entire atoll wide apart. By 1904, the German administration in the Marshalls had put an end to warfare between the two groups, but they failed to stop the political maneuvering which followed. When the Japanese replaced the Germans in 1914, the Arno trouble flared up anew. Tales of lobbying and bribery by both parties at Jaluit, the Japanese capital in the islands, provide a lurid background for charges of illegal transfers of land at Arno in the decade or two that followed.

When the Americans came to Arno in 1944, they discovered the two groups, still independent and hostile to each other. One of them was ruled by Töbö, last of the senior branch of the old lineage and himself

an autocrat in the Marshallese tradition. The other group had lost its leader, a woman named Liwaito, during the thirties and as yet no successor had been agreed upon by her five iroij erik. Dissension began among Liwaito's group as three of the iroij erik attempted to break away completely and become independent. A fourth iroij erik was being supported by the fifth as iroij lab-lab to succeed Liwaito. In 1947, "incidents" at Arno became so frequent that the Civil Administrator at Majuro investigated the entire situation. He was hampered by the necessity of working from Majuro and of depending upon interpreters who were not impartial in the matter. His solution, admittedly an expedient, recognized the independence of Töbö, and of each of the five iroij erik of Liwaito except as any one of them should agree to support any other as Liwaito's successor. Since that time, the iroij erik of Liwaito have in effect become iroij lab-lab of the stature of Töbö, three of them siding with him in an attempt to oust the other two from their lands. This coalition on Töbö's side has very nearly the same membership as the Arno Wholesale Company, and as the minority group which controls the Atoll Council.

Conflict at Arno is not by any means limited to the upper brackets. In the course of our investigation of land ownership, tenure, and inheritance rights, we encountered innumerable disputes between commoners over the same landholding, between an alab and his iroij erik, and so forth. About twenty-five cases of disputed land rights were recorded by us and investigated as to claims of the disputing parties, background for their claims, opinions of other Marshallese about the dispute,

action taken on the case to date, and present status of the disputed land. We tried insofar as possible to avoid giving Arnoese the impression that we were able to make any decision in these matters. We constantly emphasized that we had no official status, and referred all requests for settlement to the Civil Administration at Majuro.

The people of Arno constantly reminded us that increased copra production and rehabilitation of lands neglected during the war could be achieved much quicker if the Administration would settle disputes which exist in regard to nearly every landholding in the atoll. Using a hand compass and pacing off distances, we made large-scale land maps of Arno, Ine, Tinak, Jab'ü, and Kinàjong Islands. These were compiled in consultation with occupants of the landholdings and with officials of both island and atoll for accuracy, and include information about the rights of workers, alab, iroij erik, and iroij lab-lab on each landholding, as well as notes about crop production, housing, and other cultural facilities. We checked our results with cadastrals previously prepared by Civil Administration, but found them to be in error so often that we were forced to discard them for any kind of checking of our own work. The administration maps apparently had been drawn up by Marshallese interpreters with little or no American supervision, and contained errors not only of carelessness but also of intentional misrepresentation of land rights in disputed areas. Certainly there is no peace of mind at Arno today whenever the subject of land arises.

Viewing the Arno conflict in its broad outlines, the author suggests the following problem areas for further consideration and investigation

by Civil Administration at Majuro:

(1) the very basic differences of opinion which exist between the Töbö and Liwaito groups, extending from the chiefs themselves down to the commoners on the land;

(2) the fervent desire of one of Liwaito's iroij erik (Lujim) to support another of them (Jiwirak) in the position of iroij lab-lab, as well as the similar expression of loyalty to Jiwirak as voiced by some commoners under the three other iroij erik;

(3) the revolt of the three iroij erik (Felix, Abijai, and Lainlij) from the Liwaito group, their future status, and their relations with commoners on lands under their control;

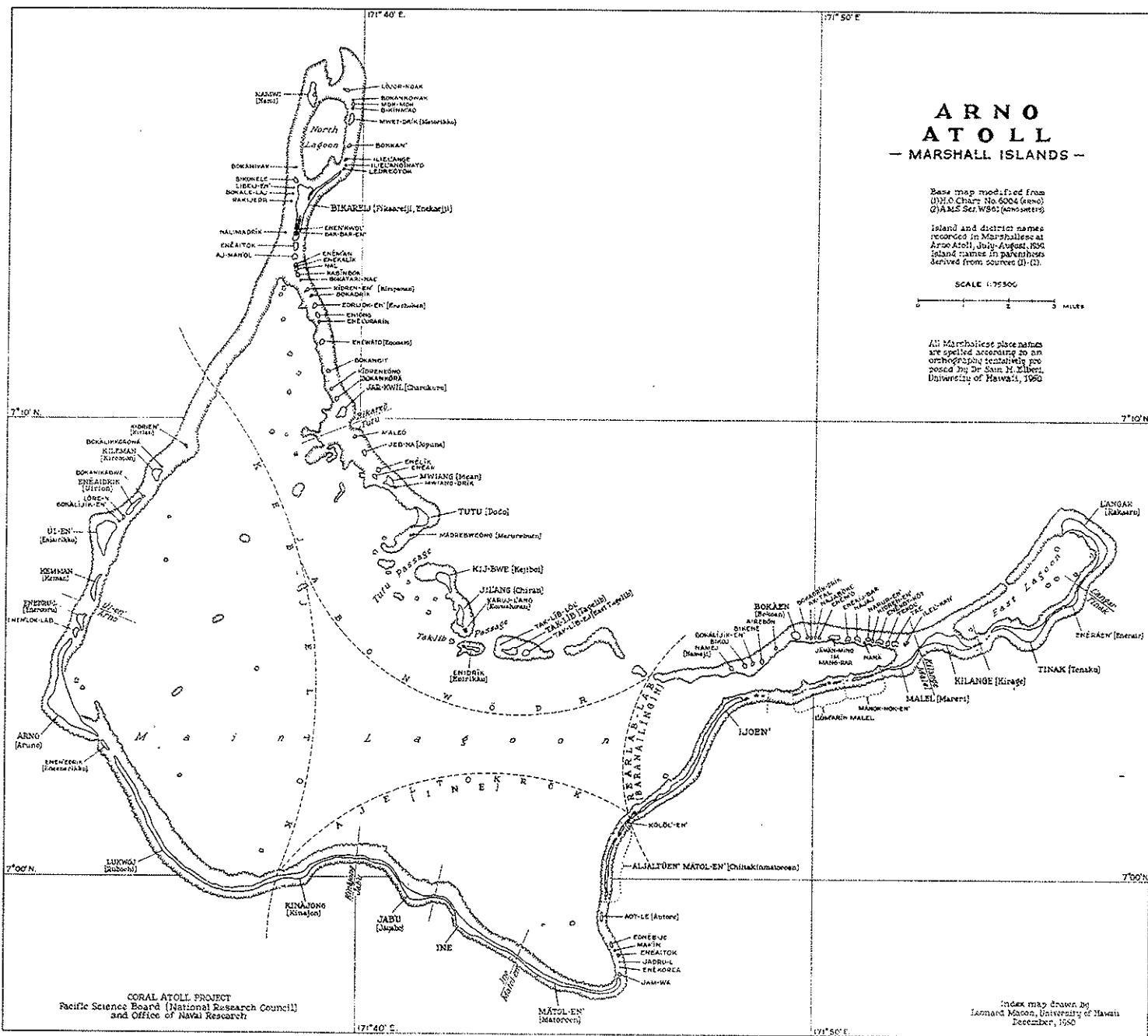
(4) a strengthening of the Atoll Council, and its possibilities as a court for mediation of land disputes; and

(5) the relation of Civil Administration to the Arno people, channels of communication, degree and method of supervision of council activities and land disputes.

It was the author's good fortune to find time at Majuro upon his return from Arno when he could talk at some length about these problem areas with the Civil Administrator, Cdr. R. W. Kenney, USNR. At the time, the author made some tentative suggestions for amelioration of certain aspects of the Arno conflict, but his own observations could not be exhaustive without a more careful analysis of his field notes. The author hopes to be able to answer more of Commander Kenney's questions of fact in the near future as he completes this work.

Miscellaneous.

Additional information in considerable detail was secured about the preparation of many Marshallese foods in season during our stay at Arno, and about the processing of the following fibers for handicraft production: coconut, pandanus, hibiscus, *Triumphetta procumbens*, and mangrove. About 950 black-and-white photographs were made of various activities, about 800 Kodachrome slides (35 mm.) of similar content were made, and over 5,000 feet of 16 mm. Kodachrome movie film of food preparation, dances, handicraft manufactures, outrigger canoe handling, and other Arno activities were exposed, from which a documentary movie is being prepared about Arno community life.



MARSHALLESE PHONEMES AND ORTHOGRAPHY
(A tentative proposal)

VOWELS

CONSONANTS

Front unrounded	i, i̇, ė, e, ä	Stops	b, b', bw, t, k, kw
Central unrounded	ü, ö, -, a	Affricate	j
Back rounded	u, ú, o, ó,	Nasals	m, m', mw, n, n', ng
		Trills	dr, r
		Laterals	l, l'
		Semivowels	w, y

Conventional phonetic transcriptions are given in brackets following the symbols proposed for the new Marshallese orthography. English comparisons of sounds are only approximate. Marshallese vowels are "pure," i.e., are not followed by glides.

i̇	[i]	ee in <u>beet</u> .
i̇	[I]	i̇ in <u>bit</u> .
e	[ė]	between <u>i̇</u> in <u>bit</u> and <u>e</u> in <u>bet</u> .
ė	[e, e]	<u>e</u> in <u>bet</u> , or <u>a</u> in <u>bay</u> .
ä	[æ]	<u>a</u> in <u>bat</u> .
ü	[ɥ]	like <u>oo</u> in <u>moon</u> , but without lip rounding.
ö	[ʌ]	<u>o</u> in <u>above</u> .
-	[ə]	(excrement), usually like <u>a</u> in <u>above</u> .
a	[ɑ, a]	<u>a</u> in <u>father</u> ; in some words, like <u>a</u> in Boston <u>can't</u> .
u	[u]	<u>oo</u> in <u>moon</u> .
ú	[u̇]	like <u>o</u> in <u>snow</u> , but with more lip rounding.
o	[o]	<u>o</u> in <u>snow</u> .
ó	[ȯ]	<u>o</u> in General American <u>off</u> .
b	[b, p]	initially and medially, like the <u>b</u> 's in <u>baby</u> ; finally, like unreleased <u>p</u> in <u>lap</u> .
b'	[bʏ]	palatalized, like <u>b</u> in <u>bugle</u> .
bw	[bw]	like <u>bw</u> in fast pronunciation of <u>barbwire</u> .
t	[d, t]	initially and medially, like the <u>d</u> 's in <u>daddy</u> ; finally, like unreleased <u>t</u> in <u>let</u> .
k	[g, k]	initially and medially, like the <u>g</u> 's in <u>go-getter</u> ; finally, like unreleased <u>k</u> in <u>pick</u> .
kw	[kw]	<u>qu</u> in <u>quick</u> .
m	[m]	<u>m</u> in <u>may</u> .
m'	[mʏ]	palatalized, like <u>m</u> in <u>mule</u> .
mw	[mw]	like <u>mw</u> in fast pronunciation of <u>tramway</u> .
n	[n]	like <u>n</u> in <u>net</u> , with tongue just back of the teeth.
n'	[n]	between <u>n</u> in <u>no</u> and <u>ng</u> in <u>sing</u> .
ng	[ŋ]	<u>ng</u> in <u>sing</u> .
j	[dʒ, tʃ]	initially and medially, like the <u>j</u> 's in <u>Jack Johnson</u> ; finally, usually like <u>ch</u> in <u>much</u> .
dr	[ʃ]	trilled <u>r</u> , with tongue tip close to the teeth.
r	[r]	trilled as in Spanish, or in some pronunciations of <u>three</u> .
l	[l]	initial <u>l</u> in <u>little</u> .
l'	[ɫ]	final <u>l</u> in <u>little</u> .
w	[w]	<u>w</u> in <u>way</u> .
y	[y]	<u>y</u> in <u>yes</u> .

Samuel H. Elbert
Asst. Prof. in Pacific Languages
University of Hawaii