

CIVIL AFFAIRS HANDBOOK

East Caroline Islands

OPNAV P22-5
(Formerly OPNAV 50E-5)



OFFICE OF THE CHIEF OF NAVAL OPERATIONS

NAVY DEPARTMENT

21 FEBRUARY 1944



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LETTER OF PROMULGATION

Office of Chief of Naval Operations,
Navy Department.
Washington 25, D. C.
21 February 1944.


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EAST CAROLINE ISLANDS

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(Formerly OPNAV 50E-5)

1. OPNAV P22-5 is a nonregistered publication. It is intended to provide useful information for civil affairs officers in the area indicated, but the material contained herein may be of value to other officers and for other purposes.



F. J. HORNE,
Vice Admiral, U. S. Navy,
Vice Chief of Naval Operations.

PREFACE

This handbook is designed primarily for the use of Army and Navy commanders and their staffs and subordinates who may be concerned with military government and the control of civil affairs in the Eastern Caroline Islands. It is therefore concerned exclusively with information pertinent to administrative planning and action. Information on military objectives and hydrography, being fully presented in other existing monographs, is not duplicated herewith.

The text is divided into three parts -- 1) Basic Information, 2) Administration and Public Facilities, 3) Economics -- each part being subdivided into chapters and topics, numbered decimally. Part 1 is designed to present an over-all survey of basic information on the Eastern Caroline Islands for military administrators. Parts 2 and 3 contain data especially pertinent to particular administrative functions or activities, and are intended primarily for reference.

Three organizational charts have been included to clarify the formal relationships existing between the various administrative organs. A selected bibliography of sources consulted, with brief critical comments, follows the text. At the end of the volume appear 42 illustrations portraying important aspects of life and enterprise in the islands.

The materials contained in this handbook have been checked with all available sources of information. Most of the statistical information dates from 1937, and much of the best information about native life comes from the German period, prior to 1914. However, it has been possible in many instances to check the accuracy of the data with informants who have resided in or visited the Eastern Carolines as recently as 1941.

MAP

K UOTS

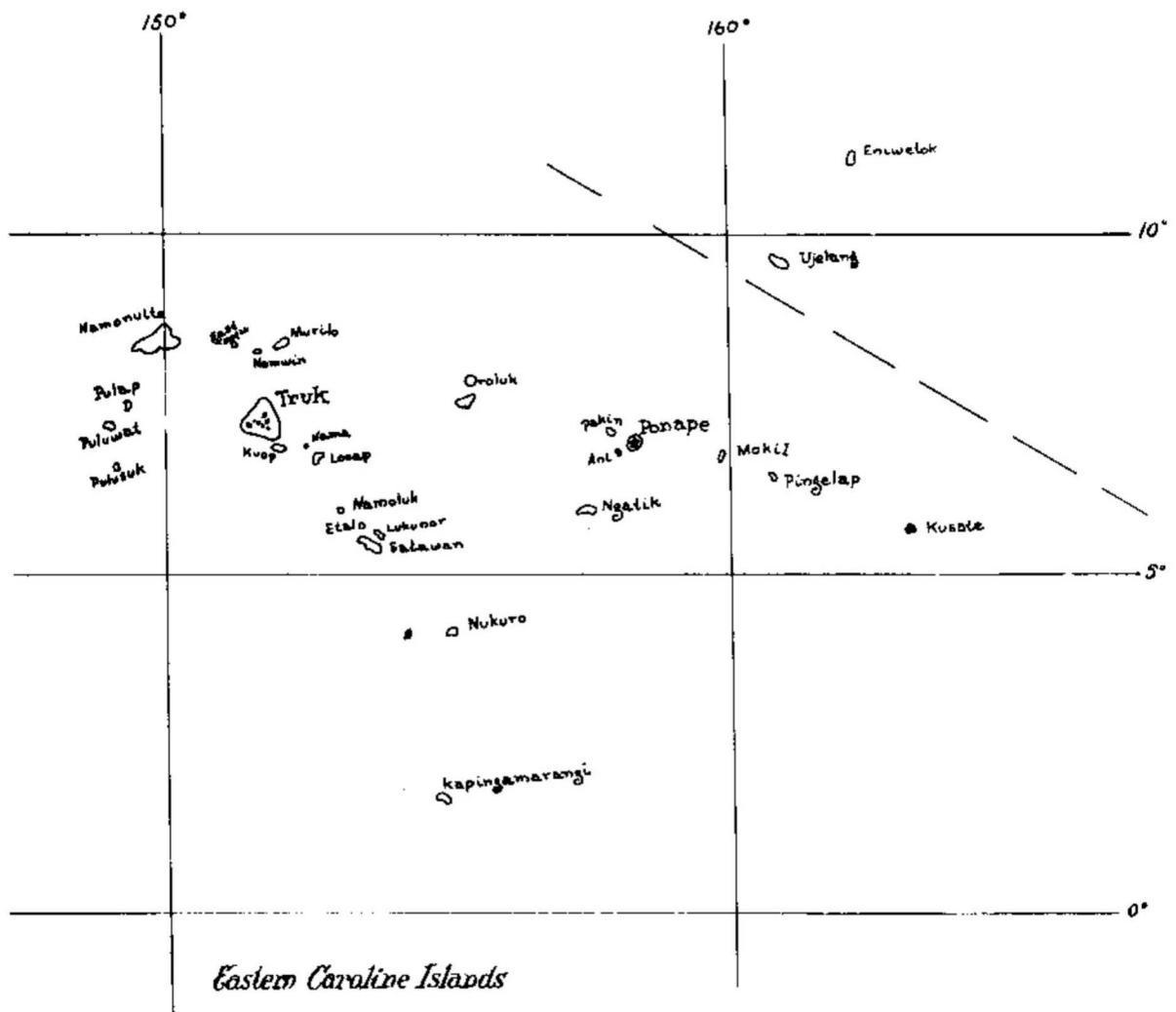


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1. BASIC INFORMATION

II. GEOGRAPHY

111. Location

Geographic Position. The Caroline Islands lie east of the Philippines, north of New Guinea, west of the Marshall Islands, and south of Guam. They form a broad belt extending from 131° east longitude in the west to 163° in the east and fall between the first and tenth degrees of north latitude. Together with the Marianas, Marshall, and Gilbert Islands they constitute the insular area of the Pacific known as Micronesia.

The 148th meridian of east longitude separates the archipelago into two divisions, the Western and the Eastern Carolines. The present handbook deals exclusively with the second of these divisions. The Eastern Carolines, as thus defined, are practically co-extensive with two of the four administrative areas into which the Japanese have divided the Caroline Islands, namely, the Ponape district and the Truk district. The other two administrative districts, those of Yap and Palau, comprise the Western Carolines. The two northwesternmost atolls of the Marshall Islands, Eniwetok and Ujelang, have been included by the Japanese with the Ponape district for administrative purposes, but they are not treated herewith since they have been covered in the handbook of this series on the Marshall Islands (OpNav 50E-1).

Table of Distances. The approximate distances in nautical miles from Kusaie, Ponape, and Truk in the Eastern Carolines to other places in the Pacific are shown in the following table:

	Kusaie	Ponape	Truk
Auckland	2,625	2,813	3,000
Guam	1,206	901	590
Hongkong	3,010	2,710	2,376
Honolulu	2,467	2,685	3,028
Jaluit	411	698	1,060
Manila	2,659	2,363	1,994
Midway	1,773	1,882	2,146
Noumea	1,722	1,892	2,068
Pago Pago	1,969	2,266	2,602
Palau	1,708	1,418	1,068
Panama	7,059	7,321	7,685
Ponape	307	--	383
Rabaul	931	853	695
San Francisco	4,478	4,641	4,931
Shanghai	2,828	2,545	2,261
Sydney	2,503	2,514	2,543
Truk	690	383	--
Yap	1,510	1,211	825
Yokohama	2,229	1,998	1,832

Time. The standard time in the Eastern Carolines is from ten to eleven hours in advance of Greenwich. The islands from Puluwat to Ngatik fall within the minus 10 zone (G.M.C.T.), and those from Pakin to Kusaie within the minus 11 zone.

Composition. Exclusive of submerged coral reefs, the Eastern Carolines comprise 25 island clusters or isolated islands (see 113 for individual descriptions). Three -- Kusaie, Ponape, and Truk -- are of volcanic origin, the remainder being of coral formation. In the following table those of each of the two administrative districts are listed in order from west to east:

Truk District	Ponape District
Puluwat	Kapingamarangi
Pulusuk	Nukuoro
Pulap	Oroluk
Namounito	Ngatik
East Fayu	Pakin
Truk	Ant
Nomwin	Ponape
Kuop	Mokil
Murilo	Pingelap
Nama	Kusaie
Losap	
Namoluk	
Satawan	
Etal	
Lukunor	

East Fayu, Nama, Oroluk, and Pulusuk are single coral islands, with or without an atoll reef. The other 21 are clusters of islands, either coral atolls with a number of low islets or high islands with outlying dependencies. In several instances, two or three of these island clusters are grouped together in larger units or small archipelagoes. Thus Murilo and Nomwin constitute the Hall Islands; Kuop and Truk form the Truk Islands; Etal, Lukunor, and Satawen make up the Nomoi or Mortlock Islands; and Ant, Pakin, and Ponape compose the Senyavin Islands.

Area. The total land surface of the Eastern Carolines amounts to approximately 250 square miles. Most of this area is made up by the high or volcanic islands: Ponape with 145 square miles, Truk with 50 square miles, and Kusaie with 42 square miles. The 22 low coral atolls and islands, in total as well as individually, are relatively insignificant in area.

112. Climate

Meteorological Stations. The German administration, prior to 1914, maintained government meteorological stations at Eten (7° 21' N, 151° 54' E) in the Truk Islands and at Medschoenien (6° 58' 10" N, 158° 16' 35" E) on Ponape. Observations were also made and official records kept by Mr. Herrman on his property at Lele (5° 20' N, 163° 5' E) on Kusaie. Unofficial records, based on observations made at the Roman Catholic Capuchin Mission at Ronkiti (6° 55' 39" N, 158° 20' 30" E) on Ponape and at the Protestant Boston Mission at Mwot (5° 19' N, 162° 59' E) on Kusaie, are also available for a number of years. Unfortunately, most of the data assembled at these five stations are concerned exclusively with rainfall.

The Japanese administration has maintained government meteorological stations on Ponape (Colony) and Truk (Dublon Island) and a weather station on Kusaie. These stations have assembled much fuller information, but little of it has been made available by publication. The data presented below, consequently, are regrettably meager in certain respects.

Temperature. The Eastern Carolines enjoy a tropical oceanic climate, characterized by a high and uniform temperature. Both seasonal and diurnal variation in temperature is slight. On Ponape the mean annual temperature is reported as 80.2° F. for 1853-55, 81.0° for 1899-1900, 80.1° for 1900-01, 80° for 1927-29, and 80° for an unspecified seven-year period under Japanese rule. The following table summarizes the results of observations at the Medschoenien station, Ponape, for the period from October, 1900, to October, 1901, at Colony, Ponape, for 1927-29, and at Dublon, Truk, for 1927-29.

Averages	Ponape (M)	(C)	Truk (D)
Mean for period	80.1° F.	80° F.	81° F.
" " January	80.6	80	81
" " February	80.4	80	81
" " March	81.1	82	80
" " April	80.2	80	81
" " May	80.0	80	81
" " June	80.2	79	81
" " July	80.6	79	80
" " August	81.1	78	81
" " September	79.3	78	81
" " October	79.4	79	81
" " November	78.6	79	81
" " December	78.6	80	81
Average at 7 A.M.	76.6	--	--
" " 2 P.M.	85.1	--	--
" " 9 P.M.	76.6	--	--
Maximum for period	90.4	91.9	90.9
Minimum " "	68.0	67.6	69.8
Mean diurnal range	11.7	--	--

Atmospheric Pressure. The mean annual atmospheric pressure in the Eastern Carolines is said to be slightly lower than in the Marshall Islands, where the mean annual barometer reading is reported as 29.84 inches. There is a double diurnal variation, with maxima at 0900 and 2100 and minima at 0300 and 1500.

Humidity. Throughout the Caroline Islands the humidity is excessive, but the peak is reached in Kusaie and Ponape. August, September, and October are the most humid

months; January, February, and March, the driest. On Ponape the humidity is especially high during the late hours of the night, when the chill resulting from radiation condenses the water vapor in the atmosphere into a heavy fog. So saturated is the air at this time that sleepers often wake to find their clothes and bedding as wet as though they had been soaked in water. The following table presents data on relative humidity, in percentages, as observed on Ponape over a seven-year period and at Truk for the years 1927-29 at the official Japanese meteorological stations:

Averages	Ponape	Truk
Mean for period	86%	83%
" " January	80	80
" " February	79	82
" " March	80	82
" " April	84	81
" " May	85	84
" " June	87	82
" " July	90	84
" " August	91	85
" " September	91	86
" " October	90	86
" " November	88	86
" " December	85	82
Average at 8 A.M.	86	--
" " 4 P.M.	75	--

Rainfall. Precipitation is relatively heavy throughout the area, but especially so in the high islands and toward the east and south. Kusaie, the volcanic island in the SE, has the heaviest rainfall in the area, and is one of the rainiest regions in the world. Its mean annual precipitation is reported as 187 inches at Lele and as 255 inches at the mission station at Mwot, which is situated across the island at a higher elevation. On Ponape, three stations report the mean annual precipitation variously as 186, 182, and 168 inches. At Truk the average yearly rainfall is reported as 129 inches at Eten and 90 inches at Dublon. Throughout the Eastern Carolines rain falls during every month of the year, but there are seasonal variations. In general, precipitation is greatest in April and May, least in January and February; there is usually a decline in rainfall in October as well.

The following table presents the data on rainfall (in millimeters) from seven stations in the area reporting for different years. The stations, with dates of observations, are: (1) Mwot on Kusaie for five scattered years during the period 1895-1904; (2) Lele on Kusaie, 1903-11; (3) Medsochenien on Ponape, 1901-11; (4) Ronkiti on Ponape, 1910-11; (5) Colony, Ponape, for an unspecified period of seven years under Japanese administration; (6) Eten, Truk, 1903-11; (7) Dublon, Truk, 1927-29.

Averages	Kusaie		Ponape			Truk	
	(M)	(L)	(M)	(R)	(C)	(E)	(D)
Annual mean over period	6473	4755	4615	4268	4713	3280	2276
Mean for January	483	349	278	115	335	183	160
" " February	388	375	207	283	255	224	102
" " March	692	458	328	281	270	212	66
" " April	542	573	548	602	476	291	160
" " May	730	504	498	444	513	308	262
" " June	573	505	374	394	428	340	351
" " July	608	307	410	412	420	348	254
" " August	517	302	421	435	341	272	224
" " September	632	333	402	382	376	312	173
" " October	396	247	357	283	420	223	157
" " November	492	365	381	366	374	271	231
" " December	424	437	411	271	505	296	132
Average number of rainy days per year	279	249	274	258	309	--	227
Average number of days per year with at least 25 mm. of rain	--	61	58	--	--	38	--

Cloudiness. The Eastern Carolines are characterized by an exceptionally high degree of cloudiness. In the high islands, in particular, the mountain peaks are mantled with clouds most of the time, and low clouds or fog descend over the lowlands during the late hours of the night. For the three-year period 1927-29 only ten really clear days were observed at Ponape. Over an unspecified seven-year period at Ponape Japanese ob-

Geological Structure. The 25 island groups of the Eastern Carolines, when classed according to their geological structure, fall into four types: (1) coral atolls, (2) single coral islands, (3) single volcanic islands, and (4) complex atolls, consisting of a cluster of high volcanic islands surrounded by a ring of reefs and low coral islets.

113. Geology and Topography

1891, March 3-4, at Kusaie.
1902, May 17-18, at Pohnpe.
1905, April 19-22, devastating Ant, Kusaie, Mokil, Murilo, Nomon, Orojuk, Fakin, Pingelap, and Pohnpe; cost 40 lives and caused property damage of about four million marks.
1905, November 17-18, at Truk, causing little damage.
1907, March 27, devastating Eral, Lukunor, and Satawan but causing little damage on Losap, Name, and Namoluk.
1925, December 11-12, grazing Pohnpe and devastating Truk, where it caused property damage estimated at a quarter of a million yen.
1935, early December, causing considerable damage on Eral, Lukunor, Satawan, and Truk.

Storms. Light thunderstorms occur occasionally throughout the year, and sharp rain squalls are common. The most serious storms, however, are typhoons, which appear sporadically and sometimes do great damage. The following is a list, doubtless incomplete, of major typhoons reported in the area:

On Truk, for the years 1927-29, the prevailing wind direction was reported to be NE from November to June, SE in July, and S from August to October.

Averages	N	NE	E	SE	S	SW	W	NW	Calm
Mean for period	3	19	34	10	10	2	2	1	19
January	1	35	54	3	2	0	0	0	5
February	1	35	54	4	2	0	0	0	4
March	1	35	56	4	1	0	0	0	3
April	0	22	49	8	3	1	1	0	16
May	1	16	44	13	3	0	1	0	22
June	3	15	36	15	4	1	1	0	25
July	4	10	22	15	9	4	4	2	30
August	4	8	14	15	17	7	6	3	26
September	5	6	9	11	24	6	8	3	28
October	5	8	7	14	25	5	7	2	27
November	4	12	25	13	16	2	4	1	23
December	1	23	43	10	8	0	1	0	14

Table of wind directions (in percentages) based on seven years of observations at Pohnpe: Easterly winds prevail to an extraordinary degree, as indicated by the following

Winds. The Eastern Carolines lie in the belt of the northeast trade winds, which ordinarily prevail from November to April, with considerable variation from year to year. Sometimes the northeast trades begin in October or December, and they may last until May or June; in some years they are weak, even in mid-winter. During the summer months the wind is usually light and variable, with frequent calms and occasional thunderstorms and gales. The southwest monsoon, which prevails in the Western Carolines during the summer, is said to exert a slight influence as far east as Truk. The wind blows most strongly at the height of the northeast trades. Japanese reports from Pohnpe indicate a mean annual wind velocity of 4.7 knots, with the following averages by month: January 7.0, February 7.2, March 7.0, April 5.8, May 4.9, June 4.1, July 3.0, August 2.7, September 2.7, October 3.0, November 3.6, December 5.0.

Truk has a mean cloudiness of only 4.1, ranging from 2.2 for December to 5.0 for July. October, with scores of 8.0, are the least cloudy months. Kusaie resembles Pohnpe, but little seasonal variation; the cloudiest month is January with 8.7, whereas August and less sky to 10 for a completely overcast sky. This extraordinarily high score shows observations showed a mean cloudiness of 8.3 on a scale of 10 (ranging from 0 for a cloud-

In addition, there are a number of submerged coral reefs, probably representing atolls in an early stage of development, which are not included herewith since they do not concern the administrator.

The coral atolls of the area are nineteen in number: Ant, Etal, Kapingamarangi, Kuop, Losap, Lukunor, Mokil, Murilo, Namoluk, Namonuito, Ngatik, Nomwin, Nukuoro, Oroluk, Pakin, Pingelap, Pulap, Puluwat, and Satawan. They consist of an irregular ring of coral built upward over time from the summit of a submarine projection. Since the coral at the edges is better fed, it grows upward more rapidly and forms a reef surrounding a shallow lagoon. Where the coral ring is exposed to heavy wave action, especially on the windward side, fragments of coral are broken off and deposited on the reef shelf, resulting eventually in the formation of low islets interspersed with reefs and occasional deep passages through which the tides flow into and out of the central lagoon. An atoll may have from one to sixty or more islets on the encircling ring. These islets are usually long, narrow, and often crescent-shaped. In relief, they normally consist of an outer beach of rubble, rarely more than six or eight feet in elevation, and a talus slope of sand and small coral fragments sloping gently downward from the head of the outer beach to the shore of the lagoon. Paralleling the outer beach, and separated from it by a partially submerged reef shelf, is usually an outer reef against which the surf breaks.

The single coral islands are three in number: East Fayu, Nama, and Pulusuk. They are formed in the same manner as an atoll except that the encircling reef is of such small dimensions that the debris deposited from all sides has filled the center and obliterated the lagoon. Pulusuk, which is situated at the southern tip of Manila Reef, might alternatively be regarded as the only islet of an otherwise submerged atoll. East Fayu and Nama, however, are true single islands.

Of single volcanic islands there are two in the Eastern Carolines: Kusaie and Ponape. Each is of basalt formation, rising steeply to rugged forested peaks in the interior and descending to a narrow, flat, coastal strip fringed by a reef of coral. Here and there, detached rocky islands hug the shore, and, in places, breaks in the reef give entrance to fjord-like harbors. Both Kusaie and Ponape are unquestionably of volcanic origin, although they show no signs of recent activity. In type, they resemble the "high islands" of other parts of the Pacific in contradistinction to the "low islands" of coral formation.

The Truk group stands by itself as the sole representative of a complex atoll. It consists of an enormous coral atoll -- a great ring of reefs and low coral islets -- within the lagoon of which rises a cluster of high volcanic islands. Like Kusaie and Ponape, these lagoon islands are of basalt rather than coral formation, but individually they are much smaller in size. The peculiar geological structure of Truk renders it ideally suited as a naval base.

The 25 island groups are listed below in alphabetical order, with the essential geographic facts about each.

Ant (also called Andama, Anto, Fraser, Hand, and Ilants). This coral atoll, located at 6° 47' N., 158° 1' E., is one of the Senyavin Islands, which also include Pakin and Ponape. It is six miles in length (E-W), three and one-half miles in width, and trapezoidal in shape, and is separated from Ponape to the NE by a deep channel five and one-half miles wide. The atoll consists of a lagoon surrounded by a reef, on the eastern and southern sides of which are about fifteen low coral islets. The lagoon is entered by a single passage in the SE, accessible only to small boats.

East Fayu (also called Fajo, Falias, Lutke, and Rukutee). This single coral island is located at 8° 34' N., 151° 22' E., 19 miles W of Nomwin and 57 miles E of Namonuito. It is small, low, and wooded, and is surrounded by a wide fringing reef. It has no permanent inhabitants but is occasionally visited by natives of Murilo and Nomwin.

Etal (also called Etaaru, Naiad, Namolutu, and Namonemeir). This is one of the three coral atolls of the Nomoi or Mortlock Islands, which also include Lukunor and Satawan. It is situated at 5° 34' N, 153° 35' E, about five miles north of Satawan, eight miles NW of Lukunor, and 30 miles SE of Namoluk. The atoll is triangular in shape and small in extent, measuring only a little more than two miles in length (N-S) and one mile in breadth. The lagoon has no entrance. The encircling reef supports about 15 low, wooded islets, mainly on the eastern side.

Kapingamarangi (also called Bakiramarang, Constantine, Greenwich, Guriinitchi, Kabeneylon, Kapenmeilang, Makarama, Pikiram, and Tenuv). This coral atoll, the southernmost of the Caroline Islands, is located at 1° 5' N, 154° 53' E, 164 miles S of Nukuoro and 330 miles NE of Kavieng in New Ireland. It is pear-shaped, six and one-half miles long (E-W) by four and one-half miles in width, and has 31 coral islets, mainly on the E.

The maximum elevation is about 12 feet above high-water mark. Two passages on the S side give access to the lagoon, the easternmost admitting small steamers.

Kuop (also called Falapi, Fenepi, Kimishima, Kunto, Leot, and Royalist). This small atoll is ordinarily classed as one of the Truk Islands, the outer coral ring of which lies only two miles to the north across a channel of deep water. It is rectangular in shape, eleven miles in length (NW-SE) by four miles in breadth, and has four low coral islets. The lagoon has passages in the N, W, and S.

Kusaie (also called Arao, Armstrong, Experiment, Hope, Kusai, Kuthiu, Quollen, Strong, Teyoa, Ualan, and Walang). This volcanic island, the easternmost of the Carolines, lies 144 miles ESE of Pingelap, 290 miles SSE of Ujelang in the Marshalls, and 411 miles W of Jaluit. It covers an area of 42 square miles, extending from 5° 15' 4" N to 5° 23' 15" N and from 162° 57' 30" E to 163° 5' 50" E. Its maximum diameter is eight miles (NE-SW). Kusaie consists of the lofty main island of Ualan, the important subsidiary island of Lele, and eight low coral islets on a fringing reef which almost completely encircles the first two islands at a distance ranging from a few yards to a mile. Lele Island in the NE consists of a high portion in the east, with a peak 354 feet in height, and a low western portion which is artificial or man-made. Ualan Island is crossed from E to W by a valley, which separates it into two unequal parts, a smaller northern portion dominated by a peak 1,911 feet high and a larger southern portion culminating in Mt. Crozer, 2,079 feet in elevation. The interior is of basalt formation, steep, rugged, clef by mountain streams, densely forested, and almost impassable. The coast in the main is a flat foreland -- sandy in the N and E, overgrown with mangroves on the S and W, and nowhere more than a kilometer in width. The fields and settlements are located along the coast, on the smaller islands, and in the transverse valley. Communication is by small boats which can circumnavigate the entire island along the channel, partly natural and partly man-made, separating the fringing reef from the shore of the principal islands. The reef, which is irregularly hexagonal in shape, is continuous except for passages giving access to the harbors. Of these, the best is Lele Harbor in the NE; others are Coquille Harbor in the NW, Port Berard in the W, and Port Lottin in the S.

Losap (also called Duperrey, Lossop, Louasappe, Lukeisel, Rosoppu, and Royalist). This coral atoll is situated at 6° 54' N, 152° 45' E, 10 miles SE of Nama and 60 miles NNW of Namoluk. It is five miles in length (N-S) and roughly triangular in shape, and has 17 low islets. There is a good entrance in the SE and six passages on the W.

Lukunor (also called Lemarafat, Lougouillos, Lugunoz, Mortlock, Namonefeng, Rukunoru, and Youngwilliam). This is one of the three coral atolls of the Namoi or Mortlock Islands, which also include Etal and Satawan. It is situated at 5° 29' N, 153° 58' E, about six miles NE of Satawan and eight miles E of Etal. The atoll is roughly triangular in shape, seven miles in length, and four miles in breadth. It includes 18 low coral islets strung along the S side and E end. The largest of these, Lukunor Island at the extreme E, is about two miles long and over 500 yards wide. A good passage on the S side admits sailing vessels and steamers to the lagoon, where excellent anchorage is found at Chamisso Harbor inside Lukunor Island.

Mokil (also called Duperrey, Mogal, Mokiiru, and Mongoul). This small coral atoll, two miles in length (N-S) and one mile in width, is situated at 6° 40' N, 159° 47' E, 60 miles WNW of Pingelap and 88 miles E of Ponape. It has three low wooded islets around a restricted lagoon, to which entrance for small boats is afforded by two shallow passages on the W.

Murilo (also called Barbudos, El Coral, Los Reyes, Morileu, Muriro, Plazeres, and San Esteban). This coral atoll is situated at 8° 36' N, 152° 15' E, about five miles ENE of Nomwin. Together with the latter atoll, it forms the larger group known as the Hall Islands, with which some authorities also include East Fayu. Murilo is roughly pear-shaped, and is approximately 20 miles long (NE-SW) and 10 miles wide. It has eleven low coral islets. A narrow entrance on the S side and a broad but unclear passage in the SW give access to the lagoon.

Nama (also called D'Urville, Namo, and San Rafael). This single coral island is located at 7° 0' N, 152° 35' E, 10 miles NW of Losap and 39 miles SE of Truk. It is round in shape and about half a mile in diameter. Nama is considerably higher than most islands of its type, being about 12 feet above sea level on the average and attaining an elevation of about 20 feet in the N. The island has a fringing reef but no lagoon.

Namoluk (also called Harvest, Hashmy, Mokor, Namoilam, Namorukku, and Skiddy). This small coral atoll is situated at 5° 54' N, 153° 9' E, 30 miles NW of Etal, 60 miles SSE of Losap, and 140 miles SE of Truk. It consists of six low, wooded islets on a tri-

angular reef about three miles long (NW-SE) and two miles wide. During the daytime the reef is usually entirely exposed, but at night about 0230 a narrow, rock-strewn passage opens up near the middle of the SW side, admitting small boats into the lagoon.

Namonuito (also called Anonyma, Baxos de San Bartolomeo, Bunkey, Las Hermanas, Livingstone, Los Jardines, Lutke, Namenwita, Olol, Omun, Onon, Ororu, Remp, Ueito, and Ulul). This large coral atoll, the northernmost in the Eastern Carolines, is located at 8° 35' N, 150° 24' E (at SE end), 57 miles W of East Fayu, 58 miles NNE of Pulap, and 93 miles NW of Truk. It is triangular in shape, 45 miles in length (E-W), and 24 miles in breadth. Ulul islet, at the W point of the atoll, is three miles long, but the other islets, along the NE side, are insignificant in size. The atoll is in an early stage of development, and the lagoon can be entered in many places over the submerged encircling reef.

Ngatik (also called Islas de Pasion, Los Valientes, Nachikku, Natiki, Ngaryk, Raven, and Seven Islands). This coral atoll is located at 5° 49' N, 157° 21' E (at SE tip), 75 miles SW of Ponape, 145 miles SE of Oroluk, and 176 miles NE of Nukuoro. It is roughly triangular in shape, eleven miles in length (E-W), and five miles in width. The atoll has eight low islets with a total land surface of 370 acres. All the islets are on the E, with the exception of the largest, Ngatik Island, which lies at the extreme W. The lagoon, which is obstructed by shoals, has two anchorages; it is entered by a long, narrow passage in the S.

Nomwin (also called Faludj, Fananu, Lamoil, Namofefin, Namolipafan, Namuvin, and Nomuwin). This coral atoll, with Murilo one of the Hall Islands, is situated at 8° 26' N, 151° 43' E, five miles WSW of Murilo, 19 miles E of East Fayu, and 45 miles N of Truk. It is roughly triangular in shape, about fifteen miles in length (NE-SW), and nine miles in width. The atoll has nine low, wooded islets and a number of treeless sandbanks. There are good passages into the lagoon in the SW and SE.

Nukuoro (also called Dunkin, Matakema, Monteverde, and Nugoru). This coral atoll is located at 3° 51' N, 154° 58' E, 115 miles SE of Satawan, 164 miles N of Kapingamarangi, and 176 miles SW of Ngatik. It is approximately circular in shape and four miles in maximum diameter. The atoll has 48 low islets. These are thickly clustered in the N and E on the lagoon side of the reef, but there are few in the S and none in the W. The land surface averages about three feet above high-water mark, the highest points attaining an elevation of 12 feet. A single narrow passage in the SE, suitable only for small vessels, gives access to the lagoon.

Oroluk (also called Amicitia, Baxo Trista, Bordelaise, Campbell Reef, Jane, Lar-kins, Meaburn, Ororukku, and San Agostino). This coral atoll is situated at 7° 38' N, 155° 10' E (at NW tip), 145 miles NW of Ngatik, 154 miles NE of Namoluk, and 164 miles WNW of Ponape. It is irregular in shape and 18 miles in maximum diameter (NW-SE). Except for reefs, rocks, and sandbanks, the only land is Oroluk Island in the extreme NW, with an area of 25 acres. The lagoon is accessible by a passage in the N, a second in the NW, and a third in the SE.

Pakin (also called Pagenema, Pakeini, Parkin, and Pequena). This coral atoll, located at 7° 2' N, 157° 50' E, belongs, with Ant and Ponape, to the larger group of Senyavin Islands. It is about 4 miles long (NW-SE) and lies 18 miles WNW of Ponape. The atoll has nine low islets, some of them very small. The only entrance to the lagoon is a narrow passage for small boats in the SW.

Pingelap (also called Macaskill, Musgrave, Pelelap, Piigerappu, Punlap, Sailrooks, and Tuaks Reef). This coral atoll is situated at 6° 13' N, 160° 42' E, 60 miles ESE of Mokil and 144 miles WNW of Kusaie. It is trapezoidal in shape, two miles in length (N-S), and one and one-half miles in width. The atoll has three low islets, of which the largest, Pingelap Island, is well over a mile in length. There is no entrance into the lagoon, but small boats can cross the reef in the W at high tide.

Ponape (also called Ascension, Bonabee, Bonybay, Faloupet, Faounoupei, Niponpei, Painapete, Pauloupa, Puyupet, Quirossa, and William IV). This volcanic island is the principal member of the Senyavin Islands, which also include Ant and Pakin. Its area, 145 square miles, is the greatest of any island, not only in the Carolines but in the entire Japanese mandated territory. Ponape extends from 6° 47' to 7° 1' N, and from 158° 9' to 158° 24' E, lying 8 miles NE of Ant, 18 miles ESE of Pakin, 75 miles NE of Ngatik, and 88 miles W of Mokil. It consists of a high main island, 23 small basalt islands close inshore, a number of inshore deposit islands, and an encircling reef with some 15 low coral islets. The main island, constituting the principal land mass, is 13 miles in maximum diameter (E-W), roughly circular in shape, and deeply indented with

days. The interior is exceedingly rugged and rendered nearly impenetrable by dense forest and the steep gorges of mountain streams. There are several peaks over 1,500 feet in elevation, the tallest reaching a height of 2,579 feet. In addition to lesser streams there are two rivers of some importance, the Tawenjokola and the Kapinpilap. The shore consists in some places of perpendicular cliffs, in others of low alluvial deposits and mangrove swamps. The basalt islands, which represent detached segments of the main island, are located principally in the N and are steep, forest clad, and of volcanic structure like the main island. The low inshore islands are alluvial in formation and are commonly covered with mangroves. In the E, some 50 of these islands are artificial, with archeological ruins. The encircling reef, which supports a number of sandbanks as well as low islets, is a true fringing reef, like that of Kusaie, in the SE. Elsewhere, however, it extends a mile or more from the shore, enclosing a lagoon, and approaches somewhat in character the atoll reef surrounding the high islands of Truk. The reef is broken in about 20 places, the principal passages being those which give access to the important harbors: Ponape in the N, Metalanim in the E, Lot in the SE, Mutok in the S, and Ronkiti in the SW.

Pulap (also called Falusalu, Los Martires, Ollap, Pourappu, Vorieng, and Tamatam). This coral atoll is situated at $7^{\circ} 38' N$, $149^{\circ} 25' E$, 16 miles NE of Puluwat and 58 miles SSW of Namonuito. It is ovoid in shape, six miles in length (N-S) and four miles in width. The atoll consists of three low wooded islets on a coral reef, most of which is submerged. The lagoon can be entered by a broad passage in the SW and at places in the N and E.

Pulusuk (also called Haug, Hok, Pulosuge, San Bartolome, Saugk, Scheug, Shukku, Socu, Sove, and Suk). This single coral island is located at $6^{\circ} 42' N$, $149^{\circ} 19' E$, approximately 38 miles S and slightly E of Puluwat. It lies at the SE tip of a submerged reef, Manila Reef, which might be considered an undeveloped atoll on which Pulusuk is the only islet. The island is about two miles long (N-S) and has a fringing reef. It is low and wooded and lacks a lagoon, although the interior is swampy and contains a fresh-water lake.

Puluwat (also called Buluath, Endasbii, Enderby, Isla de Gata, Kata, Luguen, Pol-oat, Pozoat, and Sotin). This coral atoll, the westernmost of the Eastern Carolines, is situated at $7^{\circ} 22' N$, $149^{\circ} 10' E$, 16 miles SW of Pulap, 38 miles N of Pulusuk, and about 100 miles ESE of Pikelot, the easternmost of the islands in the Yap district of the Western Carolines. Puluwat consists of five low islets on a ring-shaped coral reef. The lagoon may be entered by small boats through a passage in the SW.

Satawan (also called Namonor, Satahual, Satouwan, and Sotoan). This coral atoll, which with Etal and Lukunor constitutes the Nomoi or Mortlock Islands, is situated at $5^{\circ} 20' N$, $153^{\circ} 45' E$, five miles S of Etal, six miles SW of Lukunor, and 115 miles NW of Nukuoro. It is roughly elliptical in shape, 17 miles in length (NW-SE), and 7 miles in breadth. The atoll consists of about 60 low coral islets. The lagoon, which provides several good anchorages, is entered by a short and deep but narrow passage in the S and by a deep but long and somewhat tortuous channel in the N.

Truk (also called Djuk, Hogolu, Lugulus, Oia, Rough, Ruk, Torakku, Tuak, and Ugu-lut). This complex atoll, with which Kuop is commonly included, lies two miles N of Kuop, 39 miles NW of Nama, 45 miles S of Nomwin, and 93 miles SE of Namonuito. It is irregularly circular in shape, ranging in diameter from 30 to 40 miles, and it extends from $7^{\circ} 7' N$ to $7^{\circ} 41' N$, and from $151^{\circ} 22' E$ to $152^{\circ} 4' E$. The Truk group includes about 100 islands of sufficient importance to be reported by individual names, and has a total land surface of nearly 50 square miles. It consists of a cluster of high volcanic islands of small or moderate size, set in a tremendous lagoon completely surrounded by an atoll reef supporting a number of coral islets. The central high islands are of basalt formation, rugged, forested, and usually edged by a fringing reef separated from a low coastal strip by a mangrove swamp. Because of their strategic importance, because they are the principal centers of population, and because of the exceptional confusion in their nomenclature, the larger of these islands are individually listed and described below:

Dublon (Natsu, Summer, Tolos, Trowasi) -- situated to the E; area 3.7 square miles; maximum elevation 1,168 feet.

Eiol (Arthus, Eoian, Hoshi, Ojai, Star) -- SE of Udot and W of Param, at almost the exact geographical center of the atoll.

Eot (Etot, Mae) -- NE of Udot, from which it is separated by a channel some 500 yards wide; elevation c. 200 feet.

Eten (Bamboo, Etel, Take) -- S of Dublon; area 86 acres; elevation 197 feet.

Falabaguets (Chasal, Falabanges, Galebanges, Kayo, Tuesday) -- E of Tol and SW of Udot; area 1 square mile; elevation 390 feet.

Falo (Fono, Gregoire, Sakura) -- NE of Moen; small but inhabited.

Fefan (Aki, Autumn, Falang, Ruk) -- SW of Dublon; area 5.5 square miles; elevation 1,027 feet.

Moen (Haru, Hirose, Iros, Muan, Ola, Quiros, Rora, Spring, Uola, Valaval, Vela, Wara, Wela) -- to the NE, N of Dublon; length 6 miles (E-W); area 8.5 square miles; elevation 1,234 feet.

Onamus (Doyo, Olawe, Orame, Saturday) -- W of Tol; area one-third of a square mile.

Pata (Mokuyo, Pada, Thursday) -- really a peninsula of Tol, from the NW part of which it is separated by a very narrow channel; area 1.7 square miles; elevation 646 feet.

Param (Barem, Kaide, Lejeune, Maple, Periadik) -- between Fefan and Udot; area two-thirds of a square mile; elevation 236 feet.

Polle (Friday, Ilk, Ilukunboelle, Kinyo, Fwelle) -- really a peninsula of Tol, from the SW part of which it is separated by a mangrove-filled channel 40 yards wide; area 4 square miles; elevation 679 feet.

Tarik (Dadu, Fuyo, Lotus, Tadiu) -- W of Fefan and SW of Param; area one-third of square mile; elevation 230 feet.

Tol (Faituko, Suiyo, Ton, Wednesday) -- to the W; area 9 square miles, exclusive of Pata and Polle; elevation 1,483 feet.

Tsis (Fanuengin, Shear-grass, Sis, Susuki, Thin, Usu) -- W of Uman and SW of Fefan; area one-third of a square mile; elevation 249 feet.

Udot (Getsuyo, Koudot, Monday, Utet) -- NW of Fefan and NE of Tol; area 1.9 square miles; elevation 797 feet.

Uialu (Nichiyu, Oualu, Rabarum, Rumalum, Sunday) -- NW of Udot and NE of Tol; area three-eighths of a square mile; elevation 167 feet.

Uman (Chamisso, Fuyu, Kuop, Umul, Winter) -- S of Dublon and SE of Fefan; area 1.7 square miles; elevation 948 feet.

In addition to the above-mentioned islands, the central cluster includes about 40 other volcanic and coral islands, mainly unpopulated. On the encircling reef there are approximately 40 low coral islets, of which Pis (also called Cantova, Kita, and North) in the N is of especial importance. The atoll ring is broken by five principal entrances: North Pass, Northeast Pass, Otta Pass in the SE, Aualap or South Pass, and Pisanu or West Pass. The lagoon, which averages about 50 meters in depth, provides a number of excellent anchorages, especially at Truk Harbor (Eten Anchorage) S of Dublon, Uola Road W of Moen, Tsis Anchorage W of Tsis, Udot Road E of Udot, Tol Harbor E of Tol, and Illick Harbor S of Tol.

114. Hydrography

Sources. Detailed hydrographic information is contained in "Sailing Directions for the Pacific Islands," Volume I (H.O. 165), pages 521 to 539, in "Supplemental Sailing Directions" (O.N.I. 31), and on Charts 425, 2930, 5415, 5416, 5417, 5420, 5422, 5424, and 5425 of the United States Hydrographic Office. Since these sources are widely available, no attempt will be made to restate the information here.

Tides and Currents. The tides in the Eastern Carolines are unusual and very complicated. In some places, for example, there is only a single tide each day, appearing at regular hours. In consequence of winds and obstructing reefs and islands, as well as of the peculiar tides, the currents in the archipelago are likewise irregular.

Inland Waters. Streams are found only on the larger volcanic islands, especially Kusaie and Ponape. Fulusuk has a small fresh-water lake. Lagoons, often providing excellent anchorage, are found in the coral atolls and within the coral reefs enclosing the volcanic islands (for details, see 113 under the individual islands). On Kusaie, the natives have constructed numerous artificial channels or canals.

12. RESOURCES

121. Water Supply

Natural Sources. The only fresh-water lake reported for the Eastern Carolines is one of considerable size in the interior of Pulusuk. Flowing streams do not exist on any of the coral islands or atolls, but there are a few on the larger islands of Truk and many on Kusaie and Ponape. Except on the above-mentioned islands, there are no natural sources of drinking water other than rain, which must be artificially collected and stored.

Artificial Sources. On the larger coral islets the rainwater accumulates in the porous subsoil and forms lenses of fresh water, often rendered brackish by seepage of sea water. Pits and wells have been dug to tap this source on a few islands, but this method of obtaining water is much less common than in the Marshall Islands. However, wells are feasible and fairly common on the large volcanic islands.

The natives of the coral atolls and islands obtain most of their water for drinking by collecting rainwater from house roofs and the trunks of slanting coconut trees in pits, trenches, wooden receptacles, and cisterns. In order to improve the water supply the Japanese Government, since 1922, has granted subsidies to communities and individuals who construct wells, cisterns, or water tanks. Official reports indicate the construction of fourteen tanks and wells in the Ponape district in the years 1923-25 and eight in the Truk district in the years 1928-31. The Japanese have also encouraged the adoption of metal roofing materials to facilitate the collection of rainwater. Specific information on the water supply of particular islands is given in the following table:

Ant: small cisterns for the collection of rainwater.
East Fayu: rainwater accumulates in a natural basin.
Etel: collected rainwater.
Kapingamarangi: water holes and collected rainwater.
Kuop: collected rainwater.
Kusaie: plentiful water in streams of Ualan Island; good if filtered and preferably boiled; spring on N coast and 40-ton tank on S shore of Lele Island; a number of small cisterns and tanks at Lele and Mwot.
Losap: brackish wells on Losap and Pis islets; rainwater collected.
Lukunor: a few cisterns; natives drink rainwater collecting in boundary ditches and in hollows at base of coconut trees.
Mokil: rainwater collected in pits.
Murilo: rainwater collected in cisterns.
Nama: collected rainwater.
Namoluk: rainwater collected in pits and cisterns.
Namonuito: collected rainwater.
Ngatik: collected rainwater.
Nomwin: rainwater collected in cisterns; in an emergency the natives bring water from East Fayu.
Oroluk: collected rainwater.
Pakin: rainwater collected in small cisterns.
Pingelap: collected rainwater.
Ponape: in the interior, springs and streams; at Colony, good well at public school, spring water piped in, rainwater collected and stored at individual houses, two water tanks with a total capacity of 300 tons, water brought from Tawenjokola River by barge and tug, reservoir formed by damming same river 3 miles S of town; at Metalanim, collected rainwater and an impure well at public school; at Mutok, 2 water holes on Panian Island and a spring on Mutok Island; at Bonkiti, collected rainwater, good water from Kapinpilap River, impure water from 3 mountain streams.
Pulap: collected rainwater.
Pulusuk: fresh-water lake and collected rainwater.
Puluwat: collected rainwater.
Satawan: rainwater collected in trenches and troughs; larger villages have concrete cisterns with capacity of about five tons each.
Truk: rainwater collected in troughs and cisterns; foul water of natural pools also used by natives; water from streams and wells on Fefan, Moen, and Tol and from streams on Polle, Udot, and Uman potable if filtered and preferably boiled; on Dublon, good cisterns, wells, and tanks, a 280-ton reservoir of potable water, and

2 open concrete tanks of 250 tons total capacity for supply ships' boilers.

Adequacy of Water Supply. Except on Kusaie and Ponape the natural and artificial sources of water are barely sufficient for the normal population. On Truk and the coral atolls, the supply of good water presents a problem even in ordinary times, and if disasters and tanks were destroyed by evacuating enemy troops a critical situation might easily develop.

122. Soils

Coralline Soils. On the coral atolls and islands the subsoil consists of lime slabs, porous coral fragments, shells, and coral sand. Over this lies a shallow top soil of fine coral sand and vegetable humus. The fertility of the land depends largely upon the depth of this humus layer. The Nomoi Islands (Etal, Lukunor, and Satawan) possess a much better soil than most of the other atolls. Kapingamarangi, which is characterized by deep, humus-filled marshes admirably suited to taro cultivation, is also exceptionally fertile. In general, however, coral islands are markedly inferior in soil fertility to those of volcanic origin, although coconut palms flourish better on the former than on the latter.

Volcanic Soils. On the high islands of Kusaie, Ponape, and Truk the soil, which is a product of decomposed volcanic rocks overlaid with humus, is intrinsically much more fertile than the coralline soils of the atolls, but erosion has removed much of the top soil on the steep slopes, and basalt rubble and debris scattered over and embedded in alluvial deposits impair the quality of the soil elsewhere. Thus only the broader stream valleys and the narrow coastal lowlands are really suitable to agriculture.

The soil of Ponape is shown by analysis to be excellent in nitrogen content, good in phosphoric acid, fair in its lime and magnesia content, and deficient in potash. In color it varies from a yellowish brown to a dark or rusty brown in consequence of a high iron content. On slopes it averages four or five feet in thickness, but reaches considerable depths in the valleys of the larger streams. Pure humus soil is rare. In places, water action has left isolated areas of compact reddish clay, over which grows only a coarse yellowish grass which contrasts strikingly with the dark green forest cover elsewhere. The soil of Kusaie lacks the iron content of Ponape soil but appears to resemble it in other respects. The high islands of Truk, though similar in structure, are reported to be greatly inferior to Kusaie and Ponape in fertility.

123. Minerals

Bauxite. Near Mt. Tolocoolme, on Ponape, there is a bauxite deposit, owned by the Nanyo Aruminyumu Kogyo Kaisha.

Iron Ore. There are deposits of iron and iron sulphate on Ponape. They are owned by the Nanyo Boeki Kaisha.

Stone. The only stone on the low islands is that of coral formation, which is extensively used in road building (see 291). Basalt rocks are widely available on Kusaie, Ponape, and Truk, but they are quarried to only a very limited extent.

Guano. The bottoms of many of the caves of Kusaie are covered with deposits of soft brown guano.

124. Flora

Trees and Shrubs. The high islands of Kusaie, Ponape, and Truk support a dense forest cover from the shore to the highest peaks. Mangrove swamps are common along the coasts and the lower courses of the larger streams. Palms thrive best on drier portions of the coastal lowlands. The forests of the interior contain hardwoods, tree ferns, and diverse other species, and are rendered almost impenetrable by dense thickets and climbing and creeping vines. On coral islands the forest cover is much less dense and often absent. The shores are fringed by littoral shrubs, while the interior is dominated by coconut, breadfruit, and pandanus trees. These trees, together with the banana and the papaya, furnish an important part of the native food supply (see 311).

German and Japanese botanists have reported a very large number of botanical species for the Eastern Carolines. Since a full enumeration is impossible here, an attempt will be made to list only the reported trees and shrubs, which are most likely to prove of economic importance. These, moreover, will be listed only by genus, since a single genus often includes numerous distinct species. The low islands show much less variety than the high islands. Among the genera of trees and shrubs reported for at least some of the coral atolls of the area are *Artocarpus* (breadfruit), *Bambusa*, *Barringtonia*, *Calophyllum*, *Carica* (papaya), *Cocos* (coconut palm), *Cordia*, *Dracaena*, *Eugenia*, *Ficus*, *Hernandia*, *Hibiscus*, *Morinda*, *Musa* (banana), *Pandanus*, *Piper*, *Premna*, *Rhizophora*, *Saccharum* (sugarcane), *Scaevola*, *Terminalia*, and *Thespesia*. The following genera are reported only for one or more of the high islands, although some of them doubtless also occur on coral islands: *Acalypha*, *Aglaia*, *Alstonia*, *Amaracarpus*, *Antidesma*, *Areca*, *Astronia*, *Bentinckia*, *Canarium* (ilangilang), *Canthium*, *Cinnamomum*, *Citrus*, *Claoxylon*, *Cleistanthus*, *Coelococcus* (ivory palm), *Columbia*, *Couthovia*, *Croton*, *Cyathes*, *Cynometra*, *Cyrtandra*, *Diospyros*, *Dipterocarpus*, *Durio*, *Elaeocarpus*, *Erythrina*, *Evodia*, *Freycinetia*, *Garcinia*, *Geniostoma*, *Gossypium*, *Homalanthus*, *Horaffieldia*, *Hypserpa*, *Ilex*, *Inocarpus*, *Ixora*, *Laportea*, *Laurus*, *Loranthus*, *Macaranga*, *Mangifera*, *Medinilla*, *Merrilliodendron*, *Misocarpus*, *Myristica*, *Nipa*, *Northia*, *Pongium*, *Pittosporum*, *Polyscias*, *Psychotria*, *Schefflera*, *Semecarpus*, *Shorea*, *Sideroxylon*, *Sonneratia*, *Steroulia*, *Styrax*, *Tournefortia*, *Trukia*, and *Vitex*.

Two of the above trees offer some danger to man. *Laportea*, a tree nettle, has sharp hairs on its leaves and stalks which cause painful stinging burns on contact with the skin. *Semecarpus* acts like poison ivy and poison oak, to which it is related, in causing bad skin eruptions on contact.

Other Land Plants. Lesser plants are too numerous to list. They include many species of ferns, fungi, lianas, and orchids. Reeds and tall grasses fringe the streams in swampy places. Plants bearing flowers and edible berries are relatively few. Among food plants the most important, next to the fruit trees mentioned above, are several plants with nutritious roots, especially *Colocasia* (taro), *Dioscorea* (yam), *Ipomoea* (sweet potato), and *Tacca* (arrowroot). Worthy of special note is *Derris*, a vine whose roots, when crushed and thrown into the water, act as a potent fish poison.

Marine Plants. The marine flora of the Eastern Carolines is practically identical with that of other Pacific islands of the same latitude.

125. Fauna

Land Mammals. The only mammals native to the Eastern Carolines are the rat and the fruit bat or "flying fox." Rats are found everywhere, but the fruit bat is absent in Nukuoro and perhaps a few other atolls. Dogs were originally known only in Ponape, but they have been introduced everywhere else. Mice, cats, and pigs have also been widely introduced. For animal husbandry see under 312.

Reptiles. Four species of lizards, including a gecko and a monitor lizard, are reported as widespread in the Eastern Carolines. There are two species of sea turtles but no snakes, frogs, or toads.

Insects. House flies are common. Mosquitoes are found everywhere, although *Anopheles* appears to be absent. Body lice, fleas, and cockroaches are widespread. Other insects reported for the area include ants, termites, a small stingless bee, plant lice, ticks, beetles, butterflies, grasshoppers, dragonflies, spiders, centipedes, and scorpions. In general, insects are more numerous and troublesome on the atolls than on the high islands. Kusaie, in particular, is relatively free of insect pests.

Birds. Among the more important sea and shore birds are the booby gannet, courser, curlew, duck, frigate bird, golden plover, gull, heron, kingfisher, noddy, pelican, sandpiper, tattler, tern, and tropic bird. Fruit pigeons and jungle fowl are widespread. Among the land birds reported, mainly for the high islands, are the cuckoo, finch, flycatcher, horned owl, nightingale, parrot, rail, reed warbler, sunbird, swallow, and woodcock.

Fish. Ponape has several fresh-water fishes, including perch and eels. The marine fauna of the Eastern Carolines differs little from that of other South Sea islands in the same latitude. Hundreds of species of lagoon and deep-sea fish have been reported, including blenny, bonito, butterfly fish, cardinal fish, damselfish, dorado, eel, flatfish, flying fish, flying gurnard, globe fish, halfbeak, herring, moray, mullet, needlefish, parrot fish, porcupine fish, ray, sea bass, shark, snapper, squirrel fish, and tunny. For fishing see under 313.

Shellfish. Crustacea and molluscs abound on the reefs and in the lagoons. Among those reported are cowries, crabs, crawfish, giant clams, lobsters, and pearl oysters. Land snails and purse crabs are common.

Other Marine Fauna. Among sea mammals, porpoises are well known, and whales were formerly common. Trepang (sea slugs) appear seasonally in large numbers. Other lower forms of marine life include octopus, squid, jellyfish, starfish, sea urchins, and numerous others.

126. Major Facilities

Installations. The principal installations in the Eastern Caroline Islands are docks and shipyards (see 294), airfields and seaplane bases (see 293), radio stations (see 273), electric power plants (see 284), and warehouses (see 295).

13. HISTORY

131. Discovery and Early Contacts

Prehistory. The evidence of archeology, language, and physical and cultural characteristics indicates that the Eastern Carolines were originally peopled by the same wave of migration from Indonesia that settled other parts of Micronesia, namely, the Marianas, the Western Carolines, the Marshalls, and the Gilbert Islands. Subsequent to this original occupation, the various Micronesian peoples appear to have undergone a normal process of cultural evolution and differentiation, producing the regional differences observable today. The impressive archeological remains of stone walls, dikes, fences, and other structures on Kusaie and Ponape, which led certain early theorists to postulate a former period of higher civilization, are now known to have been produced by the recent ancestors of the present population.

The principal prehistoric complication concerns the migration of the Polynesian peoples into the remoter parts of the Pacific. It is now believed that the Polynesians moved eastward into the Pacific by way of the Micronesian islands about 1200 A.D. They may well have represented the first part of the wave which later brought the Micronesians themselves into the area, although they may have found the Micronesians already in possession and passed on to the remoter unoccupied islands. It is clear, however, that the Polynesians, though resembling the Micronesians in many respects, differ appreciably from them in language and culture, and that the Micronesians show more admixture with Melanesian and Malayan blood and exhibit more recent cultural borrowings from the Philippines and the East Indies than do the Polynesians.

An especially interesting fact is that two of the atolls in the Eastern Carolines, namely, Kapingamarangi and Nukunoro, are inhabited, not by Micronesians but by true Polynesians. These atolls, together with certain islands in Melanesia, e.g., Ontong Java, Rennell, and Tikopia, represent a later backwash or return migration from Polynesia. The peoples of all these "western Polynesian outliers" in Micronesia and Melanesia are very closely related, culturally and linguistically, to the peoples of Western Polynesia, especially those of Samoa and the Ellice Islands.

Discovery and Exploration. Many of the Eastern Caroline Islands were discovered by Spanish voyagers during the sixteenth century, but for nearly two centuries thereafter they were lost to history. Near the beginning of the nineteenth century, however, they were rediscovered by explorers and whalers of several nationalities, and with each succeeding decade they have become better known. The discoverers and principal early explorers of the several atolls and islands are listed below:

- Ant -- discovered by the Spaniard Quiros (1595); rediscovered by the Russian explorer Lutke (1828); visited by Frazer (1832).
- East Fagu -- discovered by Lutke (1828).
- Etal -- discovered by the British captain Mortlock (1795); visited by Lutke (1828).
- Kapingamarangi -- discovered by the Spaniard Grijalvaes (1536); next visited by Montraval (1853) and Symington (1864).
- Kuop -- probably discovered by the Spanish explorer Arellano (1565).
- Kusaie -- discovered by the Spaniard Saavedra (1529); rediscovered by the American whaler Crozer (1804); visited by Duperrey (1824), Lutke (1827), and numerous whalers.
- Losap -- discovered by the Spaniard Monteverde (1806); visited by Duperrey (1824), Morrell (1830), Frazer (1832), and D'Urville (1838).
- Lukunor -- discovered by Mortlock (1795); visited by Lutke (1828).
- Mokil -- discovered by the French explorer Duperrey (1824); dominated by white traders in the 1840's; visited by Andersson (1852), Hammet (1854), and Moore (1857).
- Murilo -- probably sighted by the Spanish captains Villalobos (1542) and Legaspi (1569); visited by the British whaler Galloway (1827), and by Lutke (1828).
- Nam -- discovered by Monteverde (1806); visited by Duperrey (1824).
- Namoluk -- discovered by Macy (1827); visited by Lutke (1828) and Morrell (1830).

Namounito -- discovered by Arellano, who marooned Pilot Martin and 13 mutinous sailors here in 1566; visited by the Spaniards, Mendana (1568) and Ibargoitia (1801); sighted by Bunkey (1824); visited by Lutke (1828).

Ngatik -- possibly sighted by Quiros (1595) but probably discovered by the Spanish captain Thompson (1773); seen by Musgrave (1793) and Afita (1802); visited by Lutke (1828).

Nomwin -- discovered by the Englishman Hall (1824); visited by Lutke (1828).

Nukuoro -- discovered by Monteverde (1806); visited by Morrell (1830).

Oroluk -- discovered by Thompson (1773); sighted or visited by Musgrave (1793), Monteverde (1806), Johnson (1827), and Saliz (1828).

Pakin -- discovered by Quiros (1595); visited by Lutke (1828).

Pingelap -- discovered by the Englishman Musgrave (1793); visited by MacAskill (1809), Duperrey (1824), Lutke (1828), Hammet (1853), and Moore (1857).

Ponape -- probably discovered by Quiros (1595), though possibly seen earlier by Saavedra (1529); probably sighted by Musgrave (1793), Ibargoitia (1801), and early whalers; O'Connell shipwrecked there (1826); visited by Lutke (1828); sighted by Frazer (1832); repeated visits by whalers after 1835.

Pulap -- discovered by Arellano (1565); visited by Ibargoitia (1801), Freycinet (1819), Duperrey (1824), and Morrell (1830).

Pulusuk -- discovered by Ibargoitia (1799); visited by Freycinet (1819) and Renneek (1826).

Satawan -- discovered by Mortlock (1795); visited by Lutke (1828).

Truk -- discovered by Arellano (1565); probably visited by Legaspi (1569); visited by Dublon (1814), Hall (1824), Duperrey (1824), Lutke (1828), Morrell (1830), D'Urville (1838), and numerous whalers.

Contacts with Whalers. Although the early explorers were usually cordially received by the natives throughout the Eastern Carolines, the reaction quickly changed when the islands became a center of the whaling industry. During the second quarter of the nineteenth century whalers from the United States and elsewhere frequented Micronesia in increasing numbers. They found the islands, especially Ponape and Kusaie, excellent places at which to call during the winter months to lay in fresh supplies of food and water, to make necessary repairs, and to find feminine companionship. All too frequently they robbed and mistreated the natives, arousing especial antagonism by raping and kidnapping chief's wives and other women. After a few such experiences, the natives began to retaliate by attacking and destroying visiting ships and their crews whenever a favorable opportunity presented itself. The natives of Truk, Ponape, and Kusaie were particularly hostile. Truk remained intransigent, but matters were patched up on Ponape and Kusaie during the 1840's. Whalers flocked to these two islands in very large numbers during the 1850's and early 1860's. Shortly thereafter, however, the whaling industry ceased to be profitable in the area and practically disappeared, the islands reverting to obscurity for a period until the development of the copra trade stimulated imperialistic penetration.

Contact with the whalers brought smallpox and other diseases into the area, causing widespread depopulation. Another result was racial intermixture. Sailors deserted from whaling vessels in considerable numbers and settled in the islands with native women, raising numerous half-caste progeny. In many cases they augmented their livelihood by engaging in trade and furnishing supplies to the whalers. The conditions of moral chaos and exploitation, which were often appalling, induced the Boston Mission Society to send missionaries to Kusaie and Ponape in 1852 and later to extend their activities to other islands. The missionaries inevitably came into conflict with the whalers and traders, and eventually became involved in political entanglements. In the early 1870's, during a period when the American missionaries were temporarily withdrawn, the notorious pirate, Bully Hayes, made Kusaie his headquarters for depredations in the Pacific.

132. Political History

Period of Virtual Independence (prior to 1886). Spain laid claim to sovereignty over the Caroline Islands from the time of their discovery, but until late in the nineteenth century this claim was unsupported by any serious attempt to occupy or administer the islands. Native wars between rival chiefs of adjacent atolls and districts continued unchecked, whalers and natives settled their own grievances by force, and traders and missionaries carried on their activities without any governmental supervision. The mis-

sionaries, being almost exclusively American, hoped and planned for eventual occupation by the United States. Trade, on the other hand, fell increasingly into German hands, and the traders looked increasingly to their own government to protect their commercial interests.

Trouble first arose in 1873, when Spain demanded that all vessels trading in the Carolines call first at the Philippines to obtain permission and pay customs dues and license fees. The German firms disregarded this notice and referred the matter to their government, which officially protested to Spain in 1874. In 1875 Great Britain joined in the protest. After diplomatic exchanges, the Spanish government, in 1877, recognized complete freedom of trade in all Pacific areas not actually occupied by a European power.

Spain slowly matured plans to occupy the Caroline Islands and finally, in 1885, sent out a warship to take possession. The Germans, however, saw an opportunity to expand their empire in the Pacific. In addition to seizing and declaring a protectorate over the Marshall Islands, they sent the gunboat "Itis" to Yap and took formal possession a few days before the Spaniards arrived. Within a few weeks the German flag had also been raised on Truk, Ponape, Kusaie, and many of the lesser islands of the Eastern Carolines. The reaction in Spain was violent, and serious international complications were avoided only when the issue was referred to Pope Leo XIII for adjudication. The pope confirmed the claim of Spain to sovereignty over the Carolines on condition that she maintain an orderly government there, but he awarded to Germany the right to trade freely, to fish, and to establish settlements and coaling stations in the islands. In return for these concessions Germany relinquished its claims to the Carolines, and withdrew.

Spanish Rule (1886-1899). In 1886 Spain sent two warships to the Carolines to raise the Spanish flag and to obtain recognition of the title of the Spanish crown from the natives and their chiefs. Ponape was made the administrative center for the Eastern Carolines, and in 1887 a governor arrived with a secretary, a physician, 50 Filipino soldiers with Spanish officers, and six Catholic priests and lay brothers of the Capuchin order. The traders welcomed the Spaniards, who they hoped would strengthen their hands against the missionaries. The latter saw their power curtailed and their hope of setting up a democratic native state under American sovereignty thwarted, and they were incensed when the Spaniards refused to recognize their land titles and seized a part of the mission property as the site on which to build the administrative settlement. The Rev. Edward T. Doane protested so vigorously that he was arrested and sent off to Manila.

The natives were put at work constructing the settlement. When a Spanish overseer embezzled the wages promised them and they received no pay, the entire native population secretly departed in a body one night and left the colony deserted. A detachment of troops sent out to bring them back was attacked, and all but one soldier were killed. The Spaniards hurriedly fortified themselves, and were besieged for several days. After parleys with the native chief they withdrew to a schooner in the harbor but were attacked on the way and suffered heavy losses. The anger of the revolting natives, who belonged to the Not and Jokaj districts, soon cooled, and they approached the Spanish commander and the Capuchin fathers, asking their forgiveness. They supplied the beleaguered garrison with food and water until a relief expedition arrived from Manila, bringing a new governor and also Doane, whose release had been secured through diplomatic pressure. Instead of punishment a general amnesty was declared, apparently through the intercession of the Capuchin fathers, who thereby secured the conversion of the Not and Jokaj districts en masse from Protestantism to Catholicism.

The Spaniards established a strong garrison at Ponape Colony, fortified the settlement, and built a stockade. During the next few years they devoted themselves to building roads to the centers of the three remaining Protestant districts of Kiti, Metalanim, and U, and to establishing Capuchin missionaries alongside the various Protestant stations. The Protestants were indignant at what appeared to them to be persistent hostile encroachment. When, in 1890, a native preacher in Metalanim protested and was clapped in jail, the chief of that district revolted, attacked the Spanish garrison, and slew 33 soldiers. The American mission gave refuge to the surviving troops and the Capuchins, and conducted them to safety. An overland punitive expedition failed with considerable loss of life, but Metalanim was then successfully stormed and taken from the sea. Hostilities dragged on, and the Spaniards attempted to partition Metalanim, giving half to Catholic Not and half to the chief of U, who embraced Catholicism for this purpose. U deposed this chief and fought at the side of Metalanim. Months of fighting left Metalanim undivided and U in the hands of its new Protestant chief. Kiti meanwhile was successfully countering the Spaniards with guile.

Matters were still deadlocked when an American corvette arrived to investigate the complaints of the Boston Mission. The natives flocked aboard to testify, annoying the Spaniards whose summonses they had repeatedly ignored. Unquestionably the American missionaries had given tacit support to native resistance, and the Spanish governor insisted

upon their expulsion. The American commander, after a thorough investigation, advised the missionaries to withdraw from the island until peace had been restored. He transported the Rev. Frank E. Rand, who had replaced Doane, and two women missionaries to Kusaie. After diplomatic negotiations the Spanish government paid the United States \$17,500 to indemnify the Boston Mission for buildings destroyed by troops during the rebellion.

During the remainder of the Spanish occupation peace was never fully restored, and the American missionaries were refused permission to return to Ponape. Metalanim, Kiti, and U remained Protestant under their native pastors. A state of armed truce prevailed on Ponape, punctuated by occasional sniping at Spanish patrols and several incipient revolts. All parties were relieved when Spanish rule came to an end. Since the Spaniards never attempted the actual occupation of Truk, Kusaie, and the coral atolls, conditions on these islands remained much as they had been during the period of virtual independence.

German Rule (1899-1914). The American missionaries were heartened at the outcome of the Spanish-American War but were disappointed when the United States did not assume sovereignty over the Eastern Carolines, and their hopes were dashed when Spain transferred the Carolines and the Marianas, except for Guam, to Germany in 1899 for 25 million pesetas. These islands were declared a protectorate under the administration of the governor of German New Guinea. The Germans immediately took possession and established their headquarters for the administration of the Eastern Carolines on Ponape. Reforms were quickly instituted. Ponape Colony was rebuilt, its fortifications were razed, and natives were freely admitted to the settlement for the first time. The sale of alcohol to the natives was forbidden, and pacification was largely achieved. The natives of Truk were disarmed in 1903, but the people of Ponape could not be induced to surrender their firearms until 1905, when they were reduced to famine by a severe typhoon and gave up many but not all of their weapons in return for food.

Only on Ponape did the Germans encounter serious opposition, and here only after many years of relative peace. Trouble began when Governor Hahl visited Ponape from New Guinea in 1907 and announced to the assembled chiefs that the old feudal system was abolished, ignoring their protest that the loss of feudal tribute would deprive them of their sole source of income, and forcing them to state in writing that no vassal would thenceforth be removed from his fief. When a new administrator, Fritz, arrived in 1908, he found widespread mistrust and discontent, and proposed an equitable solution to the problem in the following terms: (1) tribute was to cease, and former tenants were to become free owners of the land; (2) in lieu of tribute, former tenants were to work 15 days a year without pay for the Government; (3) their labor was to be reckoned at the rate of one mark per day, and half of this credit was to be turned over in cash to the former feudal lords in recompense for their loss; (4) the labor was to be expended exclusively on roads, canals, and other projects directly beneficial to the people in an economic sense. The five tribes were individually consulted. Kiti, Metalanim, and U accepted at once, and Not after some hesitation, and all four performed acceptably their compulsory labor for 1909. Belatedly Jokaj also accepted the proposals, and Fritz agreed to waive their labor for 1909. He was shortly replaced, however, by a new administrator, Boeder, who refused to honor the agreement.

In October, 1910, when the Jokaj natives were called to perform their two years' quota of labor in road building, they assembled in an angry spirit, exacerbated by Catholic-Protestant intrigues behind the scenes. When one recalcitrant laborer was seized and flogged, his fellow tribesmen quit work, attacked their masters, and killed Boeder and three other Germans. Retaliation was swift. The Germans came with warships and a force of Melanesian soldiers, drove the rebels out of their stronghold, and pursued them into the mountains. By the middle of February, 1911, the entire insurgent district was brought under control with only slight German losses. Seventeen rebels were executed, and the rest of the population, numbering 426 people, was exiled in a body to Palau. Unrest survived in the other districts, and Ponape was not completely subdued until 21 more young men were rounded up and deported.

Japanese Rule (since 1914). In October, 1914, a Japanese naval squadron took military possession of the Caroline Islands, interned the German officials and business men and eventually shipping them back to Germany. The squadron commander immediately established a military administration of the islands. In December of the same year the administration was taken over by a newly created Provisional Naval Garrison or South Seas Defense Corps, which had its headquarters on Truk and established regional garrisons at Saipan, Palau, Truk, Ponape, and Jaluit to conduct civil affairs in five administrative districts centering on these islands. In April, 1915, a sixth district was created, with garrison headquarters on Yap.

On July 1, 1918, the Japanese established a Civil Administration Department, which remained, however, under the control of the Naval Garrison. The regional garrisons relinquished their administrative functions, retaining only their police functions, to

civil administration stations set up by the new Department in each of the six administrative districts. These stations were manned by civilian personnel, and were responsible directly to the Department.

By a secret agreement in March, 1917, Great Britain recognized the claims of Japan to all the former German possessions in the Pacific north of the equator, and the approval of France and Russia was also obtained. When the peace conference met at Versailles, therefore, it was faced with the fact of virtual annexation. American efforts were powerless to effect any significant change, although the situation was rendered somewhat more palatable by devising a special category of Class C mandates to cover the case. Such a mandate differed from outright annexation only by imposing upon the mandatory power a number of obligations, notably, to promote the material and moral well-being and social progress of the natives, to prohibit slavery and forced labor, to control traffic in arms, to exclude alcoholic beverages, to refrain from building fortifications and military bases, to permit freedom of worship and missionary activity, and to submit an annual report to the League of Nations. On these terms Japan was confirmed, in 1920, in her possession of the Caroline, Marshall, and Marianas Islands as a mandatory under the League of Nations, and in 1922 the United States accepted the arrangement in a special agreement with Japan.

In accordance with the terms of the mandate, the Japanese began to withdraw their armed forces from the islands in 1921 and completed the withdrawal in March, 1922. During the period from 1920 to 1922 the Civil Administration Department acted under direct instructions from the Minister of the Navy. In preparation for civilian administration, the headquarters of the Department were transferred from Truk to Koror in Palau in July, 1921. In March, 1922, the Provisional Naval Garrison was abolished, and in the following month its place was taken by the South Seas Government, a civilian administrative organization which has governed the mandated islands ever since (see 213). The six administrative districts were retained, with a Branch Government (see 214) at the head of each. In the Eastern Carolines the Truk Branch Government administers the islands from Puluwat in the west to Lukunor in the east, while the Ponape Branch Bureau administers the islands from Kapingamarangi in the west to Kusaie in the east with the addition of the two outlying atolls of the Marshall Islands, Eniwetok and Ujelang.

Whereas the principal objective of the Spanish administration was religious proselytism and that of the Germans was commercial expansion, the primary ends of Japanese policy were political and military. Native political heads were shorn of much of their authority, and complete pacification was achieved, although there are indications that unrest is still not dead in Ponape. Trade and intercourse with foreign nations was quietly discouraged. The islands attracted little attention in the outside world until 1932, when rumors gained currency that Japan was fortifying some of the islands, notably Truk. When questioned by the League of Nations, the Japanese Government categorically denied the reports. Although its word was accepted by some, many remained skeptical until the outbreak of war in December, 1941, demonstrated that the rumors had a basis in fact.

Japan's threat to withdraw from the League of Nations as a result of the Manchurian affair again brought the islands into public notice, providing an opportunity for international jurists, mostly American, to pronounce the opinion that if Japan withdrew she would forfeit her mandate, and the islands would revert to the League. Japanese jurists held the opposite opinion. When Japan actually did withdraw in March, 1935, she kept the mandated territory, defining it as "an integral part of the Japanese empire," but she continued to administer it in much the same way and to submit annual reports to the League through the year 1938. After that year all pretense of international supervision vanished, and the islands were increasingly treated as a closed military area.

133. Economic Development

Aboriginal Trade. Even before the appearance of Europeans, the natives of the Eastern Carolines carried on considerable trade with one another by barter. The most active traders in the area were the inhabitants of Puluwat, who monopolized the trade with the nearby islands of Pulpap and Pulusuk and voyaged westward to Woleai and Ulithi in the Western Carolines to secure dance girdles and other native products in exchange for articles which they brought from Truk. Once a year, down to 1873, they joined natives from the Western Carolines at West Fayo for a voyage to Guam, a 300-mile trip which took eight days. At Guam, which had long been occupied by the Spaniards, they bartered canoes for iron axes and machetes, which they traded to the east. As a result of this aboriginal traffic, the first visitors to Truk and the Nomoi Islands in the eighteenth century found the natives already well equipped with iron implements.

In the Truk group, the inhabitants of the various islands carried on considerable trade with one another. The prevailing conditions of hostility, however, made it necessary for this exchange to be conducted between members of the same clan on different islands.

The Truk people rarely sailed far abroad, however. They were visited by Puluwat natives, who exchanged iron implements and dance girdles for such local products as turmeric, cosmetic oil prepared from nuts, and clothing mats woven from banana-leaf fibers, as well as for spondylus-shell ornaments imported from farther east. The people of Namonuito brought capes to exchange for turmeric and mats. From Murilo and Nomwin the natives of these islands or Puluwat intermediaries brought tortoise shell, large seashells used as cooking utensils, coconut-fiber ropes and fish lines, and sails and sleeping mats plaited from pandanus leaves, exchanging them at Truk for local and imported products.

A flourishing trade also prevailed between Truk and the islands to the southeast. Nama and Losap, which had few goods to offer, acted as intermediaries, but much of the commerce was conducted by the natives of Etal, Lukunor, Namoluk, and Satawan themselves. They journeyed to Truk to obtain fermented breadfruit, wooden bowls, bark discs, red earth for dye, and whetstones of basalt, in addition to iron, turmeric, oil, and mate. In return, they bartered canoes, coconut-fiber thread, ornamental head bands, and elaborate ornaments of spondylus shell. The last, which were traded far and wide, were compounded of red spondylus shells obtained locally or from Nukuoro, of the bark discs obtained from Truk, and of white shell beads and coconut-shell discs produced locally. In addition to the commerce with Truk, the natives of Etal, Lukunor, Namoluk, and Satawan traded amongst themselves, visited Nukuoro to obtain spondylus, and occasionally made trips as far as Kapingamarangi, Oroluk, and Ngatik.

The Polynesians of Nukuoro and Kapingamarangi, the Ponapeans, and the Kusaians did not make extensive sea voyages. At Ponape there was only a little local trade. On Kusai, too, the various districts traded among themselves, but, in addition, the island was occasionally visited for purposes of barter by natives from the Marshall and Gilbert Islands.

Whaling Period. The Eastern Carolines first became of economic importance to the western world with the development of whaling, which became significant in the area during the 1830's, flourished during the 1840's, reached its peak in the 1850's, and declined during the 1860's. The natives, already experienced in barter, showed themselves eager to trade with the whalers, as with the navigators before them, and after an initial period of conflict, a flourishing commerce sprang up. The whalers, in need of replenishing their supplies of food and water, visited Ponape, Kusai, and to some extent Truk, where they bartered iron implements, firearms and ammunition, European food and clothing, trinkets, liquor, and tobacco in exchange for breadfruit, coconuts, yams, pigs, and chickens.

Not a few seamen, attracted by the easy life of the islands, deserted from the whaling vessels and settled down with native wives. Many of them found an opportunity to profit as middlemen in the commerce between whalers and natives, and some of them began to export local products such as tortoise shell, mother-of-pearl, and trepang in modest quantities. Trade was at first by barter, and in some places the natives were badly exploited. Experience soon showed that of all imported products there was the greatest demand for tobacco, and for a period this article became a recognized medium of exchange. The first missionaries, despite the strict prohibition which they placed on smoking, found themselves in the anomalous position of being unable to secure goods and services except by payments in tobacco. Before long, however, the natives became habituated to the use of various European currencies.

Development of the Copra Industry. After the decline of the whaling industry in Micronesia, trade languished for a period but shortly opportunities for profit were discovered in a new industry, the production and export of copra. German trading vessels began to visit the Eastern Carolines to buy copra in the middle 1860's, and shortly after 1870 several German firms opened trading stations in the area. Capelle and Company extended their operations from the Marshall Islands to Ponape. Godeffroy and Sons, a Hamburg firm active in Samoa, opened stations at Kusai and Ponape. Henssler and Company, also of Hamburg, established competing stations on the same islands, bought out the rights of Henderson and MacFarlane of New Zealand and of two American companies, and took over the holdings of Godeffroy and Sons when the latter firm was liquidated in the early 1880's. The Deutsche Handels- und Plantagengesellschaft of Hamburg, which at this period was handling approximately half of the German Pacific trade, also entered the Carolines and in 1883 had stations on Losap, Lukunor, Nukuoro, and Ponape. These German firms dominated the copra trade in the Carolines from the beginning, and in 1885 were taking three fourths of the production of the area.

In 1887 the above-mentioned companies were amalgamated to form the Jaluit Company, with an initial capitalization of 1,200,000 marks. In the Marshall Islands, which Germany had recently annexed, this company was granted a virtual mercantile monopoly. In the Eastern Carolines, while it faced some foreign competition, it inherited the dominant commercial position of its predecessors and operated trading stations on Ant, Kusai,

Lossap, Lukunor, Mokil, Ngatik, Nukuoro, Pakin, Pingelap, Ponape, Pulap, Satawan, and Truk. In 1901, after Germany had acquired the Eastern Carolines from Spain, the monopoly of the Jaluit Company was extended to this area, with the exception of the islands of Ant, Kapingamarangi, Kusaie, Pakin, and Ponape. In return for an exclusive right to conclude planting contracts with natives, it paid the German Government an annual tax of 6,000 marks plus an additional 500 marks for each 50 tons of copra it exported. Japanese traders were excluded from the area for illegal traffic in arms, American interests were bought out, and British competitors were squeezed out by prohibitive fees and export duties. As a result of strong diplomatic protests, especially from Australia, the company's monopoly was terminated in 1905.

Although the Jaluit Company did a small business in tortoise shell, mother-of-pearl, trepang, and vegetable-ivory nuts, about 90 per cent of its export trade was in copra. Throughout the German period most of the traffic with the natives was by barter. In order to stimulate the production of copra, as well as to increase profits, the Jaluit Company maintained two price lists at its trading stations, one for cash sales and a second, approximately twice as high, for purchases paid for in copra. In consequence, the natives who ordinarily brought in copra only when they needed goods, paid twice as much as Europeans, who sold copra and bought commodities for cash. Nevertheless, copra production increased quite slowly, and exports were stabilized at an average of about 850 tons a year between 1900 and 1910.

In addition to its export trade, the Jaluit Company carried on a flourishing import business of about twice the value, consisting mainly of textiles and iron goods from England, canned goods and tobacco from the United States, hardware and liquors from Germany, lumber and foodstuffs from Australia, and miscellaneous products from Japan. It had phosphate interests in Nauru and the Western Carolines. It supplied the German Navy with coal. Also, with a mail steamer and eight trading schooners, it operated an inter-island shipping service for which it received a government subsidy of 120,000 marks a year. In 1911, despite increasing competition from Japanese firms, the company was still able to declare a dividend of 25 per cent.

Japanese Commercial Penetration. Japanese traders did not appear in the islands until 1890, when a company (Nanto Shokai) was organized with government capital and a trading vessel was dispatched to the Marianas and Carolines. Some of the crew remained in Ponape and opened a branch of the company there, but the venture did not prove successful and was dissolved shortly thereafter. Two companies, the Kaitsu Sha and Koshin Sha, were organized in 1891, both opening trading stations on Truk. The former soon dissolved, and the latter transferred its activities to the Western Carolines in 1893. In 1892 another company, the Hitotsuya Shokai, sent a vessel to Ponape, where it took over the business of the Nanto Shokai; in 1895 it established a second branch office in Truk. The most successful Japanese firm during this early period was the Hioki Company (Nanyo Boeki Hoiki Goshi Kaisha), which was organized in 1893. It established branches in Ponape and Truk, as well as in the Marianas, but was expelled from the Carolines in 1899 for selling firearms and spirits to the natives. By 1901 all other Japanese traders in the Eastern Carolines had been barred for similar reasons, and the German monopoly became almost complete.

After the abolition of the Jaluit Company's preferential position in 1905, the Hioki Company returned to the area. Another important Japanese firm, the Murayama Shokai, sent a schooner to Ponape in 1905 and opened branch offices there and in Truk in 1906. In the latter year it was consolidated with the Hioki Company to form a new firm, the Nanyo Boeki Kaisha (South Seas Trading Company). Despite official discouragement, this company, operating with a low overhead and specializing in cheap but shoddy products, offered increasingly serious competition to the German interests until the outbreak of World War I.

In 1914 the Nanyo Boeki Kaisha succeeded to the monopolistic position formerly occupied by the Jaluit Company. The German traders were ousted, and an embargo was placed upon all vessels of other nationalities touching at ports in the islands. Only after some nine months of negotiations was the British Government able to obtain a sufficient modification of the embargo to enable an Australian firm to send a ship into the area. In consequence of official restrictions and informal pressure of various sorts, American and British firms were discouraged from trading with the islands and in a few years withdrew altogether, leaving the trade almost exclusively in Japanese hands. Since 1930, commercial fishing (see 325) has replaced copra production as the principal industry of the area.

134. Missions

Earliest Missionary Attempt. The first missionary in the Eastern Carolines was Father Bachelot, a French priest of the Sacred Heart of Jesus. He arrived at Ponape in

1838 and set up a mission at Metelanin, where he lived for several years and died. He had but slight success and was not replaced.

Boston Mission. By 1848 the Boston Mission (American Board of Commissioners for Foreign Missions), an organization of the Congregational sect, had succeeded so thoroughly in christianizing Hawaii that it began to consider extending its work elsewhere in the Pacific. Its attention was turned to the Marshall, Gilbert, and Eastern Caroline Islands by the conditions of vice and disease resulting from contacts with the whalers, and in 1849 it dispatched an exploratory expedition to these islands. As a result, its Hawaiian Branch, the Hawaiian Evangelical Association, sent out a number of missionaries in 1852. Mr. and Mrs. Benjamin Snow founded a mission at Kusaie, Dr. Luther H. Gulick settled at Metelanin in Ponape, and Mr. and Mrs. Albert A. Sturges, with a Hawaiian assistant, established a station at Ronkiti on Ponape. In both islands they were hostilely received by the white traders and whalers. On Ponape, for example, they were opposed by all but one of the twelve white residents of the islands. Nevertheless, they enjoyed great initial success, although set-backs occurred later. Entire clans embraced Christianity in a body, and within a decade or two the majority of the native population had been at least superficially won over.

The efforts of the Boston Mission were characterized from the first by a strict Puritanism. Polygamy was abolished, and sexual laxity frowned upon in any form. European clothing was introduced. A strict prohibition was placed on dancing, tobacco, and alcohol, as well as on certain native practices such as tattooing, kava drinking, and the use of turmeric. Strict observance of the Sabbath was insisted upon. Schools were started immediately, the native languages were studied, and efforts were begun at once to translate portions of the Bible into the local dialects.

Mr. and Mrs. Snow left Kusaie for the Marshall Islands in 1862, after ordaining a native pastor. Thenceforth for 17 years all missionary activity on that island was left in the hands of the natives. Whaling declined and disappeared, and contacts with the outside world practically ceased. In 1879, however, Dr. and Mrs. Edmund M. Pease arrived and secured a land grant for a school at Mwot. The mission school for Marshall Islanders was immediately moved to Mwot, and in 1882 the Gilbert Islands school was also transferred there. In 1886, a school for girls was established at the same place. Mr. and Mrs. Alfred C. Walkup and two American women missionaries arrived at about this time to assist Dr. and Mrs. Pease, and Kusaie became the center of American missionary enterprise in Micronesia, a position which the island has held ever since.

On Ponape, meanwhile, the Boston Mission had a much more turbulent history. During a smallpox epidemic in 1853, the unfriendly traders and whalers tried to convince the natives that the missionaries were responsible, and Dr. Gulick was under strong suspicion until the success of his vaccinations restored confidence in him. In 1855, Mr. and Mrs. Doane arrived and set up a station at Joka, but they removed to the Marshalls in 1857. Dr. Gulick also departed in 1859, but new missionaries arrived to fill the gaps; Mr. and Mrs. Hiram Bingham, Jr., in 1857 and Mr. and Mrs. Ephraim F. Roberts in 1858. Doane returned with a second wife in 1865 but encountered difficulties, and the pioneer station at Ronkiti had to be abandoned in 1867. Troubles continued, but in 1870 a visit by an American warship impressed the natives and the Ronkiti station was reopened. Shortly afterwards, a missionary institute was established, and in 1873 seven native pastors were ordained and sent into the field. Additional missionaries arrived in 1874: Mr. and Mrs. Robert W. Logan and Mr. and Mrs. Frank E. Rand, and others came a few years later. By 1880 there were 13 churches on Ponape, and in 1884 a girls' school was founded.

This flourishing expansion came to an end in 1887, when the Spanish administrators arrived with six Catholic missionaries. There followed the political intrigues and armed conflicts previously described, culminating in the expulsion of all the American missionaries in 1890. Repeated requests by the Boston Mission for permission to return were refused by the Spaniards. In 1899, however, the Germans granted permission, and for a brief period the Americans returned, but after a few years they transferred their holdings by mutual agreement to a German Protestant mission and retired permanently from the island.

Missionary enterprise spread from Ponape to the smaller islands of the Eastern Carolines. In 1873, native evangelists and teachers were sent to Satawan, and by 1878 there were seven mission stations in the Nomoi Islands (Etal, Lukunor, and Satawan). A native missionary was also sent to Pingelap in 1873, and in the next few years stations were established on Losap, Mokil, Nama, Nemoluk, Ngatik, Nukuoro, and Truk. After 1890, native evangelists trained at Truk started missions on Namonuito, Nomwin, and Fuluwat. Only a few islands in the area remained untouched. Kapingamarangi, for example, had experienced no missionary activity as late as 1910. Except in the case of Truk, no American missionaries were installed on these lesser islands; the work was carried on exclusively by native pastors and teachers trained at Ponape, Kusaie, or Truk.

Native missionaries first arrived at Truk from Ponape in 1879, establishing themselves at Uman. By 1884 there were ten mission stations in the Truk Islands, located on

Dublon, Fefan, Moen, Udot, and Uman. In 1885, the Americans, Mr. and Mrs. Robert W. Logan, arrived to take charge. In 1899, when Germany took over the islands, the resident American missionaries were Mr. and Mrs. Martin L. Stimson, Miss Jane D. Baldwin, and the latter's sister, as well as Alfred Snelling, who had been discharged by the Boston Mission but stayed on as an independent. In 1907, arrangements were made to transfer the interests of the Boston Mission in Truk and its smaller dependent islands to a German Lutheran missionary organization, and the last Americans in Truk departed in 1910.

The activities of the Boston Mission in the Eastern Carolines, after its final withdrawal from Ponape and Truk, were confined exclusively to Kusaie and to the three dependent atolls of Mokil, Ngatik, and Pingelap, at which native pastors and teachers have continued to work. On Kusaie, the mission training school at Mwot was continued with a staff normally consisting of one or two American missionaries with their wives and two or three American women teachers, in addition to native assistants. Rev. and Mrs. George C. Lockwood served at the school from 1928 to 1932, and Rev. and Mrs. Clarence F. McCall from 1936 to 1940. The last American missionaries, Miss Jane D. Baldwin and Miss Eleanor Wilson, were withdrawn in 1941, a few months before Pearl Harbor. Since this time, the mission school has been run by two Japanese women who had previously been associated with the school, while the churches and church schools at Lele, Malem, Tafwensak, and Utwe have presumably remained in the hands of natives (see 154 and 262).

Catholic Missions. When the Spanish administrators arrived in Ponape in 1887, they brought with them six Roman Catholic missionaries of the Capuchin order. After a period of political intrigue and armed rebellion, culminating in the expulsion of the American missionaries in 1890, the Capuchins had no foreign competition in the island and with government support succeeded in winning over about one third of the native population. They were maintaining seven mission stations on the island, with three fathers and four lay brothers in charge, when the Germans arrived in 1899. During 1904 and 1905, the Spanish Capuchins were replaced by Rhenish-Westphalian missionaries of the same order.

In 1905 Pope Pius X made the Caroline Islands an apostolic prefecture. Its seat, first located at Ponape, was transferred in 1907 to Yap, which was closer to the center of Catholic missionary activity in the islands. In 1911 the prefecture was combined with that for the Marianas under a vicar apostolic. In 1906, Alsatian sisters of the Franciscan order were admitted to the Carolines. On Ponape, in 1909, the Catholics maintained four mission stations (in Jokaj, Not, and U), two branch stations, two boarding schools, and eight schools, manned by five fathers, seven brothers, three sisters, and 24 native assistants. In 1911 a priest was sent to Lukunor to take charge of missionary efforts in Etal, Lukunor, Namoluk, and Satawan. Within a few years about one third of the natives in these atolls had been converted to Catholicism. In 1912, Capuchin missionaries were sent to Truk, where they established stations on Tol and Dublon.

When the Japanese seized the Carolines in 1914 they compelled the German Capuchins to leave. In 1921, however, Spanish Catholic missionaries, this time of the Jesuit order, were admitted to continue the work of their German confreres. In 1937 there were four Spanish Catholic fathers, six brothers, and four nuns in Truk, which was now the seat of the vicariate apostolic, and three fathers, four brothers, and five nuns on Ponape. Since they are neutrals, the outbreak of war has presumably not affected their work or status.

Liebenzeller Missions. In 1907 the Lutheran Liebenzeller Mission of Württemberg (Deutscher Jugendbund für Entschiedenes Christentum) took over the work of the American Protestant missionaries in Ponape and Truk. Stations were maintained on Fefan, Tol, and Udot in the Truk Islands, as well as on Ponape. In 1912, the personnel of the Liebenzeller missions in the Eastern Carolines included five German missionaries (three men and two women), two missionary wives, twelve native preachers, and fifteen native teachers, and their communicants numbered 1,282. When the Japanese took over the islands in 1914, they required all German missionaries, Protestant as well as Catholic, to leave. In 1927, however, they permitted the Liebenzeller missionaries to return to Truk, where they numbered nine in 1937. The Liebenzeller stations in Ponape were not reestablished.

Japanese Missions. In 1920, the Japanese Government encouraged the Nanyo Dendo Dan (South Seas Mission), affiliated with the Congregational Church of Japan, to enter the Micronesian field by offering the organization a substantial subsidy. Four Japanese missionaries were sent out, two to Ponape and two to Truk, to take over the work previously conducted in these islands by the American and German Protestants. The Nanyo Dendo Dan has not increased the number of missionaries sent out from Japan, relying like its predecessors upon native evangelists stationed in the various villages. In 1941, Mr. Tanaka was in charge of the work in Ponape, Mr. Yamaguchi in Truk.

14. PEOPLE

141. Racial Characteristics

Physical Appearance. The inhabitants of the Eastern Carolines are short, slender, and lithe. Their skin color is light brown, and their beards and body hair are scanty. They have black or dark brown hair, which is usually wavy although occasional examples of frizzly or straight hair occur. Their foreheads are high, their cheekbones prominent, and their heads long and narrow. Both the nose and mouth are generally large, and the Mongolian eyefold sometimes occurs. Females are said to have strikingly beautiful figures in their youth but to tend to plumpness as they age.

Geographical Differences in Physique. Natives of the Polynesian Islands (Kapingamarangi and Nukuoro) are said to have rounder heads, to be somewhat taller (averaging 5 feet 8 inches and sometimes exceeding 6 feet), and to have heavier beards and more body hair than their neighbors to the north. The inhabitants of the high islands of Kusaie, Ponape, and Truk are reported to be relatively short and squat and less muscular than those of the coral atolls of the archipelago. Kusaieans are described as having broad faces, whereas the inhabitants of the other atolls and islands are reported to have long, narrow faces. Some authorities discount these alleged differences, contending that the variation in physical type which may be observed on any one island is much more striking than the differences which obtain between islands. These authorities insist that it is impossible to determine the provenance of any native from physical stigmata alone.

Racial Affinities. The inhabitants of the Eastern Carolines are a part of the so-called Micronesian race, which is closely related to the Polynesians. The presence of the Mongolian eyefold on the one hand and of frizzly hair and Negroid features on the other bespeaks racial admixture, but whether this occurred in prehistoric or historic times has not been established. If the latter view is held, the eyefold came from Chinese and Japanese mariners who have visited the islands from time to time, and the Negroid characters from the Brava Portuguese who formed a considerable proportion of the crews of American whalers who frequented the islands during the last century. The more prevalent theory is that the Mongoloid features have come from the ultimate Malayan ancestry of the people, and the Negroid characteristics from Melanesian admixture in later but still prehistoric times.

"Kanakas" as a Racial Term. "Kanakas," the Polynesian word for "men," is used widely throughout the Pacific as an equivalent to the word "native," irrespective of the racial affinities of the people concerned. In Micronesia it has commonly been used for the aborigines of the Caroline and Marshall Islands, to contrast them with the Chamorros of the Marianas Islands, who have a strong admixture of Spanish and Filipino blood. Since the word "Kanakas" tends to carry with it a spurious connotation of racial or cultural homogeneity, the term "native" is to be preferred.

142. Language

Native Languages. Four distinct languages are spoken in the Eastern Carolines, and can be referred to respectively as Polynesian, Kusaiean, Ponapean, and Truk. Some dialectical differences occur within each of these languages, but these are not so great as to prevent mutual understanding. The inhabitants of Kapingamarangi and Nukuoro speak a Western Polynesian dialect very similar to Samoan. The Kusaieans have a language of their own, which is closely related to that of the Marshall Islands. The dialects of Ant, Mokil, Ngatik, Pakin, Pingelap, and Ponape form a mutually intelligible language. Finally, the islanders from Oroluk in the east to Woleai in the Western Carolines all speak a common language, centering at Truk. All four languages belong to the Malayo-Polynesian linguistic stock and have enough common elements, both in grammatical structure and in vocabulary, to permit a native who knows one of them to master the others rather easily. In fact, many natives are able to speak one or more languages in addition to their own. The native languages of Kusaie and especially of Ponape are characterized by an extensive development of polite forms, which are used between members of different social classes.

Foreign Languages. Although English was introduced into the Eastern Carolines by the whalers and has been taught to some extent in mission schools (see 262) since the middle of the last century, it is by no means a lingua franca. Most of the older natives of the missionized islands know a smattering of English, and a few of them, especially some of the chiefs and native evangelists, can speak it fluently. Certain of the natives on Ponape and the adjacent islands, and also in Truk, know pidgin English. Japanese has

been taught in the Japanese schools since before 1920 and in the mission schools since 1931, with the result that some of the younger natives are fairly fluent in this language and most of them have a smattering. Neither English nor Japanese has supplanted the native tongue anywhere in the area. For interpreters see 145; for literacy see 262.

The following is a brief list of phrases which may be useful if other means of communication are not available;

English	Kusaiean	Truk
Greetings.	Len wo.	Ran allim.
We have come to help you.	Gut tukka in kashray komb.	Sa ken faito pokitan so mutren alisi ami.
We are your friends.	Gut lungsay komb.	-
Can you speak English?	Komb ka in kasskass English?	Ko tongesi kapas English?
Where is someone who can speak English?		Aman aremas mi kenn silei English, a ken noman ie?
Where is --?	El laiya --?	-

143. Population

Depopulation. Before the coming of Europeans the Eastern Carolines were heavily populated, but diseases introduced for the most part by American sailors ran rampant in the islands in the last century and decimated the population. Ponape, for example, which is estimated to have supported about 15,000 people earlier in the century, had only about 2,000 inhabitants in 1880. Approximately 3,000 natives of this island died within the space of five months in 1853 alone, during a smallpox epidemic. Measles and syphilis also took heavy tolls during the same period. The population of Kusaie declined from 1,100 in 1855 to less than 200 in 1880; that of Truk, from an estimated 35,000 in 1827 to only 11,000 in 1913. First the missionaries and later the German and Japanese governments gradually brought the more virulent diseases under control, with the result that since the turn of the present century the population has been gradually recovering.

Total Population. Recent figures for the population of the Eastern Carolines are given in the following table:

Year	Natives	Chamorro	Japanese	Foreigners	Total
1920	21,424	2	1,026	11	22,463
1925	22,588	2	704	21	23,315
1930	23,318	83	1,438	43	25,882
1935	24,030	52	4,464	54	28,600
1936	23,567	97	5,449	58	29,171
1937	24,156	103	6,289	68	30,616

In June, 1939, there were 23,248 natives and Chamorros, 8,460 Japanese, and 52 foreigners in the Eastern Carolines. All the above figures cover the Truk and Ponape districts and thus include Eniwetok and Ujae atolls of the Marshall Islands, which had a total population of 132 in 1930.

Distribution by Race and Locality. The following table, compiled from different sources from the preceding and slightly at variance with it, indicates the distribution of population by ethnic groups in the various islands of the Eastern Carolines in 1935:

Atoll or Island	Natives	Japanese	Foreigners	Total
Ant (in 1933)	40	0	0	40
East Fayu	0	0	0	0
Etal	255	0	0	255
Kapingamarangi	399	1	0	400
Kusaie	1,189	25	6	1,220
Losap (in 1933)				570
Losap I.	339	0	0	
Pis I.	196	0	0	
Others	35	0	0	

Atoll or Island	Natives	Japanese	Foreigners	Total
Lukunor				901
Lukunor I.	480	2	10	
Onesp I.	408	1	0	
Mokil	258	0	0	258
Murilo				339
Fananu I.	118	0	0	
Murilo I.	117	0	0	
Ruo I.	104	0	0	
Nama	406	0	0	406
Namoluk				295
Amas I.	69	0	0	
Namoluk I.	225	1	0	
Namonuito				304
Onari I.	63	1	0	
Ono I.	58	0	0	
Pisaras I.	56	0	0	
Ulul I.	126	0	0	
Ngatik	295	0	0	295
Nomwin	106	0	0	106
Nukuoro	198	0	0	198
Oroluk	4	38	0	42
Pakin	0	1	1	2
Pingelap	694	4	0	698
Ponape	5,601	2,478	21	8,100
Pulap				257
Pulap I.	153	0	0	
Tamatam I.	104	0	0	
Pulusuk	194	0	0	194
Puluwat	335	0	0	335
Satawan				1,061
Kutu I.	349	0	0	
More I.	275	2	0	
Satawan I.	291	1	0	
Ta I.	142	1	0	
Truk	10,344	1,978	14	12,336
Total	24,026	4,534	52	28,612

Somewhat fuller data, together with information on sex distribution, are available for the larger islands as of April, 1937, and are shown in the following table:

	Natives			Chamorro			Japanese			Koreans			Foreigners			Total
	Male	Female	Total	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	
Dublon	688	575	1263	3	0	3	1165	533	1698	8	0	8	4	0	4	2976
Fefan	634	601	1235	0	0	0	296	111	407	10	9	19	2	3	5	1666
Kusaie	645	622	1267	1	6	7	31	19	50	0	0	0	3	5	8	1332
Moen	1211	1110	2321	0	0	0	118	62	180	2	0	2	2	0	2	2505
Polle	163	217	380	0	0	0	11	2	13	0	0	0	0	0	0	393
Ponape	3183	2592	5775	50	46	96	2168	1392	3560	31	11	42	13	12	25	9498
Tol	908	974	1882	0	0	0	411	178	589	5	0	5	2	2	4	2480
Udot	207	241	448	0	0	0	4	4	8	5	3	8	0	2	2	466
Uman	546	557	1103	0	0	0	59	37	96	0	0	0	0	0	0	1199
Total	8185	7489	15674	54	52	106	4263	2338	6601	61	23	84	26	24	50	22515

Distribution by Age. The following table indicates the distribution by age of the population of the Eastern Carolines in 1937:

	0-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	Over 50
Japanese											
Ponape	475	364	217	254	476	620	472	327	179	120	109
Truk	435	174	82	321	591	655	483	366	241	137	127
Natives											
Ponape	1126	1199	1019	1113	1033	762	713	593	493	369	949
Truk	1751	1736	1786	1685	1327	885	1040	1116	1061	780	1763

It will be noted that the 11-15 age group for the Japanese population of Truk is strikingly small. This seems to indicate that the Japanese in this district prior to about 1930 were largely unmarried, probably workers from Okinawa who did not bring their families with them. The relatively large number of children in the 0-5 age group indicates a recent increasing tendency for the Japanese to bring in women and establish families. This tendency is shown also, but to a less marked degree, in the Ponape District.

Provenance of the Japanese Population. The prefectural affiliations of the Japanese inhabitants of the Eastern Carolines in 1937 are indicated in an accompanying table. Although the prefecture listed is by no means always that of a person's birth, the table gives some indication of the regions in Japan and its territories whence immigrants to the islands have come. The large number from Okinawa reflects the fact that the great bulk of common laborers are drawn from the Loochoo (Ryukyu) Islands.

Prefecture	Truk District	Ponape District	Total
Hokkaido	22	214	236
Aomori	5	23	28
Iwate	8	18	26
Miyagi	34	27	61
Akita	8	58	66
Yamagata	9	80	89
Fukushima	52	300	352
Ibaraki	40	33	73
Tochigi	16	30	46
Gumma	11	23	34
Saitama	8	16	24
Chiba	9	59	68
Tokyo	90	267	357
Kanagawa	73	71	144
Niigata	44	95	139
Toyama	5	14	19
Ishikawa	9	9	18
Fukui	17	34	51
Yamanashi	14	8	22
Nagano	1	62	63
Gifu	4	3	7
Shizuoka	224	131	355
Aichi	16	10	26
Mie	13	22	35
Shiga	0	2	2
Kyoto	8	21	29
Osaka	3	38	41
Hyogo	11	16	27
Nara	6	14	20
Wakayama	18	53	71
Tottari-	15	54	69
Shimane	1	18	19
Okayama	5	9	14
Hiroshima	21	134	155
Yamaguchi	7	28	35
Tokushima	5	2	7
Kagawa	5	13	18
Ehime	3	44	47
Kochi	50	23	73
Fukuoka	40	38	78
Saga	31	24	55

Prefecture	Truk District	Ponape District	Total
Nagasaki	20	24	44
Kumamoto	26	63	89
Oita	6	20	26
Miyazaki	13	32	45
Kagoshima	203	180	383
Okinawa	2329	1145	3474
Korea	53	42	95
Formosa	0	0	0
Karafuto	1	10	11

144. Vital Statistics

Births. The following table shows the number of births and stillbirths and the number of births per thousand women of childbearing age (15 to 45) among both the Japanese and the native population of the Eastern Carolines in 1937:

	Births	Stillbirths	Birth Rate
Ponape District			
Japanese	157	9	190
Natives	238	5	113
Truk District			
Japanese	110	4	153
Natives	408	2	107

The comparable rate for England and Wales in 1931 was 56.5, and that for Japan in 1930 was 137.4.

Mortality. The most frequent causes of death are tuberculosis and influenza. Infant mortality is relatively high. For a discussion of the diseases prevalent in the area, see 251. The following table shows the number of deaths and the death rate per thousand of population for the Eastern Carolines in 1937:

	Deaths	Death Rate
Ponape District		
Japanese	43	11.8
Natives	141	15.7
Truk District		
Japanese	16	1.3
Natives	382	28.9

Population Trends. It will be noted from the above two tables that, among the Japanese population, the number of births (267) greatly exceeds the number of deaths (59). The natives show a considerably weaker tendency to increase in population, their births (646) only moderately exceeding their deaths (523).

145. Personalities

Former Residents and Visitors. A number of missionaries, travelers, scientists, and other persons who have lived in or visited the Eastern Carolines now reside in the United States or elsewhere. They are listed alphabetically below, with their present addresses when known.

Miss Jane D. Baldwin (b. 1863), a retired missionary, lived in Truk from 1898 to 1910 and then moved to Kusaie, where she taught until 1941 at the Mission Training School. Her present address is 332 Longridge Road, Orange, N. J. (tel. 3-3426).

Major Bodley, presumably a British subject, made a trip through the islands about 1930 as special correspondent for the Sphere. His present whereabouts are unknown.

Rev. and Mrs. Irving M. Channon (b. 1862 and 1865 resp.), retired missionaries, spent fifteen years on Kusaie (1890-1905), during which time they visited Ngatik, Nukunoro, Pingelap, Ponape, and Truk. They can speak Kusaiean. Their present address is 182 Elm Street, Oberlin, Ohio (tel. 1223).

Prof. Paul H. Clyde (b. 1896), a historian, visited Kusaie, Ponape, and Truk in 1934. His present address is Department of History, Duke University, Durham, N.C. (tel. F-131, local 8246).

Lieut. William F. Coultas (b. 1899), now an officer in the U.S. Naval Reserve, spent two months in Ponape and five months in Kusaie in 1930-31. His address is 3067 Navy Building, Washington, D.C.

Lieut. Harold W. Hackett (b. 1894), an officer in the U.S. Naval Reserve, made brief trips to the Eastern Carolines in 1931 and in 1935 to inspect the American missions there. His present address is 4625 Navy Building, Washington, D.C.

Prof. William H. Hobbs (b. 1865), a geologist, spent three months in the Carolines and Marianas in 1921 on a geological field trip. His present address is 1705 Hill St., Ann Arbor, Mich. (tel. 8024).

Miss Jessie R. Hoppin, a retired missionary, spent 24 years in Kusaie (1890-1914) teaching at the Mission Training School. She then moved to the Marshall Islands but visited Kusaie frequently until she left the islands in 1933. Her present address is 1214 West Front St., Ashland, Wis.

Mr. Yoshio Kondo (b. 1910 in Hawaii), a malacologist, spent six months in the Carolines in 1935. His present address is Bernice P. Bishop Museum, Honolulu, Hawaii.

Miss Alice C. Little (b. 1865), a retired missionary, spent six years at Kusaie in 1888-93. Her present address is 217 East College St., Oberlin, Ohio.

Rev. and Mrs. George C. Lockwood, missionaries, made numerous visits to Kusaie during four years (1929-33) spent on Jaluit. Their present address is Kaneohe, Hawaii.

Rev. Clarence F. McCall (b. 1881), a missionary, spent four years on Kusaie (1936-40) and visited Ponape and Truk. His present address is 399 Beach St., Ashland, Ore. (tel. 4491).

Prof. Bunji K. Omura (b. 1903 in Korea), was in the Eastern Carolines from June to December, 1918, and from July to August, 1928. His present address is 431 W. 117 Street, New York, N.Y.

Captain Alfred Parker, a Norwegian mariner, was shipwrecked near the Marshall Island of Majuro in 1937 and was rescued by the Japanese. He visited Kusaie, Ponape, and Truk on his way home. His present whereabouts are unknown.

Dr. Edmund M. Pease (b. circa 1880), son of a missionary, was born in the Marshall Islands and moved to Kusaie at the age of four, living there until he was 16. He speaks the Marshall language. His present address is Box A, Harding, Mass.

Dr. Willard D. Price (b. 1887), traveler, spent four months in the Carolines in 1936, visiting Kusaie, Ponape and Truk. His present address is Cathedral City, Calif.

Dr. Clinton F. Rife (b. 1866), a physician, spent 15 years prior to 1906 on Kusaie. His present address is 810 Chicago Ave., Naperville, Ill.

Mr. William K. Vanderbilt, traveler, visited the Eastern Carolines in the late 1920's on a cruise. His present address is Centerport, Long Island, N.Y.

Captain Ellsworth L. West, a farmer and retired master mariner, frequented the Eastern Carolines as a whaling captain between 1886 and 1900. His present address is R.F.D., Vineyard Haven, Mass.

Miss Eleanor Wilson (b. 1891), a missionary, lived on Kusaie from 1936 to February, 1941, as head of the Mission Training School there. She has visited Ponape and Truk and speaks both Kusaiean and Marshall. Her present address is 113 Oakdale Ave., Catonsville, Md.

Mr. Junius B. Wood (b. 1887), a newspaper correspondent, visited the Eastern Carolines in 1923. His present address is 116 Woodridge Ave., Silver Springs, Md.

Rev. Frank J. Woodward (b. 1883), a missionary, spent the years 1913-15 in the Marshall Islands and visited Kusaie. His present address is 1119 School St., Indiana, Penna.

Present Residents. Knowledge of the more important residents of the Eastern Carolines -- Europeans, natives, and Japanese -- should prove useful to the civil affairs officer. Lists of such persons reported as living in Kusaie, Ponape, and Truk in 1941, and presumably still there, are given below. These lists include all known Europeans but only such Japanese as showed friendliness to the American missionaries before the war. Japanese officials are listed elsewhere -- branch government staffs under 214, personnel of the courts of law under 226, government physicians under 254, public school teachers under 262, and post office personnel under 271. The natives listed include those who occupy positions of prominence, who possess special skills, and who are reported to be either pro-Japanese or trustworthy and friendly to Americans.

Residents of Kusaie. The following is a list of persons reported as living on the island of Kusaie in 1941:

Bassi, a native about 50 years old, is a good carpenter and trustworthy but knows almost no English or Japanese. He was living at Lele in 1941.

Caleb, a Marshall Islander about 40 years old, was on the staff of the Mission Training School in 1941. He speaks English fairly well and has a smattering of Japanese.

Florian, a native who speaks Japanese well, having worked for a time at the post office, was attending the Mission Training School in 1941. He is about 25 years old and is married to a granddaughter of the king. Lele is his home.

Gideon, a native about 50 years old, knows English fairly well and can be trusted. He was living at Malem in 1941.

Arthur Herrman, an American planter from Oakland, California, owns a considerable amount of property on Kusaie. In 1941 he was living on his plantation, which is located on the main island of Ualan, part way up the waterway toward Tafwensak. He speaks Kusaiean fluently and has a native wife and a native adopted son.

Catherine Herrman, the wife of Hilton, is the granddaughter of Carl Heine, an Australian missionary in the Marshall Islands. She speaks English and was living at Lele in 1941.

Hilton Herrman, a nephew of Mrs. Arthur Herrman, has been adopted by her husband. He is about 25 years old and knows English and Japanese. He is pro-American and can be trusted.

Isaac, a Marshall Island native about 25 years of age, was teaching at the Mission Training School in 1941. He speaks both English and Japanese, is pro-American, and can be trusted.

Isaiah, a native man about 50 years old, knows some English and can be trusted. He was living at Tafwensak in 1941.

Isaiah, the native headman of Utwe in 1941, attended the Mission Training School and speaks better English than anyone else in his village, but he is said to be under the dominance of the Japanese. He is in his late forties.

Jona, a Marshall Island native, lived with the Baldwin sisters (American missionaries) for many years. He speaks English fluently and would probably be useful as an interpreter. He was living in Tafwensak in 1941.

Rose Kaumai, a Gilbertese woman about 35 years old, was adopted by an American missionary (Miss Hoppin) and sent to school in America for ten years. She speaks English, Kusaiean, Marshall, and a little Japanese. She is a very intelligent woman and would be excellent as an interpreter. She was teaching at the Mission Training School in 1941.

Lucius, a native in his twenties, speaks both English and Japanese. He is a graduate of the Mission Training School and can be trusted. He was living at Malem in 1941.

Markoelun, an elderly native who speaks English very well, is an ordained pastor of the American mission. At one time he was stationed at Eniwetok, but in 1941 he was living at Lele, assisting Pastor Fred Skillings. He was formerly mate of the American missionary schooner Morning Star and has been to San Francisco and Japan.

Mary, a granddaughter of Carl Heine, Australian missionary in the Marshall Islands, speaks both English and Japanese. She is married to Isaac and was teaching at the Mission Training School in 1941.

Morris, a native about 35 years of age, was appointed policeman by the Japanese. His job has been, primarily, to interpret for the Japanese policemen, and he

speaks Japanese well. He knows only a few words of English and may be pro-Japanese.

Sepa Nelson, a granddaughter of the king, was attending the Mission Training School in 1941. She is said to be intelligent and to know both English and Japanese.

Palikun, a native about 60 years old, has worked as a carpenter for Arthur Herrman. He understands some English but does not speak it. He is pro-American and is said to be completely trustworthy.

Rebecca Palikun, the wife of Palikun, knows English quite well and is highly respected among the natives of Lele.

Paul, the native headman of Malem, knows a little Japanese but is said to have remained quite independent of Japanese influence.

Hattie Siga, wife of the king, is usually referred to as Kasara, the native term for "queen." She is the sister of Fred Skillings. Her father was an American and she speaks English well.

John Siga, King of Kusaie, is usually referred to as Togusara, the native term for "king." He is about 65 years old and knows English fairly well but no Japanese. He was the headman of Lele and the village chief of Kusaie in 1941 but was disliked by his subjects, particularly the younger men. One of his last remarks to American missionaries when they left in 1941 was: "Tell Uncle Sam we don't want to be under a heathen nation all our lives." He and his wife, Hattie, have 11 children.

Frank Skillings, son of Fred Skillings, is about 45 years old and was teaching at the Mission Training School in 1941. He knows English well but no Japanese. He is a good worker, but he helped the Japanese capture some escaped Korean laborers and is probably not to be trusted.

Fred Skillings, the pastor of the church at Lele, is about 65 years old and speaks English very well, his father having been an American. He visited California once, years ago. He is pro-American and has a strong influence over the natives, particularly the members of his church. He was living on his plantation, on Ualan island near Tafwensek, in 1941. He also has a house at Lele. He has ten children, most of whom have ingratiated themselves with the Japanese.

Norman Skillings, son of Fred Skillings, is about 25 years old, knows Japanese, and speaks some English. He is the most trustworthy of the pastor's children, having remained more independent of the Japanese than the rest.

Srue Skillings, the wife of Fred Skillings, is the sister of the king. She knows some English.

Srue Skillings, the wife of Frank Skillings, is the daughter of Markoelun. She knows some English and is described by American missionaries as a fine woman.

Sonasru, former village head of Malem, is a man in his late fifties who knows a few words of English. He is said to be trustworthy.

Ren Suzuki, a Japanese woman about 45 years old, was acting head of the Mission Training School in 1941. She is said to be a good Christian and is respected by both Japanese and natives.

Telena, the village head of Tafwensek in 1941, is about 60 years old and knows a few words of English.

Yamada, a Japanese woman about 30 years old, taught at the Mission Training School from 1937 to 1939, and returned in 1941 after the American missionaries had left. She knows a little English and is not liked by the Japanese officials.

Jack Youngstrom, an American man about 25 years old, is a nephew of Arthur Herrman. He lives with his uncle and helps run his plantation. He speaks Kusaiean.

Residents of Ponape. The following list of persons presumably living on Ponape includes two residents of other islands in the district, Higgins and Masso:

Israel Andreas, a native, speaks English and served as cook to an American naturalist, probably Lieutenant Coultes, when the latter visited Ponape in 1931.

Annette, daughter of Galileo, is married to Martin, the native assistant to the Japanese Christian pastor. She speaks English and was living at Colony in 1941.

Antipas, a native about 60 years of age who originally came from Pingelap, held a position with the Japanese Christian church at Colony in 1941. His daughter is married to a Japanese, Mr. Ikeda.

Eben, a native about 45 years old, is a specialist at making rowboats. He is the father of Marguerite and is said to be trustworthy.

Charles Etscheit, a Belgian plantation owner, was living in the town of Colony in 1941. He is married and has one child.

Leo Etscheit, a Belgian, is the owner of a plantation on Ponape. He speaks English and is married but has no children. He lived in the town of Colony in 1941 and has frequently visited Truk, where he owns some property.

Mrs. Etscheit, the widowed mother of Charles and Leo Etscheit, was living with her three daughters at Colony in 1941.

Gaius, son of Galleo, is about 25 years old. He attended the Mission Training School at Kusaie for a few months and then went to the Japanese mission school at U, from which he graduated. He speaks Japanese and is probably under the influence of Japanese missionaries.

Galleo, a native man in his sixties who came originally from Ngatik, knows some English and is considered trustworthy. He is the father of Gaius, Tiape, and Annette.

John Higgins, the aged half-caste father of the wife of Oliver Nampai, was recently living on Mokil.

Ikeda (first name unreported), a Japanese, is married to the daughter of Antipas. In 1941 he was running a cane store at Colony.

Koide, a Japanese woman, is said to be an excellent nurse and is regarded by American missionaries as a fine woman. She has visited Kusaie, but was living at Colony in 1941.

Marguerite, a native girl in her teens, was attending the Mission Training School on Kusaie in 1941, but may since have returned to Ponape.

Martin, the native assistant to the Japanese pastor at Colony, Mr. Tanaka, is about 35 years of age and is married to Annette. He knows Japanese well and a little English.

Masao, a native of Kapingamarangi, was attending the Mission Training School on Kusaie in 1941 and may have returned to his home. He is about 26 years of age.

Miyaeda (first name unreported), a Japanese independent business man, resided at Malem on Kusaie before moving to Ponape. He is a Christian and was friendly to the American missionaries when he lived on Kusaie.

Oliver Nampai, the village chief of Ponape, is much respected by the natives and has great influence among them. He is the son of a half-caste Portuguese father and a native mother. His father instigated the Jokaj uprising of 1910-11 against the Germans. Oliver Nampai was sent to school in Honolulu, but his education seems to have been gained mainly from the waterfront. He has made one trip around the world and has visited Japan. He lives at Ronkiti, where he owns 12 European-style houses and a number of shacks, and he also owns a house at Nikalap Aru Islet on Ant atoll. In 1931, when he is said to have been worth about \$200,000, he possessed a sailing vessel which made regular trips from Colony to Ronkiti. The Japanese, distrusting his influence, have succeeded in getting him in debt to them -- to the extent of ¥ 90,000 in 1931. They also attempt to keep him in a state of perpetual insobriety in order to make him an object of contempt in the eyes of the natives. His eldest daughter is married to a Japanese, who is his plantation overseer.

Ohashi (first name unreported), a Japanese independent dentist about 40 years old, is said by American missionaries to be professionally competent and a fine man. He was living at Colony in 1941.

Peter, a native, has attended the Mission Training School at Kusaie but had returned to Ponape by 1941. He knows Japanese and is 25 years old.

Carlos Scheit, an Armenian with German, Belgian, and French blood, speaks French, German, English, Japanese, and Ponapean.

Sigmond, the son of Antipas, is 22 years of age. He knows Japanese and is said to be very trustworthy. He was attending the Mission Training School on Kusaie in 1941 but may since have returned to Ponape.

Tanaka (first name unreported), the Japanese pastor of the Nanyo Dendo Dan church at Colony, came to the islands in the 1920's to replace the previous pastor, who was considered too pro-native. Mr. Tanaka is a man in his fifties. He has been active in organizing the native churches into an integral unit under his direc-

tion, and he has gained considerable influence over the native pastors by assembling them for frequent conferences and refresher courses. His wife teaches a small group of native girls in a school at Colony.

Tanaka (first name unreported), the son-in-law and adopted son of the pastor, runs the Mission Training School at U. He is reported to have considerable influence over the pupils and graduates of the school.

Tispe, a daughter of Galleo, is a native woman about 26 years old. She is a graduate of the Mission Training School at Kusaie and knows some English and a little Japanese.

Zenobia, the widow of a former mission teacher at Truk named Johnnie, was living on Ponape in February, 1941.

Residents of Truk. The following is a list of persons who have been reported as residing recently on the islands of Truk:

Iacobus Batele, a Spanish Jesuit missionary, was stationed on Moen in 1939.

Benjamin, a native about 28 years old who had attended the Mission Training School on Kusaie, was living on Dublon in 1941. He is the son of Frederick.

Hyginus Berganza, a Spanish Jesuit missionary, was residing on Dublon in 1939.

Salvator Casasayas, a Spanish Jesuit missionary, was stationed on Dublon in 1939.

Iacobus Cerda, a Spanish Jesuit missionary, was stationed on Dublon in 1939.

Daro, a native about 30 years old, was living on Dublon in 1941. He speaks Japanese well and has been friendly to American missionaries.

Edward, who was trained by American missionaries, was teaching at a mission school in 1941. His father was also a native mission teacher. His mother, Zenobia, lives on Ponape.

Faustinus Hernandez Escudero, a Spanish Jesuit missionary, was stationed on Fefan in 1939.

Frederick, a native about 50 years of age, is the pastor at the Nanyo Dendo Dan preaching station at Lukala village on Dublon. He is said to have a good character and to know a little English.

Ham, a native about 50 years of age, was living on Dublon in 1941. He knows English and has carried on written correspondence with the American missionaries on Kusaie.

Karl Hartmann, a German half-caste, lives on Dublon. He speaks English and German but is reported to be unreliable.

Haruko, a native woman about 30 years old, was living on Moen in 1941. She is the daughter of a mission teacher and is married to a Japanese. She speaks both English and Japanese.

Joana, a native woman living on Dublon in 1941, knows English well and is said to be intelligent.

Kawajima (first name unreported), a Japanese missionary of the Nanyo Dendo Dan, is in his fifties and in 1941 was living with his wife and one child on Dublon.

Albert Krauss, a trader, was living on Ulalu in 1931. He speaks German, English, French, Ponapean, and Truk, and is rumored to be a German intelligence officer.

Monsignor Iacobus Lopez de Rego Labarto, a Spanish Jesuit missionary and vicar apostolic of the Roman Catholic churches of the Japanese Mandated Islands, was stationed on Dublon in 1939.

Artie Moses, the native headman on Uman, knows a little English.

Pierre Nedellec, a Frenchman of about 65 years of age, was still living in Truk in 1942. He is known as "Peter" by the natives, and is an excellent navigator.

Osi, a native mission teacher trained by American missionaries, was living in Truk in 1941.

Espuny Petrus, a Spanish Jesuit missionary, was stationed on Fefan in 1939.

Rattel (first name unreported), a German Liebenzeller missionary about 35 years old, was running a school for boys on Tol in 1941.

Richard, a native man who has visited Japan and knows some Japanese, was living on Moen in 1941.

Robert, a native about 30 years of age, was living on Moen in 1941. He attended the Mission Training School on Kusaie and knows some English and Japanese.

Rupert, the native assistant to Mr. Yamaguchi, was living on Dublon in 1941. He is about 35 years old.

Josephus Santana, a Spanish Jesuit missionary, was stationed on Dublon in 1939.

Sapan, a native 30 years of age, was living on Moen in 1941. He attended the Mission Training School on Kusaie, knows some English, and is fluent in Japanese.

Timothy, a native trained by American missionaries, was living on Moen in 1941.

Yamaguchi (first name unreported), a Japanese missionary, was head of the Nanyo Dendo Dan Mission in 1941. He is about 50 years old and lives with his wife on Dublon.

Miss Zuber, a German Liebenzeller missionary about 65 years of age, was running a school for girls on Udot in 1941.

15. CUSTOMS

151. Clothing and Ornamentation

Men's Clothing. Before the coming of the whites, the basic attire for men in the Eastern Carolines was a long narrow band of bast or woven material which was wrapped around the waist, knotted in back, passed between the legs, and tucked through the belt in front. On most of the islands a wrap-around skirt was worn over this breechclout, but on others, notably Kusaie, the breechclout alone sufficed, while on Ponape the men frequently went naked or wore a "grass skirt" of shredded coconut leaflets, omitting the breechclout. Ponchos, usually of woven material but sometimes of bast, were worn on ceremonial occasions and as a protection against the rain. Fishermen and navigators wore conical hats of plaited fiber when working in the bright sunlight.

Today European clothing has been widely adopted by the men. Trousers of long white duck and a shirt or singlet constituted the usual work costume until 1940, when a Japanese regulation prescribed shorts for working. The uniform coats of white duck affected by Japanese officials are worn by most of the wealthier native men on Sundays, and by officials on weekdays as well. Although the great majority of men go barefooted, some use Japanese sandals and a few wear leather shoes of European type. These shoes are not considered satisfactory unless they squeak; German merchants used even to equip them with artificial squeakers to increase their value. Straw hats, either homemade or manufactured in Japan, are now worn by the majority of men.

Women's Clothing. With the exception of Kusaie, where they wore breechclouts, Eastern Caroline women in the olden days wore narrow wrap-around skirts of bast, woven hibiscus, or banana fiber, or else "grass skirts" of shredded coconut leaflets. These skirts were supported by a wide and elaborately decorated belt or girdle. When they left the house, they usually threw a mantle over their shoulders or put on a poncho similar to that worn by the men.

Today the women, like the men, have widely adopted European clothing. Their dresses for both Sundays and weekdays until recently were the ankle-length, high-collared, long-sleeved, shapeless "Mother Hubbards." In 1940, however, a Japanese regulation forbade the wearing of Mother Hubbards except on Sundays and holidays, prescribing dresses with short sleeves and skirts for everyday attire. Very few women wear European shoes, but a limited number wear Japanese sandals. They do not wear hats.

Distribution of European Clothing. European clothes are universally worn on Kusaie. An occasional native in a grass skirt may still be seen on Ponape and even more frequently on the smaller islands of the Ponape district. Native garb is encountered most commonly in the Truk district, but even here, except perhaps on the most isolated islands, the majority of the natives wear European clothing. In 1941 the Japanese were beginning to restrict the amount of cloth imported to the islands, and by now many of the natives, being unable to obtain it, may perhaps have returned to their former modes of clothing.

Laundering. On Kusaie, native women make a practice of washing their clothes every morning in the fresh-water streams. They use wooden clubs to beat the clothes against stone slabs, a method which is hard on the flimsy cotton fabric. Clothes are laundered less frequently on other islands, particularly on the atolls where fresh water is scarce. On Truk, the natives are reported to be slovenly about washing their clothes, even though fresh water is available. On Kusaie, the women starch and press the white duck trousers of the men whenever they have the opportunity to do so.

Hair Styles. Today the men of the Eastern Carolines have adopted the European customs of cutting their hair short and of shaving. Women let their hair grow long and allow it to hang down loose or in a braid until they are married, at which time they usually do it up in a knot at the back of the head, supporting it with an ornamental comb.

Cosmetics. In the olden days both men and women anointed their bodies and hair with coconut oil, which served to protect them from wind and rain and from the burning rays of the sun. Powdered tumeric root or fish oil was usually added to the oil, and is reported to be an excellent repellent against insects. The oil was also sometimes perfumed with the essence of flower buds. Since the adoption of European clothing, the practice of smearing oil on the body has disappeared, but natives still rub it in their hair, usually adding European perfume to it. A few native women use rouge and lipstick.

Tattooing. In former times native men and women of the upper classes had to be tattooed before they were married. The art was most highly developed on Pingelap, where the whole body was covered with geometric designs. On most of the other islands it was

restricted to the chest, arms, and legs. Some of the early missionaries, in attempting to stamp out the practice, are reported at first to have permitted church members to tattoo their Christian names in place of the native designs. For a time this practice was in vogue, but soon, as a result of missionary pressure and the adoption of European clothing, tattooing began to drop out altogether. It had been given up at Kusaie by 1900, and shortly thereafter in the Truk district, where it had never been very important. In Ponape and nearby islands, however, even Christian parents permitted their children to be tattooed as late as 1910. In 1922 a Japanese ordinance forbidding tattooing dealt a final blow to the practice.

Early investigators found that natives were extremely loath to discuss the significance of tattooing designs, and it is possible that tattooed natives who are still living might resent undue curiosity about their designs.

Mutilations. In former times natives of both sexes had their ear lobes pierced as children. In the Truk district and particularly on Truk itself, the hole was gradually extended until it was three or four inches in diameter, and a large number of shell earrings were suspended from it. Natives also frequently scarified themselves by cutting their skin and rubbing papaya juice into the incisions in order to produce raised keloids. The most spectacular form of mutilation was practiced at Ponape. Here boys at puberty submitted to an operation in which one of their testicles was removed. It was reported that no Ponapean woman would marry a man who had not undergone this operation. A Japanese ordinance promulgated in 1922 forbade all forms of mutilation, and it is probable that none is now practiced.

152. Life Routine

Annual Cycle. The climatic variation during the year, though small (see 112), is sufficient to differentiate the cultural activities of the natives into two modes. Breadfruit, one of their staple foods (see 311), yields most abundantly during the relatively wet months from April to September, whereas the steady northeast trade winds of the dry months are more suited to deep-sea navigation than are the calms, variable winds, and storms of the wet season. The natives therefore divide the year into two equal periods: rak, the breadfruit season, and efan, the trade-wind season. During the first or rak period, which the natives reckon as beginning in March, the economic activities center about the harvesting and storing of breadfruit and fishing in the lagoons and on the reefs. During the second or efan season, trading voyages are undertaken, deep-sea fishing is engaged in, and, on some of the high islands, gardens are burned for the planting of turmeric.

Monthly Cycle. Although the natives have now adopted the western calendar, they formerly reckoned time on the basis of the lunar month, which they divided into two periods, that of dark nights and that of bright nights. During the former period, they normally retired soon after sunset, but when the moon was bright they often stayed up late, the children playing about on the beaches, young men and women carrying on love affairs, and the older people gossiping, or all participating in a dance festival (see 155). As a result of missionary disapproval, most of these evening recreations have ceased to be practiced in the islands where missionary influence has been strongest, notably on Kusaie and Ponape. The Japanese have introduced a twelve o'clock curfew.

Daily Routine. The natives normally arise at sunrise or shortly thereafter. They often bathe and sometimes spend some time on the reef fishing before breakfast. After this meal, which they eat at about 9 o'clock, they set about their daily tasks. They work during the late morning and early afternoon, taking time out to eat a casual snack or two at any time between ten and three. The late afternoon is devoted to preparing the principal meal of the day, which is eaten at sunset. Thereafter the natives either retire or spend an evening of recreation, although occasionally some of them engage in torchlight or moonlight fishing after the evening meal. Formerly the time of day was determined rather indefinitely by the position of the sun, and there were terms for sunrise, early morning, late morning, noon, early afternoon, late afternoon, sunset, early evening, late evening, and night. Nowadays time is usually reckoned by the clock. The Japanese have promoted this habit by installing six bells in Truk and six in Ponape on which the hour is struck three times daily -- morning, noon, and evening.

Bathing. The natives of the Eastern Carolines bathe frequently, often two or three times a day. They usually prefer fresh water for this purpose where it is available. On some of the low islands where there is a dearth of fresh water, the natives bathe in the sea, but they save rainwater to rinse the salt from their skins. The Hall Islanders are exceptional in believing that bathing in fresh water causes bad luck in fishing. Certain

pools are reserved for particular persons and are taboo to all others. Thus there may be special pools for the native king, others for women, and still others for the members of a local settlement or for a clan. It is possible that the attempt of the Japanese to establish public baths was met with some resistance because of this native custom. The sexes usually bathe separately, except for husband and wife, and both men and women commonly wear some article of clothing in the water (see 158). The practice of anointing with oil after every bath (see 151) led many early observers to report erroneously that the natives were dirty.

Diet. The piece de resistance of a native meal is a starchy vegetable dish, often sweetened with fruit. Meat, fish, or coconut meat is eaten as a sort of garnish. In quantity, the meat dish is much smaller than the starch dish, but a meal without it is not considered to be complete. The starch dish is usually prepared from breadfruit, particularly on the high islands where it grows abundantly, but it may consist of taro, yams, sweet potatoes, or arrowroot. These vegetables are prepared in various ways, but the most usual dish is a baked pudding consisting of a mashed vegetable to which has been added either grated coconut meat, coconut milk, or bananas. The meat, if it is a large fish, tortoise, pork, chicken, pigeon, or beef, is cooked in an earth oven. Small fish, shellfish, and coconut meat, when constituting the meat course, are frequently eaten raw. In Ponape, dog meat was formerly eaten, particularly at feasts.

Today rice or bread is often substituted for the starchy native vegetable, and tinned for fresh meat or fish, when the people can afford to buy them from Japanese merchants. Bread is preferred to rice in Ponape and Kusaie, whereas the converse is true of Truk. Cucumbers, melons, pumpkins, eggplant, and other vegetables introduced by Europeans and Japanese are now eaten to some extent by the natives.

Beverages. The islanders commonly quench their thirst by drinking the milk of green coconuts or the sap drawn from coconut buds. This latter beverage is considered to be excellent for nursing babies, and is often used by the natives as a substitute for or a supplement to milk. They also suck sugar cane, pandanus beans, or wild oranges to slake their thirst. They have learned from missionaries how to make lemonade, of which they are said to be very fond. They also enjoy soft drinks. Approximately 40,000 liters of such beverages were imported to the Eastern Carolines from Japan in 1937 (23,009 liters to the Truk district, 16,038 liters to the Ponape area, and 919 liters to Kusaie). The natives do not like fresh cows' milk, but they are fond of canned milk.

Narcotics and Stimulants. The Polynesian custom of kava drinking extends westward as far as Ponape. In former times no ceremony was complete without the ritual drinking of this beverage. The missionaries attempted to prohibit its use, but the natives were very loath to give it up. So strong was the idea that kava drinking is an integral part of any ceremony that they incorporated it into the Christian ritual and insisted on drinking kava before saying a prayer or going to church. In Kusaie the mission finally succeeded in stamping out the practice, but in Ponape it has persisted. The Japanese, believing that overindulgence in kava is harmful, have limited the drinking of it to once a week (see 258). Actually, the physiological effects, according to the latest medical findings, are mildly beneficial rather than harmful.

Fermented coconut sap (palm toddy) was also a favorite drink of the natives of the Ponape district, and was indulged in to a minor extent in the Truk district. This, too, was prohibited by the missionaries, successfully in Kusaie but not so in many of the other islands. A Japanese ordinance forbidding natives to manufacture intoxicating liquor has further restricted the use of palm toddy, although the ordinance has apparently been rather laxly enforced.

The natives developed a taste for hard liquor when it was introduced to them by whalers in the last century, and for beer and sake when these were brought in by the Japanese. Missionary pressure and Japanese prohibitions have restricted but not completely prevented their use.

The following table shows the number of liters of alcoholic beverages imported from Japan in 1937. Most of it was consumed by the Japanese residents, but some found its way to natives by way of bootleggers (see 258).

	Truk	Ponape	Kusaie	Total
Sake	22,179	31,162	520	53,861
Sweet sake	53	96	-	149
Beer	120,087	145,920	557	266,564
Wine (grape)	186	290	12	488
Brandy	-	67	-	67
Miscellaneous	386	40	-	426

In addition to the above, a considerable amount of rum manufactured at Saipan is brought in to the Eastern Carolines. Although the use of tobacco was originally forbidden by the Boston Mission, and later by the native churches, only on Kusaie is it still prohibited for church members to smoke, and even on this island many church members smoke in secret. Clay pipes and cigarettes with wrappings of dried banana leaves are the usual methods of smoking. A considerable amount of tobacco is imported from Japan. In addition, the natives on many of the islands have small plots on which they raise their own leaf. This is particularly true of Truk. No large tobacco plantations had been established in the islands as late as 1937, although the plant is said to grow well in the area.

Although the Areca palm grows in the Eastern Carolines, the natives have not adopted the practice of chewing betel, which is prevalent in the Western Carolines.

153. Sex and Marriage Customs

Puberty. In the olden days the onset of puberty for boys and the first menstruation for girls were marked by a special ceremony and the donning of the costume of adults. On Ponape, boys underwent an operation in which one of their testicles was excised, but this practice did not occur on the other islands of the area, nor was there any other form of genital mutilation. Girls were secluded at puberty in special menstruation huts for a period of from ten days to a month, depending upon the practice in the particular island. Either before or after the seclusion they were presented to native society as marriageable. The public school system and the missions have undoubtedly interfered with these practices.

Premarital Sex Relations. Premarital chastity was esteemed nowhere in the Eastern Carolines. As soon as a girl had passed puberty she was expected to have lovers freely, and even before this time many girls indulged in sexual intercourse. It is reported for the Truk district that girls often lost their virginity at the age of nine or ten, and for Ponape that betrothed children often began sleeping together at the age of five or six. In the Truk district each youth had a cane or stick which was characteristically carved and exhibited by him during the daytime. At night, having first determined the sleeping place of the girl of his choice, he would creep to her house after she and her parents had gone to sleep, thrust the stick through the thatch, and prod her awake with it. She would feel the carving in order to identify her visitor and then either push it back as a sign of refusal or steal out of the house to meet him.

The missions have striven to inculcate western ideas of morality, and any member of a congregation caught philandering is expelled from the church. This pressure has gone a long way toward making the natives more virtuous, particularly on Kusaie. The old pattern, however, is apparently difficult to eradicate, and although the natives are now less open in their premarital liaisons than formerly, a considerable proportion of the young people still indulge in them.

Extra-marital Sex Relations. The freedom allowed to the unmarried was not extended to the married, among whom fidelity was in general expected. A woman caught in an act of unfaithfulness was usually beaten by her husband, and her lover was attacked and sometimes even killed by him. The affair was usually settled by requiring the adulterer to pay a fine to the offended husband. These restrictions did not suffice, however, to prevent clandestine affairs from occurring with considerable frequency.

Ceremonial sexual license was permitted on certain festive occasions in most of the islands, and wife lending between friends and relatives, particularly brothers, was customary. Furthermore, a man customarily had sexual access to his wife's sister unless she was married to someone else. The missionaries have tried, of course, to put an end to such practices, and have doubtless had a measure of success in the islands where they have had the strongest influence.

Sexual Restrictions and Taboos. Sexual relations with a close relative are prohibited. This restriction also extends theoretically to any member of one's own clan (see 162), but this rule is not infrequently broken. Sexual intercourse is also taboo to men on the following occasions: before important fishing or trading expeditions, before playing a major part in a religious ceremony, and before planting taro. It is taboo to women at menstruation, during pregnancy, and for several months to a year after childbirth.

Prostitution. Although prostitution did not exist in the Eastern Carolines before the coming of Europeans, the prevailing laxity of morals favored its development soon after the whalers arrived. Many natives found that they could make a considerable profit from visiting mariners by providing their sisters, their daughters, and sometimes, though rarely, their wives for a fee. The women involved were usually not at all averse to such

an arrangement, since it added to their prestige to have had relations with a white man. This practice led to the wide dissemination of venereal disease among the population (see 251). Both the missionaries and the German, Spanish, and Japanese governments have attempted to stamp out this practice, and they have been quite successful in so doing. An ordinance of the South Seas Government makes any person who has prostituted himself, or pandered, or let rooms for immoral purposes liable to punishment by detention for a period not exceeding 30 days or to a minor fine not exceeding 20 yen in amount. Detected prostitutes, moreover, must submit to a medical examination and if found diseased must submit to medical treatment.

The Japanese have imported geisha and shakafu girls, who not infrequently indulge in prostitution. Three such girls were arrested in 1937 in the Truk district for violating the regulations concerning prostitution. No such violations were reported for the Ponape district in the same year.

Acquiring a Wife. Marriage usually grows out of a premarital love affair. Less frequently a betrothal arranged by parents when the couple are children eventuates in their marriage. In olden times the natives married when they were quite young -- girls at fourteen or fifteen years of age, boys at seventeen or eighteen. The missionaries have attempted to delay the age of marriage, and have made it a rule that a church member may not marry until the age of twenty. When a young couple decides to get married, the youth usually discusses the matter with his family, and if they agree to the match, they call upon the bride's parents and present them with gifts of food, ornaments, and clothing. If the girl's parents also agree, a feast is arranged; it is given jointly by the parents of the bride and groom, and is attended by the relatives on both sides and usually by the chief or his representative. Although most natives are now married by a Christian evangelist, or by a Japanese official who acts as a justice of the peace, the wedding feast is often still part of the ceremony. If either the bride or the groom is a church member, the wedding itself takes place in the church.

If the parents of the bride disapprove of the match, the couple sometimes elope, in which case the parents of the groom are held responsible and must pay a fine to the bride's parents if they wish to remain on good terms with them. As an alternative, the suitor may work for the girl's parents in the hope that if he shows himself to be industrious they may change their mind.

A man is free to marry his cross cousin, i.e., his mother's brother's daughter or his father's sister's daughter, but he may not espouse a parallel cousin, i.e., the daughter of either his father's brother or his mother's sister, or any nearer relative. Marriage with a member of the local division of one's own clan is also forbidden, but on Ponape and Kusaie this rule is strictly enforced only among commoners, and chiefs and nobles not infrequently marry a fellow clansman. In these latter islands, moreover, a commoner must obtain the permission of the chief in order to marry outside of his own social class.

Residence after Marriage. There is no hard-and-fast rule governing where the couple should live after they are married. In Kusaie and Ponape they usually live with the groom's parents, in the Polynesian islands of Kapingamarangi and Nukunoro they commonly alternate between the parents of each, and in the Truk district they customarily reside with the bride's parents. As soon as possible, however, the groom builds a house, and the couple sets up an independent household. In the case of a marriage between members of different social classes, residence is with the spouse of the higher class.

Polygamy. In former days a man could marry as many wives as he could afford. This meant, in actual fact, that polygamy was largely restricted to chiefs and nobles. A man's right of sexual access to his wife's unmarried sister often led to her becoming his second wife. Nowadays monogamy is the rule, particularly on the islands where the mission influence has been strongest.

Divorce and Remarriage. Divorce, which is still frequent despite missionary objections, is arranged by mutual agreement between spouses. If the desire to separate is not mutual, however, the husband's wishes take precedence, unless the wife is of a higher social class than he. The children of a divorced couple, if they are old enough to leave the mother, regularly go or stay with the father. The first of a divorced pair to remarry must pay a forfeit to his former spouse. A widow, if still of marriageable age, frequently espouses either the brother or a clansman of her deceased husband. Conversely, a widower often marries his deceased wife's sister. These are not binding rules, however, except in the case of a commoner whose noble spouse has died.

Menstruation. A woman is considered to be unclean during her periods of menstruation. She is not permitted to eat from the family dish but must prepare her food separately, and she must avoid contact with others as much as possible. In the old days she repaired to a hut specially constructed for the purpose and remained in isolation for

the duration of her period. Menstrual huts have now almost entirely disappeared, but the woman remains by herself in the dwelling instead.

Pregnancy. As soon as it is obvious that a woman is pregnant, a feast announcing the fact is given in her honor. Thenceforth until the birth of her child she must abstain from eating tortoise and breadfruit and coconut pudding, she must keep out of the bright sunlight, refraining especially from looking directly at the sun, she must avoid all heavy work, she must not cut her hair or indulge in sexual intercourse. For the first pregnancy these taboos are much more strictly enforced than for later ones, and even the husband must observe some of them, which he does not do subsequently.

Childbirth. When labor pains begin, a professional native midwife is usually summoned to take charge of the delivery. The woman's female relatives also attend, but the husband is called in only if the birth is a difficult one and his assistance is needed. A few midwives are said formerly to have known how to perform a Caesarian operation, which was sometimes successful. A woman who has had several children without difficulty usually does not bother to call in a midwife but manages by herself. After the infant is born, it is sponged off with warm fresh water and rubbed with coconut oil. The mother washes in sea water, and rubs herself with oil. Although babies depend almost entirely upon mother's milk for sustenance, coconut milk, bananas, and particularly sweet coconut sap are used to some extent as supplementary foods.

Abortion and Infanticide. The native women are said to know how to induce abortion both by means of massage and abortifacient herbs. Even in the old days, however, the practice was rare. Children were considered an asset under almost all circumstances. Even illegitimate offspring were desired; they were regarded as the children of the girl's parents and were usually later adopted by her husband. Infanticide was also known but extremely rare, except on Nukuoro, where both abortion and infanticide are said to have been so common that the population was rapidly decreasing. Missionary influence has put an end to these practices at the present time.

154. Funeral Practices and Religion

Burial. When a native dies his body is anointed with a mixture of coconut oil and turmeric. It is then wrapped in mats, or, if the deceased is both wealthy and a conforming Christian, a wooden coffin may be substituted for the mats. The deceased is usually buried along with his ornaments and personal possessions on the day of death in a shallow grave lined with banana leaves. On Ponape, stones were placed upon the chest of the deceased to prevent his soul from returning. The grave is usually either in a field of the deceased or in the yard near his house. Sometimes, however, the body is buried under the floor of the dwelling, in which case the house is usually abandoned. On many of the islands a hut was formerly built over the grave to provide shelter for one of the relatives whose duty it was to watch over the site for several weeks. The stone mausoleums which were built for chiefs on Ponape and Kusaie probably represented an elaboration of these grave huts. On Ngatik and sometimes on Ponape large mounds of sand were constructed over the graves of chiefs. On the more christianized islands the practice of building grave huts has been abandoned. The grave is simply marked by a wooden cross, and a breadfruit tree is planted nearby, or, more often, nothing is done to mark the site.

In addition to the regular form of burial described above, numerous unusual forms were practiced on many of the islands. On Truk the bodies of notable chiefs were sometimes mummified, but more usually here, and on several of the other islands of this district, the corpse was deposited upon a platform built near or within the house, where it was allowed to lie in state until the flesh had completely disintegrated. The bones were then collected and either buried or lowered into the sea. On Kusaie, corpses were formerly exhumed after a period and the bones buried at sea. On Nukuoro, bodies were normally weighted with stones and lowered into the lagoon, and on Ngatik lower-class persons were buried in the same way. On the other islands of the Eastern Carolines sea burial was restricted to those who had died a violent death, particularly in battle, or to the final disposition of the bones of the dead.

The orientation of the corpse at burial is important on many of the islands. On Murilo the heads of men should face the west, those of women the east. On Puluwat, Pulusuk, and Nukuoro the heads of both sexes should be turned toward the east.

Japanese are usually cremated, and their ashes sent back to Japan. There are crematories on Kusaie, on Ponape, and doubtless also on Truk. To the natives the idea of cremation is said to be very repugnant, and they have resisted all Japanese attempts to introduce the custom among them.

Mourning. In former times the natives went to extremes which approached hysteria

during their funeral ceremonies, particularly on the occasion of the death of a chief. The mourners, wailing hysterically, daubed themselves with mud and filth, tore off their clothing, and danced about as though mad, attacking one another and engaging in public copulation. A more moderate form of mourning was continued for several weeks after the burial, and at the end of this period a feast was held during which the participants exchanged gifts and indulged in ceremonial sexual license. Today these excesses have been replaced by restrained wailing and prayer. Only the funeral feast and the gift exchange remain from the old pattern.

After a man of property had died, it was formerly customary for the chief to declare his property taboo. For from four to six months thereafter no one might trespass on the land of the deceased under pain of death. It is possible that an attenuated form of this taboo may still exist. There was formerly also a strong taboo against mentioning the name of a deceased person, since it was believed that this might bring back his ghost to haunt the living. The dead were consequently referred to only by circumlocutions. Even today, many christianized natives are reported to be loath to speak the names of the dead.

Supernatural Beings. In former times the natives believed the world to be filled with supernatural beings or spirits, whom they called anu. Some of these beings were the ghosts of recently deceased ancestors, others were the deified ghosts of former chiefs or heroes, and still others were autochthonous nature spirits. In Ponape a clear division was made between ghosts and nature spirits, but in Truk they all formed a part of a single pantheon. In the Polynesian islands, Nukuoro and Kapingamarangi, ghosts and minor spirits were of little importance, while the important spirits were raised to the status of gods.

The spirits were believed to dwell in various paradises, located in the sky, on uninhabited islands, under the sea, or at the edge of the horizon. Ant Island and the mountain peaks of Kusaie and Ponape, in particular, were thought to be abodes of spirits. Many supernatural beings were believed to perform specialized functions. Some were guardian spirits, whose duty it was to protect their living descendants. Others were responsible for the growth of breadfruit. Some caused winds, rain, thunder and lightning, surf, and rainbows. Still others were guardians of housebuilding, canoe making, and other productive activities.

Religious Specialists. Individuals who knew a secret language and a special ritual could call upon a particular spirit for aid. Such knowledge was usually passed down from father to son, but it could also be acquired by purchase. While many natives knew how to communicate with at least one spirit, only a few were able to control a large number of them. These were the priests or idang. Oftentimes the chief was also a priest to his subjects. Since most diseases were thought to be caused by the bite of a spirit, the priests were also the doctors of the community (see 252). In addition to priests there were sorcerers, who used the spirits under their control to injure people, and diviners, who specialized in becoming possessed by spirits and thus receiving messages from them. In Kapingamarangi and Nukuoro the priesthood was more highly developed and specialized than in the other islands of the Eastern Carolines.

Religious Ceremonial. In former times festivals were frequently given in honor of one or another member of the spirit pantheon. Such occasions were marked by dancing, feasting, the exchange of gifts, and religious rituals led by a priest. Rites were also performed by priests before or during any important economic activity, such as a deep sea fishing trip, a trading journey, the planting of gardens, or the building of a house or a canoe. Individuals often performed their own rituals before undertaking activities of lesser importance.

Divination. Specialists in divination were formerly often called upon to foretell the future, which they were believed able to do by questioning spirits over which they had control. A more common form of divination, which could be practiced by anyone, consisted in tying a large number of knots on a string and then counting them. Whether or not the total number of knots was divisible by two, three, four, and higher numbers would yield different predictions about the future.

Conversion to Christianity. In consequence of the efforts of American, Spanish, German, and Japanese missionaries over a period of nearly a century (see 134), a large majority of the natives of the Eastern Carolines have been at least nominally converted to Christianity. Official figures from Japanese sources indicate that in 1937 more than 70 per cent of the natives in the Ponape district, and over 98 per cent of those in the Truk district, were classified as Christians. Protestants were somewhat more numerous than Catholics. The distribution is shown in the following table:

	Catholics	Protestants	Total Christians	Total Native Population
Ponape District	2,801	3,842	6,643	9,369
Truk District	6,050	8,656	14,706	14,930
Total	8,851	12,498	21,349	24,299

American Protestant Churches. Of all the churches established since 1852 by the American Board (see 134), there remained in 1941 only one which had not changed its affiliations. This was the church at Lele in Kusaie. Here the pastor is Mr. Fred Skillings, whose father was an American and whose mother a native. Under his supervision there are preaching stations at the villages of Malem, Utwe, and Tafwensak on the main island of Ualan. At these stations, native lay preachers hold religious services each week, but four times a year their congregations travel to Lele for a communion service.

All Kusaieans are nominal Christians. Only about half of the population, however, are church members, all of them associated with the church at Lele, since there are no competing churches on the island. The American missionaries have adhered strictly to Congregationalist doctrine. Mr. Skillings and his congregation are as independent as any Congregational church in the United States, since the missionaries who have taught at the training school at Mwot (see 263) have exercised no formal control over the church at Lele.

Japanese Protestant Churches. In 1941, there were three churches in the Eastern Carolines whose pastors are Japanese Congregational missionaries affiliated with the Nanyo Dendo Dan (South Seas Mission). Mr. Tanaka is the pastor of a church at Colony on Ponape, and Mr. Yamaguchi and Mr. Kawajima have churches in Truk, the former on Dublon. Of the fifteen Protestant preaching stations reported in 1937 for the Ponape district, twelve were affiliated with the Nanyo Dendo Dan. A number of these stations are located at various native villages on the island of Ponape, but there are probably others on Mokil, Ngatik, Nukuoro, Pingelap, and other islands. Some of these preaching stations are in charge of ordained native pastors and are therefore properly to be classified as churches. According to Congregational tenets such churches should be independent organizations, but Mr. Tanaka is said to exert considerable influence over them. In contrast to the church at Kusaie, which is financially independent, the Japanese Protestant churches are partially dependent for funds upon the Nanyo Dendo Dan, which receives an annual subsidy of ¥ 22,000 (in 1937) from the South Seas Government. The funds expended in the Ponape district are apparently administered by Mr. Tanaka, thus assuring his control over the native pastors.

In the Truk district, the majority of the 41 preaching stations (as reported in 1937) are affiliated with the Nanyo Dendo Dan, the remainder belonging to the German Lutheran (Liebenzeller) mission. Protestant preaching stations have been reported, but without identification of denomination, on Etal, Murilo, Nama, Namoluk, Namonuito, Nomwin, Puluwat, and various islands of the Truk group, and are doubtless to be found on other islands as well. The Japanese missionaries at Truk exert a measure of control over the native pastors comparable to that exercised by Mr. Tanaka at Ponape.

German Protestant Churches. German Lutherans of the Liebenzeller mission (see 134) maintain three churches in Truk, located respectively on Fefan, Tol, and Udot, as well as a number of preaching stations elsewhere in the Truk district. Nine missionaries of this faith were reported to be active in the district in 1937. In 1941, a Mr. Rattel was stationed on Tol, a Miss Zuber on Udot, and another woman missionary in the Nomoi group (probably at Lukunor). Information is not available on other personnel or on the location of preaching stations.

Spanish Catholic Churches. In 1937 the Spanish Jesuits maintained six Roman Catholic churches in the Truk district and one in the Ponape district. All were organized under the Apostolic Vicariate of the Marianas, Caroline, and Marshall Islands, the administrative seat of which was located on Dublon Island of the Truk group. In 1939 the vicar apostolic was Monsignor Iacobus Lopez de Rego Labarto (see 145 for other names). According to official Japanese sources there were, in 1937, four fathers, six brothers, and four sisters in the Truk district and three fathers, four brothers, and five sisters in the Ponape district. In addition, there were nine Catholic preaching stations in the Truk district, with 20 native preachers, but none in the Ponape district. Catholic missionary influence is reported to be strong on Truk, especially on the islands of Dublon and Fefan. It is also strong on Lukunor and at Colony on Ponape, where the one church of the district is located.

Japanese Buddhist Temples. There are two Buddhist temples in the Eastern Carolines, one in the Truk and one in the Ponape district, presumably at Dublon and Colony respectively. Each is in charge of a Japanese Buddhist monk. Their activities are apparently concerned exclusively with Japanese believers, of whom 280 were enumerated in

the Truk district and 700 in the Ponape district in 1937, rather than with missionary activity among the natives. Official reports list no native Buddhists.

Governmental Control of Religion. The terms of the mandate from the League of Nations obliged the Japanese Government to allow freedom of worship and to permit missionaries of other nations to pursue their calling in the islands. The declared policy of the Japanese, accordingly, has been to place no restrictions upon missionaries unless the activities of the latter are considered prejudicial to public peace and good morals, and a specific statement that no missionary has been interfered with on these grounds appeared in each annual report to the League of Nations through the year 1932.

Despite these protestations of religious freedom, the South Seas Government has kept close control over missionary activity in the Eastern Carolines. In 1922 Mr. Charles H. Maas, a missionary of the American Board, was forced to leave Truk, allegedly on the grounds of his German ancestry, and since that time no American missionary has been permitted to visit Truk for longer than the stay of his ship in port. All foreign missionaries have encountered informal supervision ever since the beginning of the Japanese occupation, and the pressure has steadily mounted with succeeding years. Formal regulation of religious institutions did not begin, however, until 1931. In that year an ordinance of the South Seas Government required persons desiring to establish a temple, church, preaching station, or private or public school to obtain recognition from the Governor by presenting a statement covering the reason for its establishment, the time, its name and location, details of construction (with a plan of the premises), the faith to be propagated, the methods of management and maintenance, and the qualifications and mode of selection of personnel. It was also specified that managers of missions already established should obtain recognition in the same manner and make an annual report to the Governor. Since 1938 formal governmental control has become much more rigorous, and all religious organizations have been officially coordinated.

Native Religion Today. The American, Spanish, German, and Japanese missionaries have all done their best to replace the native religion by Christianity. Although a large majority of the natives on most islands are nominal Christians and nearly as many are members of a church, their religious beliefs and rituals are by no means purely Christian but are rather a mixture of Christian and pagan. It was not difficult for the natives to convert their aboriginal concept of a superior spirit into that of the Christian God, but it was more difficult to give up their belief in all lesser spirits and ghosts. Even the natives of Kusaie, whose grandparents were converted to Christianity nearly a century ago and most of whom are church members in good standing, still believe that spirits dwell on the mountain tops of the island. Many of the natural events which were formerly ascribed to spirits, however, are now attributed to God.

Native religious specialists have been almost completely replaced by native pastors, evangelists, and teachers in the church schools. Their healing functions have been assumed by Japanese physicians, and divination has passed almost entirely into lay hands, although there may still be some natives who are considered to have special skill in predicting the future.

The rituals of the aboriginal religion have been almost entirely replaced. Every weekday Protestant church members at Kusaie hold morning and evening services in their homes, consisting of prayers and hymn singing, and Sundays are devoted almost exclusively to religious activities. Since all labor on the Sabbath is considered a sin, the food consumed on that day is cooked on Saturday night. The first event of the Sabbath is Sunday School, which is held early in the morning. The pastor opens the meeting, and the congregation then divides into groups according to sex and age to study the lesson for the day. As soon as the Sunday School exercises are closed the church service begins. The pastor, or sometimes a member of the congregation selected by him, delivers a sermon and then announces the topic for the day, which is usually some such subject as "love," "faith," or "anger." After the midday meal the congregation reassembles to sing hymns and discuss the announced topic. The evening is normally devoted to a Christian Endeavor meeting, which follows the program of the Christian Endeavor Society of the United States for the corresponding Sunday of the previous year, the programs having been translated into the Kusaian language and printed at the mission school at Mwot. On Wednesday evenings a prayer meeting is held, and on Friday afternoons there is a special prayer meeting for women. The rituals of the Japanese Protestant communicants, and presumably also those of German Protestant converts, are similar to the above, but detailed information on the religious observances of the Catholic natives is not available.

It is noteworthy that of all portions of the Christian ritual the singing of hymns has appealed particularly to the natives from the first. Intervillage competitions in carol singing are held at Kusaie every Christmas, and this event is regarded as one of the most important of the year. The aboriginal belief that only a person who could pass a singing test could enter paradise may have been partially responsible for the initial response to this aspect of Christian ceremonial.

As a factor in social control the primitive religion has been replaced by Christian morality. Potential criminals, who were formerly deterred by a fear of sorcery or of retaliation by spirits, are now inhibited by the fear of hell and, probably more important, by the dread of social ostracism through suspension from the church. Whenever a member of the church at Kusaie is suspected of smoking, drinking, card playing, or indulging in a native dance or any other unchristian behavior, a special meeting of the members of the church is called to consider the case. At these meetings gossip is said to run rife, especially in a case of adultery. If adjudged guilty, the sinner is suspended from the church, but he may be readmitted to membership if he reforms his behavior and publicly repents. Smoking is not considered a sin in the Japanese Congregational churches, but otherwise the treatment of sinners is said to be similar.

In islands where missionary activity has been more recent or less intent, native religious behavior has acquired a thinner veneer of Christianity, and aboriginal beliefs and practices are more noticeable. It is probable that in some of the remoter islands, such as Kapingamarangi, the old pagan religion can still be observed in full force.

155. Art and Recreation

Decorative Art. The natives formerly expressed their sense of color and form in their textiles and woodwork (see 321) and in their tattooing (see 151). The designs were geometric, and the preferred colors were red, yellow, and black. The number of natives who are adept in the decorative arts has decreased as native products have been replaced by Japanese manufactured goods, but the old skills have not entirely disappeared. The Japanese have attempted to stimulate native arts by teaching handicrafts and by exporting native products to Japan.

Dancing. Dancing was formerly a favorite pastime of the natives and formed a part of nearly every festive ceremony. The typical dance was performed by a group sitting and moving their arms and shoulders rhythmically while singing and beating time by clapping cupped hands against their bodies. A musical accompaniment was furnished by nose flutes and drums. Both men and women participated in dances, but they sat in separate rows. In Ponape, each dancer carried an elaborately carved dance paddle in his hand and kept time by skillfully striking it against that of his neighbor to provide a rhythmic accompaniment. The Polynesian islanders of Kapingamarangi and Nukuoro performed a dance of quite a different type, in which men and women joined hands in a circle and danced standing. Lewd dances like those of the Marshall Islands were not in vogue in the Eastern Carolines. Today native dancing has completely disappeared in Kusaie and other centers of strong missionary influence, but is still practiced to some extent in the outlying atolls.

Music. Hand drums and flutes, employed primarily to accompany dances, were the only musical instruments made and used by the natives in former times. In recent years ukeleles and guitars of Japanese manufacture have become popular with the natives, and a few phonographs have been bought by those who can afford them. Singing, however, has always been the favorite form of musical expression. The old dance songs have been replaced by hymns, which have become extremely popular (see 154). Natives sing hymns in groups at every opportunity, and this is, indeed, one of the strongest motives for attending church.

Games and Pastimes. Baseball, introduced by the Japanese, has become very popular with the natives. Intervillage games are played on most of the Japanese holidays. Boys often gather in groups to play a sort of soccer with a pith ball, and girls play hopscotch. Reef fishing is considered more of a sport than work, and groups of men or women often spend the afternoon or evening at this pastime. Checkers is a favorite game among the older men. Of all forms of recreation, gossip stands preeminent. Nearly every evening the men and women assemble to talk over the events of the day and to speculate about the future.

Places of Amusement. Certain places of amusement, located mainly at the larger centers of population such as Dublon in Truk and Colony in Ponape, cater principally to a Japanese clientele. In 1937, one hotel, one upper-class restaurant, and 15 lower-class restaurants were reported for the Truk district, and four upper-class and seven lower-class restaurants in the Ponape district. A female receptionist is established in each. Geisha houses are found in both Truk and Ponape, with 42 and 50 girls respectively. Motion pictures are shown occasionally (see 274).

156. Native Warfare

Intertribal Wars. Before warfare was finally outlawed, the natives of the Eastern

Carolines were almost continuously at war with one another. Wars were usually waged between adjacent districts, seldom between districts which were at a distance from one another or between the inhabitants of different atolls or islands. In reality, therefore, they were sporadic battles in a continuous feud. The principal causes of war were vengeance and friction over property rights. The chief had the power to declare war and usually did so in a formal way, announcing to the enemy the time and place of the attack. Since the success of the encounter usually depended upon numbers, every able-bodied man was mobilized under the leadership of the chief.

In a typical affray, the opposing parties would meet in war canoes in shallow water at high tide at some point between the districts involved. As the parties approached one another, the chief of each group would stand up in his canoe and whirl his spear, while conch trumpets were blown in defiance. As they came still closer, the opposing warriors exchanged volleys with slings, a weapon with which they were extremely accurate. The missiles, which weighed a pound or more, usually killed some, wounded others, and knocked still other warriors into the water, and, not infrequently, they stove in the side of a canoe and sank it. When their ammunition was exhausted and their canoes had approached within spear range, the contestants hurled their spears at one another. Then, if neither side had yet yielded, the canoes were brought side by side, so that clubs, knives, and thrusting spears could be employed. When one side finally gave way, it retreated, fighting a rear-guard action. Beaching their canoes, they sought to defend their village. If this became hopeless, they finally broke and fled. This ended the battle, for the victors did not pursue their enemy farther. Instead, they turned to sack and pillage the conquered village, carrying off all moveable valuables, setting fire to houses, and destroying the canoes. Fruit trees, however, were not destroyed. The victors would then return to their own district, bearing with them their spoils and their dead and wounded. Very seldom did the victors attempt to establish hegemony over the conquered district.

On Kusaie and Ponape, where distinctions of social class were important, commoners always fought against commoners, nobles against nobles, and chiefs against chiefs. No noble would demean himself by attacking a commoner, nor would a commoner dare attack a noble even though he were an enemy.

Although military engagements were strictly regulated by codes of battle, they were by no means mere formal tournaments but were very bloody affairs. A European who observed a battle between two districts of Ponape early in the nineteenth century estimated that between three and four hundred warriors were killed, even though the engagement lasted only a few hours.

Resistance to Europeans. The natives carried over their aboriginal pattern of warfare into their relations with Europeans. In attacking the latter, however, they soon learned that it was inexpedient to announce their intentions beforehand. During the period of early contacts there were a number of serious encounters with Europeans (see 131), and in Ponape, where the political structure was such that large groups could be organized, both the Spaniards and the Germans had to face major rebellions (see 132). In Truk, although the natives were equally warlike, the political structure was so atomic that resistance to Europeans seldom met with success. Since 1911, when the last revolt on Ponape was put down, the natives have been completely pacified, although recent reports suggest that a spirit of unrest still survives.

157. Attitudes and Values

Religious Attitudes. As a result of missionary influence, the strongest set of values held by the majority of the natives consists of those derived from Christianity (see 134 and 154). These, amalgamated with native beliefs and administered by native church organizations, constitute a powerful force in native life. It is from this source that ethical and moral ideas are mainly drawn. These vary somewhat from area to area depending upon the source and strength of the Christian influence. These values appear to be held most strongly on Kusaie, and are probably weakest on Kapingsamarangi. Only on the former island, for example, is smoking considered sinful. Drinking, dancing, sexual irregularity, immodesty, lying, stealing, and aggressiveness are among the activities which the missionaries have sought to suppress since the middle of the last century and which the natives themselves have come to accept with conviction as sinful.

Prestige Motives. In contrast to the Marshall Islands, where commoners with talent can achieve a kind of knighthood, status in the Eastern Carolines is almost completely determined by birth and age (see 164). Prestige as a motive for expending extra effort is consequently of comparatively little importance. Under aboriginal conditions, moreover, prestige did not attach to the accumulation of riches, since this did not enhance one's status. Economic motives were based primarily upon security and subsistence. These facts

have led many European and Japanese observers to characterize the natives as lazy. It would be more accurate to say that, with a few exceptions, they manifest little interest in making money or in economic or political advancement. On the other hand, the natives are often ready to expend considerable effort in making themselves attractive to persons of the opposite sex, and they show a willingness to work hard at tasks which are regarded as of the nature of sport or which involve rivalry or competition.

Attitude toward Half-Castes. Half-castes, if they are the product of a marriage between a native of high rank and a respectable European or Oriental, are highly regarded. They share the prestige of their foreign parent, Europeans in particular being commonly regarded as of noble class.

Attitude toward Japanese. The native attitude toward Japanese can best be described as apathetic. The majority neither feel any strong loyalty to Japan nor have any marked resentment of Japanese domination. In some localities bullying Japanese policemen or officials have aroused antagonism, but in general the policy of local officials has been to avoid trouble by permitting the natives to go their own way as much as possible. Consequences of the war, such as stricter surveillance, blackouts, and compulsory training for military defense (see 233), may very well have caused some resentment which the Japanese have not succeeded in turning against the Americans, but this should not be exaggerated. A few natives who have gained materially or socially by ingratiating themselves with the Japanese (see 145) will undoubtedly be found to be pro-Japanese in varying degrees. They represent, however, a small minority of the population, and another small group, influenced by American missionaries, are as strongly pro-American.

In their propaganda program (see 263) the Japanese have rewarded natives for citizenship by honoring them and by awarding them trips to Japan. In most cases this is reported to have had relatively little effect upon those so honored. The propaganda line of stressing the invulnerability of the Japanese is one which will recoil against them when they are defeated. The Greater East Asia Co-prosperity Sphere, if it has been publicized in the Eastern Carolines since the war, is not likely to appeal to natives who have had so little recent experience with racial discrimination and exploitation by Europeans.

Attitude toward Americans. As a result of the influence of American missionaries, the attitude toward Americans is generally favorable, especially among the native Christians. Since the teaching of history has been prohibited in the mission schools, much of the knowledge of the United States has been acquired in a distorted form in the Japanese public schools. Contacts with missionaries and evangelists, however, have probably operated to some extent as a corrective. The example of the missionaries has doubtless led the natives to expect Americans to be kindly, earnest, and well-mannered people with strong moral prejudices.

158. Etiquette

Hospitality. The natives are extremely hospitable. They always offer food to a visitor, and the latter may either accept or decline, depending upon the degree of his intimacy with the host and the circumstances of his visit. This pattern has been adopted by the American missionaries, who offer tea and ship's biscuits to natives who visit them and accept the same from natives whom they visit. This form of etiquette is to be recommended in dealing with native chiefs.

Greetings. Natives of the same social class greet one another by asking the questions, in the appropriate native language, "Where have you been?" or "Where are you going?" rather than "How are you?" or "How do you do?" Today such English greetings as "Good morning" and "Good evening" are common, at least on Kusaie. The handshake, introduced by missionaries, is the common form of greeting between acquaintances of the same social standing and the same sex. In the old days a man did not verbally greet or shake hands with a married woman, particularly in the presence of her husband, for this would have been regarded as a sexual advance, but missionary influence has likewise altered this custom in some parts of the archipelago.

Deference to Chiefs. An elaborate court etiquette existed throughout the Eastern Carolines in aboriginal times and has not entirely disappeared even today. Although the greatest elaborations occurred in the Ponape district, they were by no means absent in the Truk district. When passing in front of a chief, persons of lower rank had to walk with the body bowed forward parallel to the ground and the hands clasped behind the back. No commoner might stand in the presence of a chief; he must immediately sit or squat. He might not look directly at a chief but must keep his eyes averted. Nor might he touch a chief, the greatest offense being to touch his loincloth. In the presence of a chief it

was taboo to speak in a loud voice; one was expected to speak softly or even to whisper, and, in Ponape and Kusaie, to use a special honorific language. A commoner was forbidden to enter the house of a chief; even if he merely passed by, he had to squat down until he was given the command to pass on. Similarly, when sailing past the house of a chief, boatmen had to stop and hold their poles and paddles obliquely. The chief would then send a man to the shore. This man would squat, describe a semicircle with his arm, and then rise, after which the canoe might go on. If a canoe met that of the chief, the crew immediately lowered the sail or "came to oars" and then squatted in the boat until the chief had passed. If they had been fishing, they were then expected to follow the chief's canoe and offer him an opportunity to choose from the catch. While the above forms of etiquette applied to the chief in particular, his immediate family, particularly his wives, also demanded marked respect. Nobles likewise expected deference from commoners, but the forms were somewhat less elaborate.

In former times these rules were rigidly enforced. If a chief felt that a commoner had failed to be properly respectful, he would call for stones and pelt him, whereupon the commoner normally fled. Extreme disrespect sometimes led to the exaction of the death penalty.

Several factors have tended to break down these respect forms. The American missionaries strongly opposed them as undemocratic and on the grounds that "one should bow only to God." The decline in the political power of chiefs under the German and Japanese administrations has also led to the attenuation of the forms of deference. In Kusaie they have almost entirely disappeared, but in Truk and Ponape there is evidence that many of them were still being practiced as late as 1937 and 1941 respectively.

Etiquette at Ceremonies. Precedence is carefully adhered to in some ceremonies, not in others. The kava ceremony, which is still common in Ponape and the Polynesian islands (see 152), demands strict etiquette with respect to the preparation of the kava, the seating of the participants, and the drinking of the beverage. In funeral ceremonies (see 154), however, deference rules were not adhered to. Indeed, one of the functions of the mortuary ceremonial appears to have been to provide a release from the rigid deference rules which were insisted upon at all other times. In Christian ceremonies, particularly those of the Protestant faith, deference behavior has been partly broken down by the principle of equality before God.

Etiquette between Kinsmen. In former days a strict etiquette of avoidance prevailed between brothers and sisters. The burden of observance fell primarily upon the girl, whose duty it was to avoid her brother as much as possible. When they did meet, she had to avert her eyes and walk in stooped obeisance. She could not touch any food which her brother had eaten, nor eat any that he had touched. These avoidance practices were carried to the greatest extreme in the Nomoi Islands, where boys were not permitted even to sleep in the same house as their sisters; at the age of seven or eight they moved to the men's house and slept with their fathers. On some of the islands avoidance is also said to have been customary between a mother and her adult son and between a father and his grown daughter.

These avoidance patterns are reported to have largely disappeared, but it is probable that, even though formal avoidance may no longer be practiced, adult brothers and sisters, fathers and daughters, and mothers and sons will still show considerable reserve in their behavior toward one another.

Modesty. Even in aboriginal times the natives were modest about being seen naked by the opposite sex. Men and women had separate bathing places or else wore their clothes while swimming, and sometimes took both precautions. Modesty patterns have been accentuated as a result of missionary influence. Thus young children, who usually wear no clothing, are often dressed by their mothers when they are likely to be seen by missionaries. A contrary influence upon modesty has been exerted by the Japanese.

159. Conduct Considered Especially Offensive

Impoliteness. Since the natives have had considerable contact with Americans and other foreigners for approximately a century, they are well aware of European standards of politeness, and they can be expected to react appropriately to courteous and discourteous behavior in terms of those standards. Moreover, because of the importance of social class distinctions in native culture, they will expect American officers in particular to be courteous to them, and will be especially offended by rudeness from them. Conformity to the elaborate native etiquette (see 158) will not be expected, and should not be attempted, at least until the visitor has thoroughly familiarized himself with it. Especial courtesy, however, should be shown to the chiefs.

Immorality. Although in the last century unmarried native girls were very lax in their sexual behavior (see 153), in consequence of the influence of Christianity they are considerably more strict today. Sexual approaches to a married woman have always been taboo, and would not be tolerated by the natives.

Irreverence. Although most of the taboos of the aboriginal religion have disappeared, it is still considered irreverent to mention the name of a dead person or to trespass on the property of a person recently deceased (see 154). Good Christians consider it irreverent to work on Sunday, and are likely to resent being asked to do so. Any desecration of a church would also lead to strong resentment.

6. ORGANIZED GROUPS

161. Family and Kinship

Family. The native family consists of a man, his wife or wives, and their children. Larger extended family groups do not occur in the Eastern Carolines. To be sure, older married sons or daughters may live at home for a short time after marriage, but they usually soon leave to set up an independent establishment. Generally speaking, each family occupies a singledwelling, although when a man has several wives a separate house is often built for each. In the Truk district, special men's houses were formerly used as dormitories by bachelors. Today many of these have been converted into multiple dwellings, with as many as ten families living under a single roof. The Nomoi Islands (Etal, Lukunor, and Satawan) constitute an exception to the rule that each family occupies a single dwelling. Here each settlement has a large house, where all the men sleep, and a number of smaller huts occupied by the women. Married men visit their wives temporarily at their nats, returning to the men's house to sleep. For sex customs and child rearing see 153.

Domestic Authority. The husband and father is the titular head of the family, but his authority varies considerably in the different islands. On both Kusaie and Ponape his influence is largely determined by his class position and political importance; if the wife is superior in rank to her husband, she holds the dominant position in the family. In the Truk district, where the family generally resides in the village of the wife's parents, the husband is largely subject to the will of his wife's clansmen. More authority, however, is maintained by those older men whose importance in the village of their own clan is so great that they have returned home to take up a position of prominence. Among the Nomoi natives, the wife's position is particularly strong, and her clansmen have almost complete authority over her husband. In polygamous households, the wife of superior status, usually the first wife, directs the activities of the others. Children are subject to the control of their parents and their maternal clansmen. Among themselves, elder siblings assume a position of authority over their juniors.

Adoption. The custom of adopting a child from another family is commonly practiced. A mother whose milk fails may ask another woman of her clan to nurse her baby, and in such cases the foster mother usually adopts the child if it stays with her for very long. Childless couples customarily adopt a child to prevent the dying out of the family. An adopted child becomes a full member of his foster family and assumes a complete new set of kinship ties.

Kinship. The natives ordinarily employ kinship terms in referring to relatives, not in addressing them, since personal names are regularly used in direct address. Children, parents, and grandparents, however, are often addressed by kinship terms, the terms for father and mother being employed in addressing the grandfather and grandmother, respectively. The kinship terms themselves are mainly classificatory, i.e., they apply to large categories of relatives instead of to one or a few kinsmen. To specify a particular relative, the natives use combinations of terms or add qualifying adjectives. A list of the more important kinship terms is given below:

Relative	Kusaie	Ponape	Namuluk	Truk	Puluwat
Father	tama	tsamo	semal	semal	hamei
Grandfather	tama	tsame kalap	semal atalap	semal	hamei
Mother	nina	ine	inai	inei	inei
Grandmother	nina	inen kalap	inai atalap	inei	inei
Sibling	-	ri	pwi	pui	bui
Brother (of a man)	malik	riai	-	-	bui
" (of a woman)	malouk	riai	-	-	bui
Sister (of a man)	malouk	rie	-	-	moneal
" (of a woman)	mataik	rie	-	-	moneal
Child	talek	na	nai	nei	nei
Son	muan	na-potak	nai at	nei ad	-
Daughter	an	na-chiripin	-	nei longin	-
Grandchild	talek	na	nai	nei	lainai
Spouse	-	-	on	puluei	ranamei
Husband	mokul	-	-	-	-
Wife	matan	-	-	-	-

Kin-Groups. The most important social groups based on kinship are the clans and sub-clans (see 162). A more amorphous group is the kindred, which includes collateral

relatives on both sides of the family, whereas clan connections are traced only through women.

Friendships. Friends of the same sex occasionally form an artificial bond, creating a sort of brotherhood which entails a number of reciprocal obligations and privileges. This custom is most commonly practiced in the Truk district, particularly on Fuluwat. Persons who have established such a friendship are expected to help each other in time of need and to behave toward each other in all respects as brothers. Their children are considered to be brother and sister, and marriage between them is forbidden.

162. Clans

Clans and Sub-Clans. Except for the Polynesian atolls of Kapingamarangi and Nukunoro, clan organization prevails throughout the Eastern Carolines. Clans are large kin-groups, united by a distinctive name and by a tradition of descent from a common ancestor. All land was formerly owned by the clans, and its use was supervised by the clan chiefs. A clan often owns plots of land on a number of different islands, and the land of a single island may be owned by a number of different clans. Each settlement constitutes a sub-clan, living on clan property. In the Truk district, each sub-clan is a distinct social and political unit, administered by a chief.

The number of clans and sub-clans is very great. On the six main islands of Truk alone there are more than forty clans, but the number of important clans is relatively small. In recent years clan organization has become progressively less important. Many clan traditions have been forgotten, and the rules of clan exogamy are no longer strictly observed.

Descent. The native clans are universally matrilineal. In other words, membership is everywhere dependent upon descent through females, so that a man cannot pass on his clan affiliation to his own children. There is, to be sure, a way in which children can express their relationship to their father's clan, but they belong to the clan of their mother. Succession to office and the inheritance of property and rank are likewise transmitted through females; a man's heir is either his brother or his sister's son, not his own son. The Germans attempted to alter the native system to one of patrilineal descent, inheritance, and succession, but they were only partially successful, and the Japanese have tended to permit the natives to return to their matrilineal system.

Exogamy and Residence. Native custom forbids marriage with a member of one's own clan as incestuous, and prescribes exogamy, i.e., marriage outside of the clan. When a man marries he usually takes up his residence in the village of his wife's relatives, except on Pulap and Losap, where residence is established in the village of the husband's parents, and on the two Polynesian atolls of Kapingamarangi and Nukunoro, where the couple may settle in the village of the relatives of either the husband or the wife. As the men grow older and acquire more importance in their clan they tend to transfer their residence from the village of the wife's relatives to that of their own clanmen. This is particularly true of the nobility on Kusaie and Pohnpei, who, indeed, may never have moved to the village of the wife's relatives at all. With the growth of small villages and the development of private property in land, native settlements have become less strictly monopolized by the members of a single clan, and the traditional customs of residence are fast disappearing. Exogamy is likewise breaking down under the impact of foreign influences.

Totemism. A number of totems are associated with each clan, but these properly belong to specialized guilds within each clan, e.g., boatbuilders, house builders, fishermen, yaws curers, and dysentery healers. Most commonly the totem is an animal, a fruit, or a vegetable which the members of the guild are not allowed to eat. By virtue of their membership in the guild, the members learn and practice specialized techniques not available to other men of the clan. For the most part, membership in a guild is hereditary, but occasionally other clansmen are permitted to join the guild and spend an apprenticeship period, learning the specialized technique.

Chiefs. In each clan one man holds the position of chief. He is commonly the oldest living male member of the senior family of the clan. In the Truk district the clan chief, although titular head of the entire clan, seldom exercises authority over more than the settlement in which he resides. Each of the constituent sub-clans, or settlements of clan members, has its own chief, usually the oldest male member of the sub-clan, who exercises authority in the local community. Theoretically the clan chief is the manager of the clan's land and the supervisor of his fellow clansmen's activities, but actually he has little authority outside of the settlement in which he lives. Formerly, when disputes between different settlements were common, the most important role of the chief was

that of military leader. Under such conditions it occasionally happened that one settlement would conquer another and the victorious chief would thereby enlarge the area under his control.

On Ponape and Kusaie, where class distinctions had come to assume a position of major importance, the political hierarchy was more highly developed than in the Truk district. On Kusaie there were high chiefs and lesser chiefs, the latter being definitely subordinate to the former. The high chiefs represented the various clans and were owners of the land. They, in turn, were subordinate to a paramount chief, or king, with whom they resided on the island of Lele. The king and the high chiefs ruled a native state embracing the entire island of Kusaie. They conferred on every matter of importance, the king's decisions being final. Since the latter part of the nineteenth century, however, there has been a steady decline in the importance of the king and the high chiefs. Although the traditional reverence for rulers still survives, the native officials have lost most of their power under the German and Japanese administrations.

Ponapean political organization was similar in most respects to that of Kusaie. The rulers of Ponape were paramount chiefs, who, with the assistance of subordinate officials, directed the activities of lesser chiefs. The two categories of chiefs belonged to an aristocratic caste and received social honors as well as obedience from the common people. On Ponape, as on Kusaie, the power and prestige of the native chiefs have progressively diminished in recent years.

Ranking of Clans. Within each district, clans differ considerably in status, depending upon the amount of land which they own and the extent of the authority of their chieftains. In the Truk district the clans are generally ranked in order of their importance on each island. On Kusaie and Ponape, clan rank was integrated with the prevailing system of social classes. The clan of superior rank constituted an aristocracy, to whom the less important clans were obliged to show considerable deference and respect. Much of this hierarchical aspect of clan organization has now disappeared, although in the Ponape district members of the ruling classes still enjoy a considerable amount of prestige.

The names of the clans which have been most important since the turn of the twentieth century in the Truk district, in the order of their importance on each of the six main islands, are as follows:

Dublon: Imo, Fefau, Aubenges, Masala.
Fefan: Mean, Boe, Vida, Saborelong, Leo-ap.
Moen: Sor, Sabunubi, Aubenges, Vida.
Tol: Vida, Saborelong, Adjau, Soufar, Fessilim, Sor.
Udot: Sabels, Soufar, Sabunubi, Aubenges, Vida.
Uman: Fessilion, Sor, Un, Vida.

The most important of the clans of Kusaie are Ton, Penmai, Lisengai, and Neus. On Ponape the clans from which the chiefs were drawn were the following:

District	Paramount Chiefs	Lesser Chiefs
Metalanim	Tip en pan	Tip en nai
U	Sazialap	Tip en luk
Not and Jokej	Sau en kauat	Tip i eap
Kiti	Tip en man	Lipitan

163. Settlements

Farmsteads. Under aboriginal conditions the natives lived on farmsteads. These consisted of sizable plots of land inhabited by one or more families, usually of the same clan. On the high islands, the farmsteads were scattered along river banks or along the shore, each plot extending back into the interior. Occasionally a farmstead was located in a clearing in the forest, but for the most part the interior of the high islands was uninhabited. On the coral atolls a farmstead normally consisted of a cross-section of an islet, extending from the lagoon to the outer reef. On Kusaie and Ponape each farmstead was surrounded typically by a low stone wall, and strangers were obliged to seek permission to enter the farm land.

Each farmstead included a number of dwellings and other buildings. On Ponape and Kusaie the houses were generally located in the center of the farmstead, but on the high islands of Truk they were usually close to the shore or stream bank. On coral islands everywhere the dwellings were strung along the sheltered shore of the lagoon. On the Nomoi Islands and some of the other atolls of the Truk district, where the plots of land were quite extensive, each farmstead had a men's house, usually the largest building of

the group, where most of the men lived, their wives living in separate dwellings located some distance away.

Adjacent to the dwellings were the cook houses, the pigsties and hen houses, and in some instances, somewhat farther away, were isolation huts used during menstruation and childbirth. Banana and coconut trees were planted near the buildings. The gardens lay behind the dwellings, toward the interior of the island. Along the shore of each settlement stood canoe houses, which on some of the islands, particularly in the Truk district, served as bachelors' quarters and men's clubs. Paths led from the dwellings to the gardens and to the shore. In some places there were also paths connecting neighboring farmsteads, but on Ponape farmsteads could be approached only by canoe, and an elaborate network of canals was constructed to facilitate travel from one plot of land to another.

Villages. True villages were unknown to native life before European contact. Settlements consisted, not of houses clustered in villages, but of a number of adjacent farmsteads strung along the shore or a river bank. These groups of farmsteads were generally inhabited by the members of the same clan and were politically united. On Ponape and Kusaie each settlement constituted a fief, which was managed by a feudal lord. In the Truk district the inhabitants of a settlement formed a sub-clan headed by a chief. Only on the Polynesian atolls of Kapingamarangi and Nukuoro did the natives live in village-like communities.

Today the character of settlements has changed. Native houses tend to cluster around the nearest church or preaching station, school, and trading store. Such settlements generally consist of twenty or thirty dwellings and a number of other buildings. As centralization has progressed the natives have moved their homes from their farmsteads to the vicinity of the church and school. As a consequence, farms are often at a considerable distance from the dwellings of those who work on them. True native villages are found today on most of the inhabited islands and islets.

Towns. Under European and Japanese influence, small towns have sprung up in a few places, usually around a mission station or an administrative center. At such places, in addition to native huts, are found dwellings in European and Japanese style, shops, restaurants, schools, churches, and other buildings. In some instances a manufacturing center has become the site for a town with modern wooden buildings. At Metalanim on Ponape, for example, the Japanese have constructed a modern town of miniature size adjacent to the starch factory there. A similar settlement has been built in the Jokaj district of Ponape, where a considerable number of Japanese immigrants have cleared a large area for farming. Of larger and more important towns there are three in the Eastern Carolines, namely, Lele, Colony, and Dublon.

The town of Lele is situated on a small island of the same name just off the northeastern coast of Kusaie. A good road encircles the island of Lele, but the town is confined to the southwestern shore. Along the waterfront on either side of the main street are the mission church and school, the public school, a repair shop, the hospital and police station, a barber shop, and numerous dwellings. Clusters of native houses, lying on either side of the mission property, are used by natives from Malem, Tafwensak, and Utwe when they come to town. On the northeastern coast of the island, a washing place has been built where the native women go to bathe and to launder their clothes.

The town of Colony on Ponape was established in 1887, and was the administrative center of the Eastern Carolines under both Spanish and German rule. Today it is the seat of the Ponape Branch Government, and has a Japanese population of 1,912 (in 1937). The town lies west of the Not Peninsula on the left bank of the Tawenjokola River at its mouth. The principal street, a dirt road about 25 feet wide, runs along the waterfront. On either side of it are a number of tin-roofed buildings, including stores, restaurants, a hotel, warehouses, shops, and dwellings. Many of the buildings have two stories. Inland from the waterfront lie the Catholic church, the public and elementary schools, the hospital, the mission buildings, the court house, a shrine, a clubhouse, and several dwellings. On so-called "Government Hill" are situated the administration buildings of the Ponape Branch Government. The most imposing structure is a four-storied brick building which houses the Ponape Branch Station of the Tropical Industries Institute. Colony has a good water supply (see 121), is supplied with electricity (see 284), and is reported to be equipped with latrines.

The town of Dublon, on the island of the same name in the Truk group, lies north of the small cove opposite Eten Island and extends from the southern base of Mt. Tolowan to the southeastern peninsula of Dublon Island. It is the administrative center for the Truk Branch Government, and has a Japanese population reported to number 1,706 in 1937. The buildings of the town include the offices of the Branch Government, the hospital, the post office, the elementary and public schools, and a cathedral, as well as many wooden buildings and native huts. Dublon is supplied with electricity.

164. Social Classes

Class Distinctions. Social classes were well developed on Kusaie and Ponape, and class distinctions there, though somewhat disintegrated today, are still of some significance. The class structure was closely integrated with the native political organization (see 211) and the system of land tenure (see 341), and found concrete expression in an elaborate etiquette (see 158) and in the development of special language forms (see 142) used in addressing persons of superior rank. The primary distinction is that into a noble or aristocratic class and a common or servile class, the latter being much the more numerous. In the Truk district, class distinctions were not marked. Apart from the ranking of the clan settlements on each island (see 162) and the relatively high status of the chiefly families, there was nothing which corresponded to the elaborate class stratification characteristic of Ponape and Kusaie.

Nobility. The native aristocracy of Ponape and Kusaie consisted of paramount chiefs, lesser chiefs, and the matrilineal kinsmen of these officials. The paramount chiefs were the rulers, directing the lesser chiefs, who, with their clansmen, constituted a sort of feudal nobility living on fiefs tilled by commoners. Nobles were not usually distinguished from commoners by any special clothing or ornament, but it was popularly believed that the aristocrats were in general lighter in color than the common people.

Commoners were required to employ a special language of respect when addressing the nobility, and showed them deference by stooping in their presence. Marriage between the two classes took place only when a noble man took a common woman as one of his secondary wives. Rank among the nobility was clearly reflected in the kava ceremony, at which participants were served in the order of their rank and position, the paramount chiefs first and the lesser chiefs later.

The special privileges enjoyed by the noble class have all but disappeared today. The greatest single influence in breaking down class distinctions has probably been the attitude of the missionaries. Other disintegrating factors of importance have been the changes in the system of land tenure (see 341) and the lessening of the authority of the chiefs (see 211).

Commoners. The common people on Kusaie and Ponape were the tillers of the soil. They lived on fiefs managed by the lesser chiefs, and a considerable portion of their produce went to their overlords as tribute. Despite the marks of deference mentioned above, the barrier preventing marriage with members of the nobility, and the fact that they did not own land, the commoners were apparently well treated by their overlords and relatively contented with their lot.

165. Minorities

Ethnic Minorities. The only important minority groups in the Eastern Carolines are the Okinawa laborers from the Ryukyu Islands and the Koreans (see 143). Neither group poses any serious minority problem, although the Okinawa laborers are required to live by themselves in special barracks and are looked down upon by the Japanese. The attitudes of the natives toward the Japanese and other foreigners have been described elsewhere (see 157).

166. Associations

Societies and Clubs. Secret societies, clubs, and similar organizations are unknown among the native population. There is a club for Japanese in the town of Colony, but its functions, activities and membership are not reported. There is also a clubhouse for the workers of the Nanyo Kohatsu Kaisha at Malem on Kusaie.

Young People's Associations. The Japanese Government has encouraged the formation of young men's and young women's associations in villages and towns, with the objective of fostering physical and moral education. The leaders are mainly public school teachers, assisted by police and administrative officials and by interested Japanese civilians. Such organizations ordinarily hold monthly meetings with lectures and discussions, followed by athletic sports. The members of young people's associations likewise often provide voluntary labor on community undertakings. On Kusaie the young men's association meets once a week in the evening to listen to lectures and to play games. They have organized a band, which plays western music. It is not a strong organization and is popularly attended only shortly prior to November third, the annual athletic day. A girls' association was established on Kusaie in 1937, and a few meetings were held each month.

Not many of the native girls, however, could be persuaded to attend the meetings.

Educational Associations. There are two associations devoted to the promotion of public school education and to the study of educational problems (see 262).

Religious Associations. Mission and church organizations are described under 154.

Industrial Guilds. Mutual credit associations, which the Japanese call mujinko, and cooperatives or "industrial guilds" are described under 353. For the totemic guilds among native craftsmen see 162.

2. ADMINISTRATION AND PUBLIC FACILITIES

21. GOVERNMENT

211. Native Political Institutions

Political Organization of Kusaie. The island of Kusaie was organized politically as a single native state under a paramount chief or "king" (tokesau), assisted by a number of titled chiefs (urosae). When Europeans first visited Kusaie there were seven of these high chiefs, but by 1910 their number had been reduced to one. The titled chiefs and the king lived on the small island of Lale and conferred together on all matters of importance. In the olden days the successor to the throne was the deceased king's younger brother or his sister's son. Within historical times, however, the native pattern of succession has seldom been strictly followed. Far more important than native custom has been the influence of the Christian missionaries and the native church.

The land of Kusaie was entirely owned by the titled chiefs, and was parceled out under the direction of the king to lesser chiefs or feudal lords (met-suksuk) who managed the land allotted to them. Each titled chief was responsible for directing the activities of a certain number of the lesser chiefs, the latter serving as officials of the titled chiefs whom they represented. The common people fished and tilled the land under the management of their feudal lords. As tenants, they were required to turn over a considerable portion of their produce to the lord. Part of this went to the king, who distributed it among the titled chiefs; the remainder was distributed by the lord among his relatives who lived in the settlement with him.

Formerly the king, the titled chiefs, and the lords, together with their close relatives, formed an upper class and were accorded numerous courtesies by the lesser folk (see 158). These class distinctions and the elaborate etiquette supporting them, however, had disappeared as early as 1884. Moreover, the political structure of the Kusaiean state itself rapidly disintegrated after contact with European civilization. Especially important in fostering this decline was the influence of the Christian missionaries, who strove to introduce democratic ideals and to support, at the same time, those political figures who were congenial to the missionary effort. A powerful blow was dealt to the ancient form of government in 1869, when the people were provided with an advisory body of seven men picked from among the commoners. These seven counsellors sat once a month with the king and the titled chiefs to deliberate on civil affairs and to enact laws. Under the German and Japanese administrations some semblance of the old political structure has been retained. The king has remained at the head of the political organization, and he has been made a village chief by the Japanese. However, his position has gradually become less and less important as the native governmental machinery has broken down under the impact of higher civilization.

Political Organization of Ponape. Under aboriginal conditions, the political structure of Ponape was closely integrated with the native system of land tenure and the prevalent form of social organization and was very complex. The island was divided into five independent districts, Metalanim, U, Joka, Not, and Kiti. The political boundaries cut the island like a pie, so that each district included sections of the forests and mountains, the foreland, and the shore. The residents of a district belonged to different matrilineal clans, and, generally speaking, each of the clans of Ponape was represented in each district. There was also a sharp class differentiation. At the bottom were the commoners who did all the manual labor and tilled the soil, and at the top were the aristocrats who owned the land and managed its use. Within each district the members of two particular clans always constituted the aristocracy. In the Metalanim district, for example, the upper class was composed of the members of the Tip en pan and Tip en nai clans, while the lower class comprised the members of all the other clans represented in the district. The prestige enjoyed by the two dominant clans in Metalanim, however, did not extend to members of the same clans living in other districts; there they were commoners, and the aristocracy were members of quite different pairs of clans.

Each political district was administered by a paramount chief (nanamariki), who was drawn from among the members of the first of the aristocratic clans. He was assisted by ten or eleven titled chiefs, also drawn from this clan, who were always addressed by their titles and never by name. The paramount chief, the titled chiefs, and their clansmen in that district constituted the royalty (tsopeiti). The titled chiefs performed various administrative functions under the direction of the paramount chief. They were graded in rank, and on ceremonial occasions each titled chief received the bowl of kava in order according to his rank. This hierarchy of titled chiefs was particularly important in determining the order of succession. When the paramount chief died, the titled chief in the highest position (uachai) became the successor, and each of the others moved up one rank. The position at the bottom of the ladder was filled from among the dead chief's close relatives, either his younger brother, his sister's son, or, more recently, his son if his wife was of royal blood.

The land in each district was owned by the royal clan and administered by the paramount chief with the assistance of the titled chiefs. One part of the land was set aside as the personal domain of the royal clansmen. The rest of the district was split up into a number of fiefs (jap), each of which was managed by a feudal lord (jaumaj). A fief consisted of a local settlement divided into farmsteads or plots (palienjap) which were tilled by the common people. The settlement in which the paramount chief lived was also managed by a lord, who was given a special title (nanekin) and who held a position of particular importance. He acted as a liaison between the lords and the paramount chief, attempting to iron out whatever difficulties arose between them. The lords were always drawn from the second of the two aristocratic clans of the district, and they, together with their clansmen, were classed as nobles (seriso).

In return for the use of the land, the commoners turned over a large proportion of their garden produce and the fish they caught to their overlords. At least twice a year each lord sent an accumulation of these foodstuffs as tribute to his paramount chief. The presentation was made in ceremonial fashion accompanied by a feast. Occasionally, too, the paramount chief visited the various fiefs in his district and collected tribute. The produce which he obtained he distributed among the members of his clan.

The royal and noble clans of each district formed a superordinate social class, which was regarded as superior in all respects to the common people. The aristocracy were thought to be lighter in color than the commoners, perhaps because they did little work in the sun, and were entitled to special forms of respect and deference (see 158). Inter-marriage between the aristocracy and the common people rarely occurred, although an occasional aristocrat might take a common woman as his second or third wife. Since marriage within the clan was also forbidden, members of the royalty were forced to obtain their wives from outside the district or from among the nobility. In the early days the former alternative was prevented by native law, which forbade royal personages to enter another district, so that marriage with members of the nobility was the only solution. Contact with European civilization, however, weakened the entire political structure, and the old laws lost their effectiveness. District boundaries were crossed by members of the royal clans, and inter-marriage with the royalty of other districts became frequent.

The native political organization of Mokil, Ngatik, and Pingelap was essentially the same as that of Ponape, each of these atolls forming a separate administrative district. These three districts and the five on Ponape were retained as local political units by both the German and the Japanese administrations, a chief being placed in charge of each. Under the Japanese system, village headmen, corresponding to the old feudal lords or managers, were placed under the eight village chiefs. However, one very fundamental change in the native system was introduced by the German administration and continued by the Japanese government. This was the curtailment of the power of the chiefs by the distribution of land among the common people as private property (see 132 and 341). Under the Japanese administration, moreover, chiefs were often selected because of their willingness to conform to the Japanese notions of how the district should be administered, rather than because they were next in the line of succession. This led to a certain amount of dissension and conflict, which the Japanese partially alleviated by conferring informally with the aggrieved persons and asking their advice about administrative matters.

Political Organization of Nukuoro and Kapingamarangi. On the Polynesian islands of Nukuoro and Kapingamarangi the native political structure was markedly different from that of the rest of the Eastern Carolines. Each of these atolls was headed by a king whose position was more honorary than authoritative. Side by side with the secular ruler was a high priest, who was often very influential in civil affairs. Most of the important decisions, however, were made by the elderly men of the tribe. Since the land was owned by individual families, rather than by the king, there was no feudal system and no tribute. The position of the secular chief was hereditary from father to oldest child without reference to sex, but the king could choose one of his younger children as his successor if he so desired.

Political Organization of Truk and Neighboring Islands. In the Truk district the natives were divided into a large number of clans, each of which owned plots of land on a number of different islands, where the clansmen lived in scattered settlements. Each of these settlements of clan members had as its political head a chief who was usually the oldest living member of the sub-clan. In theory, the chief of the oldest settlement of clan members was the head of the entire clan, and the chiefs of all the other settlements of that clan were subordinate to him, but in fact the clan chief's authority seldom extended beyond the limits of the settlement in which he resided. Within each settlement the chief exercised general supervision over the land of the sub-clan and initiated common enterprises such as work in the fields, fishing, and the waging of war. He also had some limited judicial authority. In general, however, his power was not great. Village and clan members were required to pay him tribute in the form of food several

times a year. On his death a chief was succeeded by his eldest surviving brother or, failing brothers, by his eldest sister's eldest son.

In 1903 there were 59 independent chiefs on the six main islands of Truk, distributed as follows: ten on Dublon, ten on Fefan, thirteen on Moen, fourteen on Tol, six on Udot, and six on Uman. On each island the chiefs were ranked in order of their power and prestige. The relative rank of a chief depended largely upon the number of clansmen over whom he had control and the amount of land which he managed, rather than upon any generalized status ascribed to the clan to which he belonged. Thus the ranking chiefs on different islands frequently belong to different clans (see 162).

Since early in the German administration, there have been continuous attempts to introduce a more centralized authority in the Truk district. The six islands of Truk were made into six local administrative districts, each in charge of a district chief. The chiefs of lower rank were given positions of lesser importance, e.g., as village headmen under the Japanese. Although the district chief is given authority over all the headmen in his district, his power is in reality nominal, and the settlements remain nearly as independent under the present system of administration as they were under aboriginal conditions.

On Puluwat and Pulusuk the native form of government was very similar to that on the islands of Truk proper. Each village was ruled by an independent chieftain, and there was no central clan or district political organization. On the Nomoi Islands, however, there were seven major districts, each ruled by the chief of the strongest clan in that district. Clan and district chiefs had little actual political power, but they commanded considerable respect and were always addressed in polite terms. No one was permitted to stand in the presence of a chief or to touch his body, in particular his head. The primary function of chiefs was to impose prohibitions on the use of food. During the breadfruit season, for example, they ordinarily placed a taboo on the use of coconuts as food.

212. Colonial Policy

Spanish Colonial Policy. The colonial policy of Spain in the Caroline Islands was directed primarily toward maintaining a semblance of authoritative government at a few scattered administrative centers barely sufficient to uphold her claim to sovereignty against nations with imperialistic ambitions in the Pacific. The proselyting efforts of Catholic missionaries were supported, but only half-hearted attempts were made at economic exploitation, and the islands continued to be a financial burden until they were sold to Germany in 1899.

German Colonial Policy. German policy with respect to the islands was directed first of all to complete pacification and, when this was accomplished, to economic exploitation. Every encouragement was given to the development of trade and to the expansion of production, especially of copra. To the Germans the strategic value of the islands in a military sense was always of definitely subsidiary importance, as evidenced by the insignificant development of naval and military installations.

Mandate Policy of the League of Nations. The colonial policy of the League of Nations, expressed in the mandate system, represented a compromise between the conservatives, who favored outright imperialistic annexation of the territories of the central powers, and the liberals, who wished them to be directly administered by the League. Several classes of mandates were devised, depending upon the territory under consideration, the former German Micronesian islands being given to Japan under a Class C mandate.

The following charter was laid down by the League of Nations with respect to the manner in which the islands mandated to Japan should be governed:

Article 1. The islands over which a mandate is conferred upon his Majesty, the Emperor of Japan (hereinafter called the Mandatory), comprise all the former German islands situated in the Pacific Ocean and lying north of the Equator.

Article 2. The Mandatory shall have full power of administration and legislation over the territory subject to the present Mandate as an integral portion of the Empire of Japan, and may apply the laws of the Empire of Japan to the territory, subject to such local modifications as circumstances may require. The Mandatory shall promote to the utmost the material and moral well-being and the social progress of the inhabitants of the territory subject to the present Mandate.

Article 3. The Mandatory shall see that the slave trade is prohibited and that no forced labor is permitted, except for essential public works and services, and then only for adequate remuneration.

The Mandatory shall see that the traffic in arms and ammunition is controlled

in accordance with principles analogous to those laid down in the Convention relating to the control of the arms traffic, signed on September 10, 1919, or in any convention amending same. The supply of intoxicating spirits and beverages to the natives shall be prohibited.

Article 4. The military training of the natives, otherwise than for purposes of internal police and the local defense of the territory shall be prohibited. Furthermore, no military or naval bases shall be established, or fortifications erected in the territory.

Article 5. Subject to the provisions of any local law for the maintenance of public order and public morals, the Mandatory shall insure in the territory freedom of conscience and the free exercise of all forms of worship, and shall allow all missionaries, nationals of any State Member of the League of Nations, to enter into, travel, and reside in the territory for the purpose of prosecuting their calling.

Article 6. The Mandatory shall make to the Council of the League of Nations an annual report to the satisfaction of the Council, containing full information with regard to the territory, and indicating the measures taken to carry out the obligations assumed under Articles 2, 3, 4, and 5.

Article 7. The consent of the Council of the League of Nations is required for any modification of the terms of the present Mandate.

The Mandatory agrees that, if any dispute whatever should arise between the Mandatory and another member of the League of Nations relating to the interpretation or the application of the provisions of the Mandate, such dispute, if it cannot be settled by negotiation, shall be submitted to the Permanent Court of International Justice provided for by Article 14 of the Covenant of the League of Nations.

The Permanent Mandates Committee of the League sought to compel the Japanese to abide by the above articles by sending questionnaires asking clarification of ambiguous statements made in the annual reports. In 1924, for example, questions were asked with respect to the following matters: encouragement of the study of native languages, authority of native village officials, exercise of power by native tribal chiefs, participation of the natives in administration, native assemblies, traffic in women and children, labor conditions in the sugar industry, training of native teachers, moral standard of textbooks used in the public schools, treatment of frambosia, native land system, amount spent for the direct benefit of the natives, labor conscription, and sale of liquor to natives. These questionnaires resulted in more complete reports to the League but otherwise effected little if any change in Japanese policy.

The sharpest controversy between the Permanent Mandates Commission and the Japanese Government occurred in 1932, when an accredited representative of the latter was questioned by the Commission with respect to reports that submarine bases were being built in the area. These reports were denied flatly, and apparently mendaciously, as baseless rumors.

When Japan announced that she would withdraw from the League of Nations, the question of the sovereignty of the mandated islands arose. Many jurists were of the opinion that the League, and not Japan, had final sovereignty over the islands and that if Japan withdrew from the League the latter could transfer the mandate to another nation. The League, however, was in too weak a position to attempt such a step, and in withdrawing from the League, Japan took the islands with her without a struggle.

At no time was the League of Nations able to implement its policy except through mobilizing world public opinion. Japan, in the main, followed her own policy and merely kept silent or resorted to subterfuge whenever it conflicted with that of the League.

Japanese Colonial Policy. Except on the question of sovereignty, the Japanese colonial policy has officially been identical with that of the League of Nations. Actually, however, it has been quite different. Insofar as it can be inferred from events and from administrative acts, the colonial policy of the Japanese Government with respect to the mandated islands can be summarized under four headings, as follows: (1) to develop the islands in an economic sense; (2) to prepare them as a place to which Japanese nationals can migrate as colonists, thus relieving population pressure in Japan itself; (3) to Japanize the natives as rapidly as possible through education and propaganda and by promoting cultural change; and (4) to establish offensive and defensive military, naval, and air bases in the islands in preparation for a war of aggrandizement in the Pacific.

213. Central Administrative Organization

Development of the South Seas Government. When the administration of the mandated islands was transferred, in 1922, from the jurisdiction of the Minister of the Navy to that of the Prime Minister (see 132), the former Civil Administration Department was superseded by a strictly civilian organization, the South Seas Government. This organization, which has its headquarters at Koror in Palau, is often called, even in official sources, the "South Seas Bureau." However, "South Seas Government" is not only a more accurate translation of the Japanese name, Nanyo Cho, but its use serves to avoid confusion with the South Seas Bureau proper in Tokyo, which handles the affairs of the South Seas Government in Japan and maintains liaison with the various ministries of the Imperial Government.

As originally constituted, the South Seas Government consisted of the following: a Governor; his Secretariat, concerned primarily with matters requiring official secrecy and those relating to statistics; a Domestic Affairs Section, supervising local administration and police affairs; a Financial Affairs Section, handling budgets, accounts, and public works; and a Colonial Section, dealing with industries and communications. Under the central South Seas Government a Branch Government was set up for each of the six administrative districts, those of Saipan, Palau, Yap, Truk, Ponape, and Jaluit.

Since its establishment the South Seas Government has undergone frequent organizational changes. The most thoroughgoing of these occurred in December, 1924, when the Government was transferred from the jurisdiction of the Prime Minister to that of the Ministry of Overseas Affairs, which is the colonial rather than the foreign ministry of Japan. Reorganization increased the number of sections from three to five, as follows: Communications, Colonization, Police Affairs, Financial Affairs, and Miscellaneous (or General) Affairs. In addition to the Branch Governments, the following institutions were affiliated with the South Seas Government: a meteorological observatory, seven post offices, seven hospitals, a mining station, an industrial laboratory, courts of justice, seventeen public schools, three primary schools, and two subsidiary or branch primary schools. The following institutions were subsequently added: a Civil Engineering Station at Saipan and a Products Museum at Koror in 1929 and a Marine Products Experiment Station at Koror in 1931.

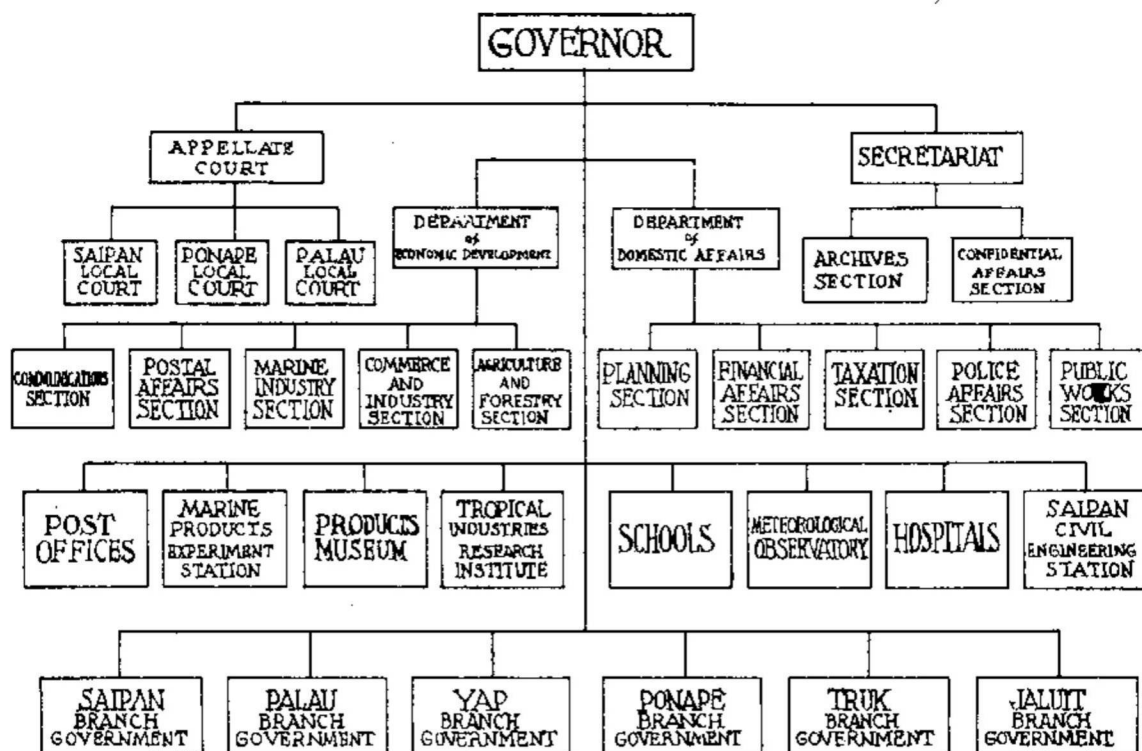
In 1935 the Secretariat was subdivided into two sections, a Confidential Affairs Section and an Archives Section, and to these was added an Investigation Section in 1937. The various sections of the South Seas Government likewise underwent frequent revision, and in 1937 they were grouped under two newly established departments, namely, a Department of Domestic Affairs and a Department of Economic Development (or Colonization).

Greater East Asia Ministry. On November 1, 1942, the Nanyo Cho was transferred from the jurisdiction of the Ministry of Overseas Affairs to that of the newly established Greater East Asia Ministry, which was organized to administer all the conquered regions of Asia and the Pacific not under actual military government. Formed as an emergency organization to handle all political, economic, and cultural affairs in the regions under its administration, the new ministry replaced a number of earlier organizations, assumed their functions, and, for the most part, absorbed their personnel. Among the organizations it superseded were the China Affairs Board (Board of Asiatic Affairs), the Manchukuo Affairs Board, the Colonization Bureau, the Northern Regions Development and Southern Regions Development Bureaus of the Department of Overseas Affairs, and the East Asia Bureau of the Foreign Ministry.

The central organization of the Greater East Asia Ministry, in Tokyo, consists of a Minister, directly responsible to the Prime Minister; a Vice Minister; six Councillors; a Secretariat with four sections, those of Archives, Personnel, Accounts, and Communications; a Bureau of General Affairs; a Manchukuo Bureau; a China Bureau; and a South Seas Bureau. The Minister in 1942 was Kazuo Aoki, who was born in 1889 and was graduated from the School of Law at the Tokyo Imperial University in 1926. He served as Secretary of the Japanese Embassy in London from 1917 to 1921, and thereafter until 1936 held various responsible positions in the Finance Ministry in Tokyo. Between 1936 and 1942 he was successively Vice Director of the Manchurian Affairs Board, Vice President and then President of the Cabinet Planning Board, Finance Minister of Japan, Supreme Advisor to the Nanking Government, and Minister of State without Portfolio. The Vice Minister, Kumaichi Yamamoto, had previously been Vice Minister of the Foreign Office. The Councillors function as individuals, making separate special investigations and acting as coordinating agents between the Ministry and its field offices.

The South Seas Bureau in the Greater East Asia Ministry was given jurisdiction over all general affairs connected with the southern regions, including Thailand and Indo-China. Its Chief in 1942 was Itaro Mizuno, who was born in 1896 and graduated in French law from Tokyo Imperial University in 1920; after holding diplomatic posts in Belgium and

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France, he entered the Commercial Affairs Bureau of the Foreign Ministry, where he became section chief and finally Director. The South Seas Bureau, when organized, had six sections, namely, those of General Affairs, Administration, Culture, Economics, Production, and Communications. The relationship of the present South Seas Bureau to the South Seas Government is not known in explicit detail, but it is presumably the same as that of its predecessor in Tokyo, which served as a liaison with the various ministries and handled all matters pertaining to the Nanyo Cho which had to be acted upon in Tokyo and did not require the personal attention of the Minister.

Organization of the South Seas Government. As a result of successive reorganizations, the Nanyo Cho consisted, in 1941, of the Governor, the Secretariat, the Department of Domestic Affairs, the Department of Economic Development (or Colonization), four Courts of Justice, a number of special bureaus and offices, and six Branch Governments. The number of officials reported to be employed by the Nanyo Cho in 1939 is given in the table below, classified according to department or division and status. The actual number of persons in service, however, is somewhat less, since some men, particularly those of high rank, occupy more than one official position.

	Chokunin	Sonin	Hannin	Others	Total
Governor	1	-	-	-	1
Secretariat	-	13	13	40	66
Domestic Affairs Department	-	10	49	48	107
Economic Development Department	-	17	60	52	129
Courts of Justice	-	11	7	5	23
Post Offices	-	1	104	124	229
Hospitals	-	9	30	51	90
Tropical Industries Institute	-	6	12	17	35
Products Museum	-	1	5	4	10
Marine Products Experiment Station	-	2	6	13	21
Saipan Engineering Station	-	1	5	11	17
Meteorological Observatories	-	1	19	35	55
Schools	-	2	231	51	284
Branch Governments	-	7	119	240	366
Totals	1	81	660	691	1433

The terms for rank in the above table require some definition. In the Japanese civil-service system there are four major classes of officials, namely, Shinnin, Chokunin, Sonin, and Hannin in order of rank. Shinnin officials are installed by the Emperor; they are few in number and confined to the Japanese Imperial Government proper. Chokunin officials are appointed by imperial edict. They are classified into a first and a second grade, with a fixed salary differential. The salaries differ somewhat with locality, but the maximum is ¥ 5,350 and the minimum ¥ 4,650 per year. Officials of Sonin rank are appointed by the Cabinet from among graduates of the imperial universities who possess the Ph.D. degree. They fall into two categories, jimukan and experts. Only those who have graduated from an imperial law school qualify as jimukan, and only officials of this category are entitled to hold executive positions such as that of Branch Governor. Independently of these categories, officials of Sonin rank are classified into six grades (numbered some 3 to 8), which carry fixed salaries ranging from ¥ 4,050 down to ¥ 1,130 a year. Officials of Hannin rank are appointed by the ministry under which they serve, although in outlying regions such as the South Seas the appointive power is often delegated to a Governor or other high official. Hannin officials fall into four grades, each of which is subdivided into three classes, and they receive salaries ranging from a maximum of ¥ 2,160 to a minimum of ¥ 480 per annum.

Positions in the civil-service hierarchy carry with them not only precedence but power. A Sonin official, for example, must show deference to and obey the orders of an official of Chokunin rank, and in turn is empowered to command and exact respect from officials of Hannin rank. Within a single named rank, moreover, officials of a higher numbered grade (or class) enjoy the same authority over those with junior appointments. Unless due weight is given to these rigidly observed relationships of dominance and submission, the true nature of the Japanese civil service hierarchy cannot be properly grasped. In some instances temporary rank is conferred upon an official, carrying with it all the prerogatives of the status but without the title. Thus a man who holds a responsible position may be treated as though he were Sonin, although his actual rank is Hannin.

It should be noted that nearly half of the employees of the South Seas Government do not hold any of the above-mentioned ranks, and are therefore inferior in status to Hannin officials. Such persons include both Japanese and natives. Important among the Japanese officials without rank are policemen, clerical personnel, and service employees. The native officials who fall into this category include village chiefs and headmen, native policemen, native medical practitioners, midwives, and service employees. With few

exceptions, the positions mentioned below are those filled with persons of Hannin rank and above.

An important integrative factor in the organizational structure of the Nanyo Cho does not become apparent from the formally established relationships between offices, institutions, and posts, as represented, for example, in organizational charts. In many instances coordination is primarily achieved through the appointment of a single official to two or more positions. Thus, for example, the integration of the activities of the Confidential Affairs and Archives Sections of the Secretariat is assured by the fact that one man (Kunio Mitsuyasu in 1941) is chief of both sections. Coordination of the Products Museum with the Commerce and Industry Section of the Department of Economic Development is similarly achieved by a common head (Kotaro Sakakida in 1941). In like fashion a close relationship between the Saipan Civil Engineering Station and the Public Works Section of the Department of Domestic Affairs is assured by making a member of the Section (Masao Yasuda in 1941) the head of the Station. The same system of integration also operates within the Branch Governments. It is the usual practice, for example, to appoint two or three members of the staff of the district hospital to positions in the Branch Government itself.

Integration and consistency in administration are also achieved through the established practice of transferring officials frequently from one post to another and from one district to another within the mandated area. In this way administrators are made familiar with a wide variety of problems in different regions. As a consequence, a military occupation of the Japanese islands in Micronesia would probably find relatively few officials still holding the positions attributed to them below. Most of the same personnel, however, would doubtless be found occupying other posts in the area.

Governor. The Governor (less properly called Director) of the South Seas Government in 1940 and 1941 was Shunsuke Kondo (Chokunin), who had been Governor of Kumamoto Prefecture in 1939. On November 5, 1943, it was announced that the former Commander-in-Chief of the China fleet, Vice Admiral Ishiro Hosokawa, had been appointed Governor. Hosokawa was born in 1888, and graduated from the Naval Academy in 1908 and from the Naval Staff College in 1920. He had been captain of the battleships Chokai and Mutsu, section chief in the Naval Supplies Bureau, and Director of the Torpedo School and the Naval Communications School, and, since the outbreak of the war, had held important posts at sea.

In 1941, though primarily responsible to the Minister of Overseas Affairs, especially in matters of personnel, the Governor of the Nanyo Cho was responsible to the Minister of State for Communications in respect to matters connected with posts, telegraph, and telephone, and to the Minister of State for Agriculture and Commerce in regard to matters concerned with weights and measures. Since 1942, the Governor has presumably been responsible solely to the Minister of Greater East Asia.

The Governor is empowered, either ex officio or by special authorization, to issue Government orders carrying penalties for infraction of penal servitude with hard labor or imprisonment for a period not to exceed one year, or police detention, or fines of not more than 200 yen. In cases of emergency he may also issue orders with heavier penal clauses, but he must ask for imperial sanction immediately after their issuance, and, if imperial consent is withheld, must announce the invalidity of the orders at issue for the future. Although theoretically clothed with such powers, the Governor has seldom exercised them, for in practice all important administrative decisions have been initiated by imperial ordinances.

Secretariat. The high ranking officials of the Secretariat, together with the Governor, constitute an executive board on matters of policy. In 1940, the following officials of Sonin rank were members of the Secretariat: Kunio Mitsuyasu, Teiichi Domoto (treated as Chokunin), Onji Kanai, Wataru Nakamura, Sanshio Asahara, Kuniyasu Suzugi, Shigekazu Fujimoto, Hatsu Kawano, Isao Araki, Kotaro Sakakida, Kaneto Tsukahara, Yukio Tefuki, and Teunekazu Sugiura. In 1941, the membership of the Secretariat was reduced to three officials of Sonin rank: Onji Kanai, Wataru Nakamura, and Kunio Mitsuyasu.

The Secretariat consisted, in 1940, of three subdivisions: a Confidential Affairs Section, an Archives Section, and an Investigation (Research) Section. Each section was administered by a chief of Sonin rank, appointed by the Governor. In 1941 the Investigation Section was abolished, and its functions were taken over by the newly formed Planning Section of the Department of Domestic Affairs.

The Confidential Affairs Section was directed in 1941 by Kunio Mitsuyasu (Sonin), the section chief. Assisting the chief in 1939 were three clerks of Hannin rank, Sukezo Sasaki, Yoshitaka Nakajima, and Saburo Okazawa. The functions of this section were the following:

Matters relating to the Emperor's portrait,
Confidential matters.

Status, appointment, and dismissal of officials.
Conferring of court ranks, decorations, and rewards.
Pensions (exclusive of police personnel).
Ceremonies and rites.
Custody of official seals.
Other matters assigned by the Governor.

The Archives Section was, in 1941, also under the direction of Kunio Mitsuyasu. Assisting the chief in the affairs of this section in 1939 were two clerks of Hannin rank, Negatsugi Nakamata and Taiseiki Aoki, and one part-time interpreter of Hannin rank, Orino-suke Kobayashi. The functions of this section were as follows:

Receipt, dispatch, compilation, and preservation of documents.
Examination and distribution of documents.
Affairs relating to books and other publications.
Translation.
Proclamations.
Publication of the Official Gazette.
Matters not in charge of other sections.

Department of Domestic Affairs. The Chief of the Department of Domestic Affairs in 1940 and 1941 was Teiichi Domoto (Sonin rank, treated as Chokunin). In 1940 Domoto was also head of the Investigation Section of the Secretariat, and, in 1941, when this section was abolished and its functions absorbed by the newly formed Planning Section of the Department of Domestic Affairs, he became head of the latter section as well as of the Department. Under the Chief, who is appointed by the Governor and acts under the latter's immediate supervision, the Department is organized into five sections. In 1940 these were the Local Affairs Section, the Financial Affairs Section, the Taxation Section, the Police Affairs Section, and the Public Works Section. In 1941 the Local Affairs Section disappeared and a Planning Section was added, presumably assuming the functions of the former. Each section is administered by a chief, who is responsible to the department head for carrying out the affairs placed under his control.

The Planning Section, formed in 1941 with the Chief of the Department as section head, assumed the functions previously assigned to the Investigation Section of the Secretariat. These were:

Collection, examination, and compilation of all data resulting from investigations.
Collection and coordination of all information.
Exchange, presentation, and publicity of all data and information.
Compilation of statistics and reports.
Census.
Foreigners, issuance of passports, and related matters.
Preparation of annual reports on the administration of the South Sea Islands.
Schemes for the control and utilization of natural resources.
Other matters subject to the special order of the Governor.

The following officials of Sonin rank devoted part of their time to the work of this section:

Isao Araki, also head of the Postal Affairs Section of the Department of Economic Development.

Onji Kanai, liaison representative of the Overseas Ministry, who was also a member of the Secretariat and part-time assistant in the Department of Economic Development.

Hatsuo Kawano, also head of the Section of Communications of the Department of Economic Development and head of the Palau Airport.

Wataru Nakamura, liaison representative of the Overseas Ministry, who also served as a member of the Secretariat and as part-time assistant with the Postal Affairs Section of the Department of Economic Development.

Haruhiko Tsuneyoshi, also head of the Marine Industry Section of the Department of Economic Development.

The Planning Section presumably also absorbed the former Local Affairs Section of the Department of Domestic Affairs. This section was headed in 1940 by Sanshio Asahara (Sonin), who was also a member of the Secretariat, and in 1939 it included six clerks of Hannin rank, Sukekasa Fukugawa, Shigeru Hayashi, Hiroshi Handa, Teichiro Hasuka, Katsua Yuasa, and Toshiichi Yagi, and a school inspector, Seikichi Takahashi (Hannin). The functions of the Local Affairs Section had been the following:

Shrines.
Local Administration.

Education.
Religion.
Social welfare work.
Military matters.
Meteorological observation.
Land survey and registration.
Investigation of native customs and usages.
Office routine of the Department of Domestic Affairs.

The Financial Affairs Section was administered in 1941 by Kiyomatsu Aoki (Sonin), and the assistant chief was Eiichiro Katsukiri (Sonin). In 1939 the affairs of this section were handled by ten clerks of Hannin rank, Mikata Narimoto, Kiyomatsu Aoki, Takejiro Matsuo, Shokichi Kato, Shigeo Watanebe, Kyoji Ishida, Ichiryo Iwahori, Hiromi Tafuki, Takeo Nojima, and Hirosaburo Hishimura. The last mentioned clerk was employed only on part time by the Nanyo Cho; his principal position was that of clerk at the Bureau of Lighthouses in the Japanese Imperial Government. The functions of the Financial Affairs Section were as follows:

Budget, settled accounts, and fiscal administration.
Revenues other than taxes.
Cash payments and receipts.
Government cashiers.
Property in government custody or trust.
Property accounts.
Supervision of accounts.
Office buildings and official residences.
Administration and disposition of state property.
Order and discipline in the Nanyo Cho.

The Taxation Section was administered in 1941 by Kojiro Okawa (Sonin). He was assisted on part time by Kotaro Sakakida (Sonin), who was also a member of the Postal Affairs Section of the Department of Economic Development, and Kunio Mitsuyasu (Sonin). In 1939 the staff of the Taxation Section included six clerks of Hannin rank, Etsushi Nakao, Suro Hagino, Seigo Hagiwara, Masayoshi Yoshino, Toyoshige Fujiwara, and Kiichi Kunimi, and five assistant experts of Hannin rank, Masayuki Keshiwagi, Utao Tarumi, Tadafumi Akaishi, Masanari Ishiwara, and Suyeo Marshige. The functions assigned to this section were the following:

Tax administration.
Determination of taxes.
Collection of revenue.
Tax accounts.

The Police Affairs Section was headed in 1941 by Police Inspector Shigeru Hongo (Sonin). This section included the following additional personnel in 1939:

Tamotsu Fujii (Sonin), head of the Nanyo Cho hospitals.
Fumio Nakamura (Hannin), pharmacist and assistant to the head of the hospitals.
Mamoru Nakajima (Hannin), police lieutenant.
Takeshi Akizawa (Hannin), police lieutenant on part time, also serving as police lieutenant in the Kanakawa prefecture.
Juokeiko Wakatabi (Hannin), police lieutenant.
Osamu Himeno (Hannin), police lieutenant.
Yenki Terashima (Hannin), assistant police lieutenant.
Kazuma Toyoda (Hannin), assistant police lieutenant.
Takeshio Umayara (Hannin), assistant expert.
Oribosuke Kobayashi (Hannin), interpreter on part time, working also for the Secretariat.

The functions of the Police Affairs Section were the following:

Police personnel, their duties, promotions, pensions, and salaries.
Passport control.
Execution of sentences.
Fire protection.
Registration of residents and natives.
Harbor administration and quarantine.
Sanitation and medical matters.

The Chief of the Public Works Section in 1940 and 1941 was Yukio Tafuki (Sonin). In 1940 he was also head of the Saipan Civil Engineering Station, but in 1941 he was replaced in that position by Masao Yasuda (Sonin). Assisting Tafuki were the following officials of Sonin rank:

Tamotsu Fujii, surgeon, also head of the Palau Hospital.

Ichio Sakurai, part-time expert, also head of the Agriculture and Forestry Section of the Department of Economic Development.

Masao Yasuda, expert, also head of the Saipan Civil Engineering Station.

Yasaburo Yamashita and Susumu Ishisuzuri, experts.

The staff of the Public Works Section also included, in 1939, three clerks of Hannin rank, Katsutaro Mukai, Shirika Hanari and Nagamasa Nakayama, and nine assistant experts of Hannin rank, Kihei Okada, Rishiro Tamura, Kaku Oigawa, Riichi Omon, Masayuki Kamisaki, Senji Yamaguchi, Takeo Ishibashi, Hikoichi Hagino, and Hitoshi Fushimi. The functions assigned to the Public Works Section were the following:

Civil engineering and repair work.
Harbors, railways, rivers, embankments, roads, bridges, and channels.
Surveys.
Town planning.
Reclamation of the foreshore.
Construction and repair of tools and machinery.
Industrial plants.

Department of Economic Development. The head of the Department of Economic Development (or Colonization) is appointed by the Governor and acts under the latter's immediate supervision. The position was held in 1941 by Takasuke Nakamura (Sonin), who was assisted on part time by Onji Kanai (Sonin), by Tatsunari Watanabe (Sonin), and by Hironae Yoshida (Sonin), member of the Bureau of Aviation in the Japanese Government. The Department has five subdivisions: the Agriculture and Forestry Section, the Commerce and Industry Section, the Marine Industry Section, the Communications Section, and the Postal Affairs Section. Each section is administered by a chief, who is responsible to the head of the department for administering the affairs placed under his control.

The Agriculture and Forestry Section was headed in 1941 by Ichio Sakurai (Sonin). He was assisted by six experts of Sonin rank: Tateyoshi Tamura, Ichio Hikosaka, Saburo Yuda, Takeo Takayama, Susumu Mayeda, and Kametaro Otsubo. In 1939 the staff of the section also included three clerks of Hannin rank, Jiro Toge, Ichiro Arigawa, and Kenji Urayama, and eleven assistant experts of Hannin rank, Susumu Mayeda, Kametaro Otsubo, Hiteju Hiraishi, Takeshio Umayahara, Kenji Nakajima, Tamotsu Murakami, Yamanao Kabayama, Yuhei Endo, Atsushi Oniwa, Kemmei Takechi, and Hachiro Okan. The functions assigned to this section were as follows:

Agriculture, forestry, and stock farming.
Immigration and lands for immigrants.
Administration and disposal of lands and forests belonging to the government.
Disposal of the products of government lands and forests.
Copra inspection and plant inspection.
Land utilization.
Office routine of the Department of Economic Development.

The Commerce and Industry Section in 1941 was under the direction of Kotaro Sakakida (Sonin), who was also head of the Products Museum. He was assisted by Keigo Harada (Sonin), who was a member of the Bureau of Savings in the Japanese Government, by Sukemasa Fukugawa (Sonin), by Takenao Kikuchi (Sonin), professor at the Hokkaido Imperial University, and by Hisaburo Tayama (Sonin), an expert at the Tropical Industries Institute. In 1939 the staff of the section also included four clerks of Hannin rank, Yusei Fukugawa, Sekio Yamasaki, Chiyota Inamasu, and Fumio Yoshida, and four assistant experts of Hannin rank, Seiichi Hattori, Hiroshi Sawada, Yasushi Yoshimoto, and Toru Toki. The functions assigned to this section were as follows:

Commerce and industry.
Currency and finance.
Commercial taxes and customs duties.
Industrial cooperative guilds.
Electrical enterprises.
Weights and measures.
Supervision of the business operations of the Nanyo Takushoku Kaisha.
Exhibitions and competitive shows.

The Marine Industry Section was administered in 1941 by Haruhiko Tsuneyoshi (Sonin). Employed in this section in 1939 were one clerk, Yoshii Ban (Hannin), and three

assistant clerks of Hannin rank, Fukio Akaki, Kichiro Udagawa, and Fumiyo Muraki. The functions of this section were the following:

- Marine industry.
- Manufacture and disposal of marine products.
- Propagation and protection of marine animals and plants.
- Administration of fishing bases.
- Fishing vessels
- Inspection of marine products.
- Marine industry cooperative guilds and other organizations.
- Investigations concerning marine industry.

The functions assigned to the Communications Section were the following:

- Aerial navigation.
- Ocean routes.
- Ships.
- Aids to navigation.
- Hydrographical data and notices.

The Postal Affairs Section was administered in 1940 and 1941 by Isao Araki. The personnel of the section included three members of Sonin rank: Takao Yakore, who was a member of the Department of Postal Affairs in Tokyo, Tatsunari Watanabe, who was a member of the Insurance Bureau of the Imperial Government, and Wataru Nakamura, a member of the Secretariat and of the Planning Section of the Department of Domestic Affairs. In 1939 the staff of the section also included the following:

- Jumbel Kanako (Hannin), clerk.
- Ommichi Manabe, Hikosaku Sasaki, Matsuo Oya, and Masatoshi Nonaka, part-time clerks of Hannin rank, regularly employed at the Department of Postal Affairs of the Imperial Government.
- Isao Maruo (Hannin), part-time clerk, regularly employed at the Savings Bureau of the Imperial Government.
- Kiyochi Niiori, Ichkei Matsukuma, Naohite Iwawaki, Shunkichi Ichimura, Kosho Arisaka, Kotaro Ryu, Gosaemon Hasekawa, and Genzo Yokoda, all of Hannin rank, communications clerks.
- Junichi Oyama (Hannin), part-time communications clerk.
- Hiroshi Nagada (Hannin), assistant communications expert.
- Satsuo Yoshida, Masayuki Massi, Toku Shiredo, and Takeo Fukuda, part-time assistant clerks.

The following functions were assigned to the Postal Affairs Section:

- Mails, postal money orders, and postal savings.
- Petty insurance and postal annuities.
- Telegraph, telephone, and radio.

Subordinate Institutions. The South Seas Government has established a number of institutions which are directly subordinate to the central administration and function independently from the Branch Governments of the districts in which they are situated. A Products Museum, situated at Koror, on Palau, exhibits specimens of various products of the mandated islands and articles of geographical, historical, and scientific interest, and also aids in finding markets for local products. A Marine Products Experiment Station at Koror conducts research on fishing, the artificial hatching of fish, the manufacture of marine products, and oceanographical problems. A Tropical Industries Research Institute, established at Koror with branches at Saipan and Ponspe (see 311), carries on experiments in agriculture, animal husbandry, forestry, and mining, and provides instruction to selected students. A Civil Engineering Station at Saipan is concerned with the improvement of harbor and port facilities. A Meteorological Observatory at Koror engages in the observation and investigation of meteorological phenomena, tides, earthquakes, terrestrial magnetism, and atmospheric currents, and maintains a number of detached observatories and weather stations on other islands (see 112). Other institutions responsible directly to the Governor rather than to the Branch Governments are the courts (see 226), the hospitals (see 254), the post offices (see 271), and the schools (see 262).

214. District Administrative Organization

Branch Government Organization. During the period from 1922 to 1943 the South Seas Government maintained Branch Governments (or Branch Bureaus) in each of the six ad-

administrative districts of Saipan, Palau, Yap, Truk, Ponape, and Jaluit. On November 5, 1943, the number of administrative districts was reduced to three: a northern area with headquarters at Saipan, a southern area with headquarters at Truk, and a western area with headquarters at Palau. It is probable that the districts of Ponape and Jaluit were merged with the Truk district to form a single administrative unit, and the Yap district was probably incorporated with that of Palau. These changes may well have been dictated by naval rather than civil considerations, as is suggested by the appointment at the same time of a vice admiral to the post of Governor of the Nanyo Cho. Since the details of administration and personnel are not available for the new organization, information is given below for the Branch Governments as they were organized in 1941.

Each Branch Government has an executive, the administrative head of the district, who is appointed by the Governor of the Nanyo Cho. This official, the Branch Governor, is responsible to the Governor for the execution of all laws and regulations and for the conduct of all administrative matters within his district. He is authorized to arbitrate disputes and to pass summary judgment with regard to certain offenses. With respect to the detection of offenders, as a judicial police officer he has the same power as the public prosecutor at a local court. The Branch Governor is empowered, either ex officio or by special authorization, to issue Branch Government orders. He is not permitted, however, to attach thereto any penal clauses.

According to administrative blueprints, the Branch Governments in Saipan, Palau, and Ponape are organized into four sections: a Local Affairs Section, a Financial Affairs Section, an Economic Development (or Colonization) Section, and a Police Affairs Section. The Branch Governments in Truk, Yap, and Jaluit, however, have but three sections, the Local Affairs Section assuming the functions handled separately elsewhere by the Economic Development Section. Each section is technically under the management of a chief, appointed by the Branch Governor. The functions assigned to the various sections are as follows:

Local Affairs Section

- Confidential and personnel matters.
- Custody of official seals.
- Receipt, dispatch, compilation, and preservation of documents.
- Proclamations.
- Local administration.
- Educational and military matters.
- Social welfare work.
- Religious affairs.
- Census and statistics.
- Investigation of natural resources.
- Mediation in civil cases, notorial acts, etc.
- Night duty.
- Matters not in charge of other sections.

Financial Affairs Section

- Annual revenues and expenditures, and estimates and settled accounts thereof.
- Cash not dealt with under annual revenues and expenditures.
- Imposition and collection of taxes.
- Offenses concerned with indirect duties.
- Certification of tax payments.
- Inventories.
- Matters relating to government property.
- Public works, construction, and repairs.
- Payment of employees.
- Maintenance of order and discipline in the Branch Government.

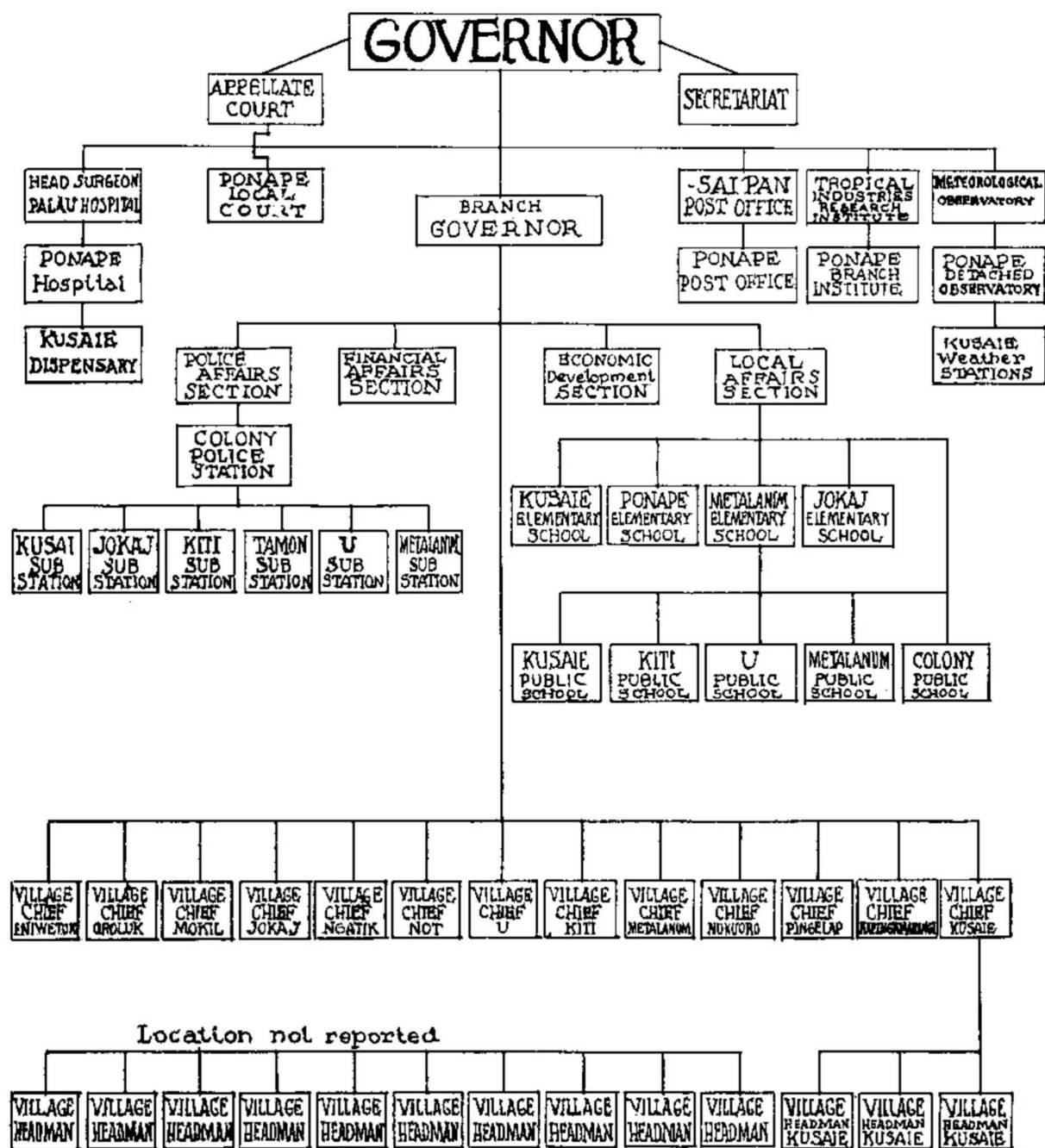
Economic Development Section

- Agriculture, forestry, stock-farming, mining, and marine industries.
- Immigration and settlement.
- Commerce and industry.
- Currency and finance.
- Inspection of copra and plantations.
- Cooperative guilds and other industrial organizations.
- Exhibitions and competitive shows.
- Electric enterprises.
- Weights and measures.

Police Affairs Section

- Police affairs in general.
- Distribution, duties, appointment, and dismissal of native and Japanese policemen.
- Hunting.
- Lost articles, flotsam and jetsam, and buried property.

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Passports.
 Trials.
 Execution of sentences.
 Sanitation and public health.
 Harbor administration and quarantine.
 Census registration.

In actual practice the formal organization of the Branch Governments into sections serves mainly as a guide to the functions to be performed. At the level of administrative development required by the affairs of the Branch Governments it appears to have proved unnecessary to set up actual sections, and the various functions are assigned, instead, to individual officials.

Ponape Branch Government. The district under the jurisdiction of the Ponape Branch Government includes all of the Caroline Islands east of 154° E. long., as well as the Marshall Islands west of 164° E. long., namely, Eniwetok and Ujelang atolls. The headquarters are located at the town of Colony on Ponape. In 1940, the Branch Governor was Yoshizo Hayama (Sonin), who is reported to be about fifty years old, plump, genial, and clean shaven. Hayama was replaced in 1941 by Kaneto Tsukahara (Sonin). Moritaro Hoshino (Sonin), head of the Ponape branch of the Tropical Industries Research Institute, was employed on part time as an expert in the office of the Ponape Branch Government. In addition, the office staff in 1939 included the following persons of Hannin rank:

Kiyoshi Tanuma, police lieutenant.
 Nagamasa Kuniba (probably now in Jaluit) and Ryoki Miyahira, assistant police lieutenants.
 Ioninari Sonoda, part-time assistant expert, also doctor at the Ponape Hospital; he is about 40 years old and has two small children; in 1940 he was made head of the Angaur Hospital and also assigned to part-time duties at the Jaluit Hospital.
 Shohei Yoshida, part-time assistant expert, also doctor at the Ponape Hospital.
 Gengo Mayezawa, part-time assistant expert, also doctor at the Ponape Hospital.
 Kiryo Hirai, part-time assistant expert, also pharmacist at the Ponape Hospital.
 Tatsuo Goto and Tautomu Okaya, assistant experts.
 Hojiro Nakamura, assistant communications expert.
 Ichio Ekawa, part-time assistant expert, also assistant expert at the Tropical Industries Research Institute.
 Shizuo Okubo, Shigeyuki Masuzawa, Yoshindo Hirao, Tetsutaro Hasekawa, Shigetame Yoshiike, Isamu Nunoda, and Kakuhei Ono, clerks.

Truk Branch Government. The Truk Branch Government has jurisdiction over the Eastern Caroline Islands between 148° and 154° E. long. Its headquarters are located on Dublon Island, Truk. In 1940 the Branch Governor was Jushin Yorimitsu (Sonin). He was replaced in 1941 by Kiichi Takasaka (Sonin), who had formerly been Branch Governor of Palau. The staff of the Truk Branch Government office in 1939 included the following persons of Hannin rank:

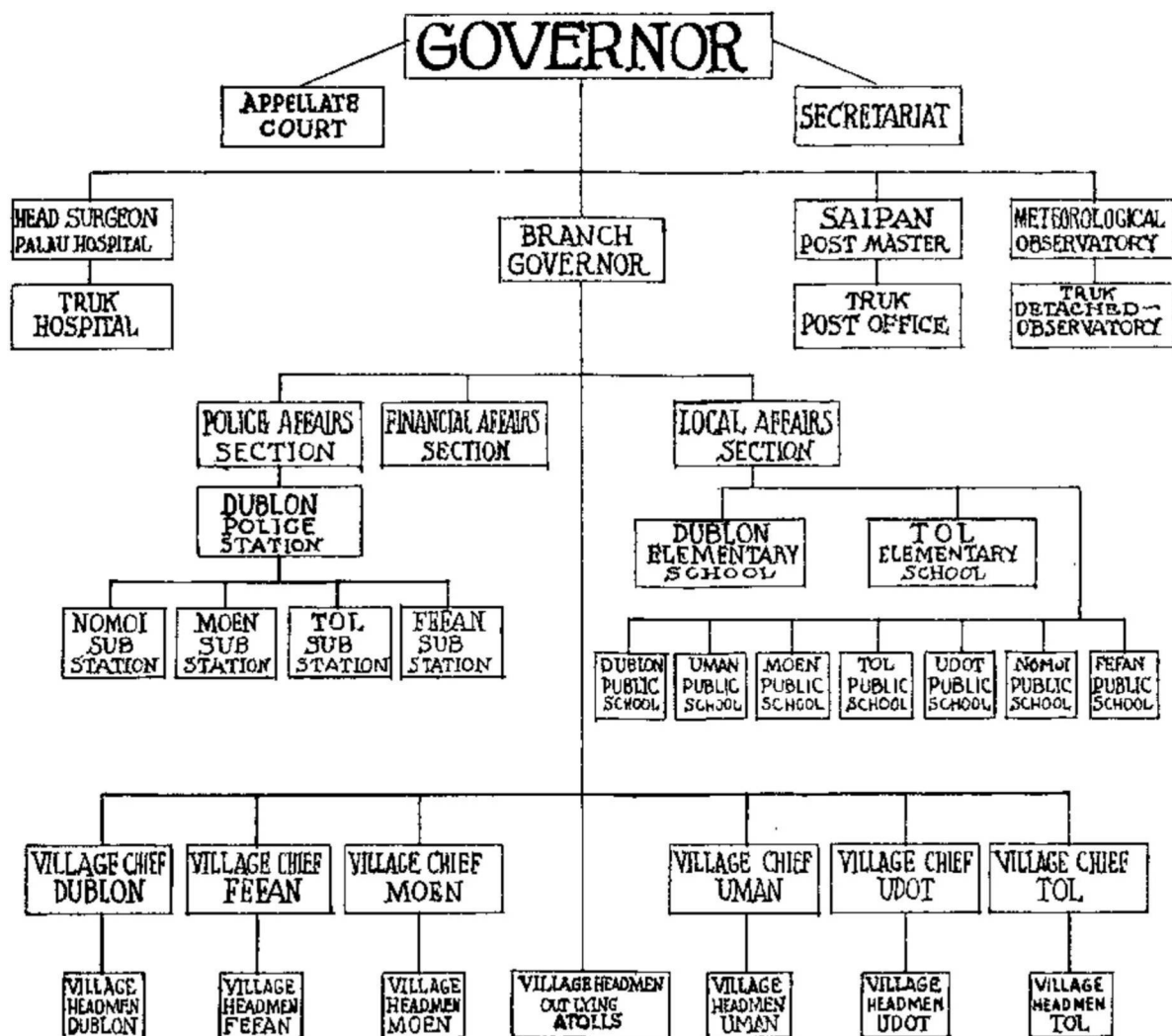
Gunzo Nishi, police lieutenant.
 Shigeo Kakiuchi, assistant police lieutenant.
 Kakuto Nishikawa and Rokusaburo Amakase, part-time assistant experts, also doctors at the Truk Hospital.
 Yoshio Shichida, part-time assistant expert, also pharmacist at the Truk Hospital.
 Shigenobu Tsukawa, Jun Kayaba, and Shigeru Hirose, assistant experts.
 Yoshiho Kitabatake, assistant communications expert.
 Takaji Tayama, assistant sign expert.
 Eiichiro Katakiri, Yoshinosuke Katane, Yosankichi Kobayashi, Akira Sekiguchi, and Komei Zushi, clerks.

In November, 1943, Truk became the headquarters of a new southern area, which presumably consolidated the previously separate Branch Governments of Jaluit, Ponape, and Truk. It seems probable that this change represented an adjustment to the military situation and to the fact that military government has largely superseded civilian administration in the mandated islands.

215. Local Administrative Organization

Village Chiefs and Headmen. In accordance with the standard provisions of the South Seas Government relative to local administration, each Branch Government appoints native local officials of two grades, known respectively as "village chiefs" (so-soncho) and "village headmen" (sonoho). These officials receive small monthly stipends for their services.

TRUK BRANCH GOVERNMENT-1941



Village chiefs are responsible to the Branch Governor of the district to which they belong, and in theory they are subject to supervision from the General Affairs Section of the Branch Government. A village chief nominally supervises the activities of the village headmen in the district assigned to him, but in actuality a real distinction seldom exists in the functions or authority of the two classes of native officials, and the sphere of influence of a village chief rarely extends beyond the village at which he is stationed. The designated functions of village chiefs, and presumably of village headmen as well, are to notify the members of their respective communities of all the laws, regulations, and instructions that pertain to them, to forward to the higher authorities all applications, reports, and other communications originating in the local area, to collect poll taxes and similar levies, to report epidemics and other unusual events, and to submit a semi-annual report on local conditions. Each native official may have a village policeman and a village secretary to assist him. Such persons, however, are not in government employ, and they are paid by the village chiefs and headmen out of the modest allowances which the latter receive from the government.

In the Ponape district in 1937 there were thirteen village chiefs (one of them also holding the office of village headman) and thirteen village headmen. John Sibra, the king of Kusaie, is the village chief of that island. Each of the five districts of Ponape (Kiti, U, Jokaj, Metalanim, and Not) is administered by a village chief. The location of the other village chiefs of the district is not fully reported, but it is probable that there is one such official on each of the following atolls: Eniwetok, Kapingamarangi, Mokil, Ngatik, Nukuoro, Oroluk, and Pingelap. There are village headmen at Mailem, Utwe, Tafwensak, and Lele on Kusaie (see 145), but the residence of the other village headmen in the Ponape district is not reported.

In the Truk district there were six village chiefs and 23 village headmen in 1937. The village chiefs have jurisdiction respectively over the six larger islands of Truk, namely, Dublon, Fefan, Moen, Tol, Udot, and Uman. The smaller islands of Truk and the outlying atolls are administered by village headmen who are independent of the control of village chiefs.

Municipal Administration. In towns with a large Japanese population there was established in 1932 a system of village or town council resembling that prevailing in Japan. The male citizens of the town, twenty years of age and over, elect an assembly of between 12 and 24 members, who serve for four years without pay. The assembly elects a mayor for a four-year term and may vote him a small salary. The mayor, with the aid of the assembly, deals with such matters as public health, statistics, municipal finance, and other local affairs. This type of municipal government is in operation in the towns of Dublon on Truk and Colony on Ponape.

Departures from Aboriginal Usage. In the Eastern Carolines the Japanese have attempted to take advantage of the native political structure wherever practicable, and in the main they have used the native chiefs for local administration. The principle followed has been that of appointing paramount chiefs as village chiefs, and members of the native nobility as village headmen. This was less difficult to accomplish in the Ponape district, where paramount chiefs had been the unquestioned rulers of large areas under aboriginal conditions, than in the Truk district, where each settlement was ruled by an independent chief and where it was therefore necessary to depart rather sharply from native custom. Here the Japanese followed the precedent established by the Germans and placed a village chief in charge of each of the six main islands of Truk, where under aboriginal conditions there had been 59 independent chiefs (see 211).

Occasionally the Japanese have appointed a native official who was not the traditional chief. In such instances, however, they have accorded the latter a measure of informal recognition, and his advice is sought by the Japanese officials on important local matters. Nevertheless, it is admitted by Yanai-hara, a dependable Japanese authority, that the influence of the native chiefs is becoming increasingly nominal and that the system of indirect rule is gradually being supplanted by direct governmental administration in local communities. There is no evidence, however, that the native officials are discontented with their position. On the contrary, they are generally pleased with the responsibility given them by the Japanese, and they wear with pride the white duck coat and trousers of Japanese officials.

216. Civil Rights

Citizenship and Naturalization. The natives living in the territory under Japanese mandate do not possess the status of Japanese subjects. They are called tomin, "inhabitants of the islands," a name designating their special civil status.

The official reports to the League of Nations state that natives of the islands may

acquire full Japanese citizenship through naturalization or marriage under the laws of Japan. These laws provide that an alien may become naturalized with the permission of the Minister of the Interior, but they prescribe that a male applicant must have been domiciled in Japan for at least five consecutive years. This condition makes it virtually impossible for any male native to become naturalized, and in fact none has become a Japanese national by this procedure, although six Ponape natives were reported to be in school in Japan in 1937. Alien women, however, can acquire Japanese citizenship by marrying Japanese men, and their children become subjects of Japan. In 1932 it was officially reported that three native women in the mandated islands had acquired the status of Japanese subjects through marriage to Japanese men, and by 1936 six additional native women had become Japanese citizens in the same manner. Their children, of course, have acquired Japanese citizenship by birth. The districts in which these women and their children live are not reported.

Franchise. Under the appointive system of selecting native officials there are no elections and consequently no voting privilege. The Japanese claim, however, that village elders are consulted in making appointments. In the larger Japanese towns, the municipal councils are elected by male suffrage (see 215).

Civil Liberties. The provisions of the mandate from the League of Nations require the mandatory power to insure "freedom of conscience and the free exercise of all forms of worship." The Japanese claim that "religious belief is entirely free, regardless of sect or race, as long as it does not prejudice the public peace or good morals." In the earlier years of the Japanese administration this claim appears to have been justified, and the missionaries were relatively unhampered in their activities. Ever since 1922, however, governmental controls over religion have been gradually but progressively tightened (see 154), and in recent years the pressure of supervisions has become intolerable, at least to the American missionaries.

A measure of economic freedom is guaranteed by the following provision of the mandate from the League of Nations: "The Mandatory shall see that the slave trade is prohibited and that no forced labor is permitted, except for essential public works and services, and then only for adequate remuneration." The Japanese maintain that they have abided faithfully by this clause, but their claim can probably not be fully substantiated (see 331).

Freedom of speech and assembly appear to be seriously restricted. The secret service police (see 223) are instructed to circulate among the people, listening for and reporting subversive talk, and they assume control of all public meetings and assemblies. Moreover, the starting or repeating of dangerous rumors is considered a police offense. Freedom of the press is curtailed by censorship (see 264). Trial by jury and other judicial safeguards of Anglo-American law are not recognized in the prevailing judicial procedure (see 227). Since 1941 the natives have been subjected to compulsory military drill (see 233).

217. Political Factions and Movements

Dissident Elements. There is no evidence of the existence of any recent communist, fascist, nativistic, or nationalistic political movement in the Eastern Carolines. A few natives are reported to be discontented with Japanese rule (see 145), and some of the native Christians appear to be favorably disposed toward Americans (see 157). Dissatisfaction is probably prevalent among those natives who have been dispossessed of their lands by the Japanese for the construction of air and naval bases. The few Koreans in the islands may have nationalistic leanings, and some of the Okinawa immigrants may have grounds for resentment. On the whole, however, the dissident elements in the population are few, and their grievances are probably not great enough to justify reliance upon them.

22. LAW AND JUSTICE

221. Native Legal Institutions

Deterrents to Crime. In native life the most effective deterrents to crime in the Truk district were the fear of sorcery and punishment by spirits (see 134) and the fear of private retaliation and blood vengeance. In the Ponape district the principal deterrent was the fear of swift and severe punishment meted out by the chiefs and feudal lords. With the breakdown of native religious concepts and the decline in the power of native chiefs these deterrents have become weakened, and they have been replaced only in part by fear of official punishments and of suspension from church membership.

Settlement of Disputes. Under aboriginal conditions most disputes among individuals were settled among themselves or else referred to the chief, whose decision was final. Disputes between local chiefs in the Truk district, and between paramount chiefs in the Ponape district were settled by war (see 156).

Retaliation and Blood-Vengeance. In the Truk district, where chiefs exercised little judicial authority, crimes like murder, assault, theft, and adultery were punished in the main by private retaliation on the part of the injured person and his relatives. If the offender was a member of the same settlement, compensation was usually paid by the family of the criminal to avoid blood-vengeance, or the offender might be brought before the chief for summary justice. If he was from another village, however, blood-vengeance was sought. The family of the victim slew the culprit if they could find him; otherwise, one of his kinmen. Sorcery often took the place of physical vengeance, the punishment being effected through the operation of black magic.

Formal Judicial Procedure. On Ponape and Kusaie, private retaliation and blood vengeance were practiced only when the crime was committed by someone outside the district. Otherwise offenders were brought before the chiefs for trial. If the crime was relatively minor, such as a petty theft or a slanderous remark on the part of a commoner, the local feudal lord heard the case and decided the punishment to be meted out to the offender. All serious crimes were brought before the paramount chief of the district. Taking counsel with the titled chiefs, he reached a decision as to the punishment to be inflicted, and from this decision there was no appeal. Murder, high treason, and adultery with a noble woman were punished with death, the head being bashed in and the carcass thrown to the dogs. According to the seriousness of the crime and the rank of the wronged person, theft and assault were punished by death, exile, or some lesser penalty. Exile virtually meant suicide or death from starvation, since the criminal would not be accepted in any other political district. Corporal punishment, detention, penal labor, and fines were never inflicted as penalties under aboriginal conditions, but have been introduced by the Germans or Japanese.

Modifications in Native Custom. The German and Japanese administrations have introduced a number of important changes in native legal institutions. In the Truk district the judicial authority of certain chiefs on the principal islands has been increased by empowering them to render summary decisions for offenses committed by members of villages other than their own. The severity of the punishments which can be meted out by the native chiefs has everywhere been curtailed, especially by removing their power of life and death over their subjects. Furthermore, forms of punishment alien to native custom have been introduced, such as detention, corporal punishment, fines, and penal labor. On the whole, these alien forms of punishment have not proved successful. Detention was considered a luxury. Corporal punishment provoked retaliation and blood-vengeance. Money fines meant little and were difficult to collect. Penal labor alone operated as an effective punishment, and ways were found of evading even this. Unless natives sentenced to forced labor were constantly watched they loafed on the job, and feigned illnesses were all too common. All observers agree that with the breakdown of the native legal and political institutions there has been a marked increase in the prevalence of petty crimes. The most effective punishment introduced by European civilization has been the informal one of suspension from membership in the church (see 154), particularly in the Ponape district where church membership has acquired a high prestige value. The compulsory cleaning of latrines has also been found to be a highly effective punishment among natives (see 256).

222. Crime Statistics

Prevalence of Crime. According to Japanese official reports, grave crimes are rare, the most numerous offenses being thefts and infractions of the liquor laws. Inas-

much as the Japanese have consistently attempted to convince the League of Nations that their administration in the mandated islands has been successful in all respects, it is possible that the official statistics underestimate the prevalence of crime and vice.

The statistics on detected offenses, as reported to the League of Nations, are replete with errors and are probably untrustworthy. They are particularly unsatisfactory since, after 1926, the figures for the various administrative districts are not segregated. In 1926, the detected offenses for the Ponape district were reported to include sixteen violations of the liquor regulations, twelve cases of larceny, three of arson, three of fraud, two of adultery, and one of embezzlement. During the same year, the detected offenses for the Truk district were reported to include eleven cases of larceny, four of gambling, twelve of assault, and one of rape.

Arrests. The statistics on arrests are more satisfactory than those on detected offenses. A classification of the persons reported to have been arrested in 1937 is given in the following table:

Arrests	Truk District		Ponape District		Total
	Japanese	Natives	Japanese	Natives	
For violations of the criminal law					
Evading arrest and escape	-	-	-	1	1
Arson and accidental incendiarism	-	-	1	1	2
Trespass	-	-	8	-	8
False report	-	-	1	-	1
Gambling	26	-	-	7	33
Murder	-	-	1	2	3
Assault	1	1	6	2	10
Damaging credit	-	-	1	1	2
Theft and robbery	-	6	4	33	43
Fraud and blackmail	-	-	4	-	4
Embezzlement	-	-	1	5	6
Stolen goods	-	-	1	1	2
Total	27	7	28	53	115
For violations of special regulations					
Firearms and gunpowder	1	-	-	-	1
Liquor	14	44	37	84	179
Fishing	-	-	-	5	5
Violent actions	6	-	-	-	6
Total	21	44	37	89	191
Grand total	48	51	65	142	306

Cases of Summary Decision. The criminal cases dealt with by summary decision in 1937, and the number of persons involved in them, are enumerated and classified in the table below:

Offenses	Truk District			Ponape District			Total	
	Cases	Jap.	Native	Cases	Jap.	Native	Cases	Persons
Violations of the criminal law	-	-	-	-	-	-	-	-
Violations of special regulations								
Liquor	14	13	45	-	-	-	14	58
Residence	3	3	-	10	10	-	13	13
Geisha and shakafu	3	3	-	-	-	-	3	3
Cemeteries	1	1	-	-	-	-	1	1
Abattoirs	1	1	-	1	1	-	2	2
Fishing	2	-	2	-	-	-	2	2
Firearms and gunpowder	1	1	-	-	-	-	1	1
Bicycles	10	5	7	19	11	8	29	31
Cafes	3	3	-	9	9	-	12	12
Butcher shops	1	-	1	-	-	-	1	1
Meetings	-	-	-	3	9	-	3	9
Barber shops	-	-	-	2	2	-	2	2
Harbor traffic	-	-	-	4	4	-	4	4
Total	39	29	56	48	46	8	87	139
Police Offenses	51	31	22	93	48	54	144	155
Grand total	90	60	78	141	94	62	231	294

The punishments meted out to the persons involved in cases of summary decision in 1937 were as follows:

Punishments	Truk District		Ponape District		Total
	Jap.	Native	Jap.	Native	
Violators of special regulations					
Detention	4	2	-	-	6
Penal labor	2	-	-	-	2
Fines	-	-	-	-	0
Petty fines	23	54	46	8	131
Total	29	56	46	8	139
Violators of police regulations					
Detention	-	-	-	-	0
Penal labor	21	-	39	50	110
Fines	5	20	-	2	27
Petty fines	5	2	9	2	18
Total	31	22	48	54	155
Grand total	60	78	94	62	294

Cases Tried in Court. In 1937, 118 criminal cases were tried in the Ponape Local Court (there is no court in the Truk district). In no instance was a decision of "not guilty" rendered. In 116 of the cases the accused were adjudged guilty, and in the remaining two instances the disposition of the case is not reported. A classification of the offense in the cases of conviction is presented in the following table:

Offenses	Cases	Persons Involved		
		Japanese	Native	Total
Violations of the criminal law				
Arson and accidental incendiarism	1	1	-	1
Adultery, bigamy, and fornication	1	-	1	1
Gambling	3	9	7	16
Murder	2	2	-	2
Assault	16	12	11	23
Accidental injury	3	2	1	3
Theft and robbery	20	4	20	24
Fraud and blackmail	7	4	3	7
Embezzlement	4	1	4	5
Total	56	35	47	82
Violations of special regulations				
Firearms	2	2	-	2
Liquor	52	57	135	192
Fishing	4	-	5	5
Military duty	2	2	-	2
Total	60	61	140	201
Grand total	116	96	187	283

The punishments meted out to the persons convicted in criminal cases before the Ponape Local Court in 1937 were as follows:

Punishments	Violators of Criminal Law		Violators of Special Regulations		Total
	Japanese	Native	Japanese	Native	
Penitentiary sentences	11	33	-	-	44
Imprisonment	-	-	-	-	0
Detention in workhouse	-	-	-	-	0
Fines	17	4	8	28	57
Petty fines	7	10	53	112	182
Total	35	47	61	140	283

In the same year the prosecutor's office of the Ponape Local Court handled a total of 148 cases, involving 119 Japanese and 186 native persons. Of these cases, 93 were concerned with violations of the criminal law and 55 with infractions of special regulations. The 97 cases that were prosecuted are analyzed in the table below:

Offenses	Cases	Persons		Total
		Japanese	Native	
Violations of the criminal law				
Escape and evading arrest	1	-	1	1
Adultery and bigamy	1	-	1	1
Gambling	3	9	7	16

Offenses	Cases	Persons	
		Japanese	Native
Murder	2	2	1
Assault	12	11	9
Accidental injury	2	2	-
Theft and robbery	15	3	19
Fraud and blackmail	7	4	3
Embezzlement	1	-	1
Total	44	31	42
Violations of special regulations			
Firearms	1	1	-
Liquor	46	44	107
Fisheries	3	0	4
Military duty	3	3	-
Total	53	48	111
Grand total	97	79	153

The Ponape Local Court disposed of 57 civil cases in 1937 out of a total of 114 brought before it. Of the cases received, the great majority involved litigation between Japanese and natives, rather than between Japanese or between natives. Four cases were settled by compromise.

Prisoners. The number of convicts imprisoned during 1937, classified according to race, district, and type of sentence, is given in the following table:

	Truk District		Ponape District	
	Japanese	Native	Japanese	Native
Imprisoned in the penitentiary	-	4	5	19
Detained	22	-	39	50
Sentenced to penal labor	-	23	-	3
Total	22	27	44	72

Suicides. Four suicides were reported for the year 1937, one Japanese in the Ponape district and two natives and a Japanese in the Truk district. Both of the Japanese, it is interesting to note, hanged themselves instead of following the cultural pattern of hara-kiri. Neither of the natives chose the method of hanging; one drowned himself, and the second chose another but unspecified manner of taking his life.

223. Police Organization

Administration. In each Branch Government police matters are handled by a Police Affairs Section, which consists of a police lieutenant assisted as a rule by one or more assistant police lieutenants. In addition, the police force of each district includes a number of Japanese policemen and native constables appointed by the Branch Governor, who submits a report of his selections to the Governor. Salaries, as reported in 1936, averaged about ¥ 500 for Japanese policemen and about ¥ 375 for native constables. Salaries are supplemented by extra allowances. In 1937, for example, the South Seas Government expended ¥ 144,705 for police salaries and ¥ 220,725 for extra allowances to police personnel.

Native policemen are recruited on the basis of a physical and a mental examination, the latter being omitted in the case of applicants who have completed a public school course. The Branch Governor is authorized, with the approval of the Governor of the Nanyo Cho, to determine fixed beats in his district and to establish substations. As in all similar cases, the Police Affairs Section of the Department of Domestic Affairs of the South Seas Government exercises no direct control over police affairs in the several Branch Governments. Recommendations emanating from the former go to the Governor, who may incorporate them in instructions and transmit them by way of the Branch Governor. Reports follow the same official channels in the reverse direction.

Police Personnel. In 1940 the police staff of the Truk district included one police lieutenant, an assistant police lieutenant, nine Japanese policemen, and nine native constables. The police lieutenant in 1936 was Gunzo Nishi, and his assistant was Shigeo Kakiuchi. The police staff of the Ponape district in 1940 consisted of a police lieutenant, two assistant police lieutenants, fourteen Japanese policemen and ten native constables. The police lieutenant in 1936 was Kiyoshi Tenuma, and he had two assistants, Nagamasa Kuniba and Ryoki Miyahira.

Police Stations. In the Truk district there are police substations on Dublon, Fefan, Moen, Tol, and one of the Nomoi Islands. In the Ponape district there is an assistant inspector's station on Kusaie, a police substation in the town of Colony, and other substations in the districts of Not, Kiti, U, Metalanim, and Joka; on Ponape.

Police Functions. Policemen are classified according to function as policemen for indoor service, those for outdoor service, those for special service, those for secret service, detectives, wardens, and policemen in training. The special service police maintain order at court, handle the quarantine and inspection of ships, control harbors and piers, inspect motor vehicles, and perform other assigned tasks. The secret service police are charged with the gathering of information, with the investigation and control of meetings and assemblies, with the assessing of political movements, and with the handling of foreign police matters. Detectives investigate crimes, arrest criminals, execute warrants, and investigate persons under surveillance. Wardens have the duty of escorting persons accused or suspected of crime and those sentenced to punishment, of guarding those in prison or under arrest, and of attending to all matters connected with prisons and jails.

Police Routine. The service routine of policemen is standardized throughout the mandated islands, but it may be altered, if circumstances warrant, by the Branch Governor with the approval of the Governor. Policemen work eight hours a day, or more if circumstances demand it, and are given one day of vacation after every six working days. Except for sergeants and indoor service policemen, they are required to keep a service diary, which is presented periodically for inspection.

The standard routine for a policeman on duty at a station requires patrol fifteen times a month, a census inquiry once every four months, visits of inspection once a month, and two hours or more per day of duty at the station itself. The routine for outdoor service requires patrol at least three times a day in the locality where the office is situated and at least five times a month in outlying villages, a census inquiry once every three months, visits of inspection once a month, and two hours on duty at the office each day. In all instances, more than one third of the fixed number of patrols must be made at night, and a regular beat must be followed. For each fixed beat the following records must be kept: a service diary, a file of rules and regulations, a file of orders concerning detection of criminals and other matters, a file of instructions to policemen, a copy of the census register, a list of ex-convicts, a register of verbal applications and reports, a file of miscellaneous documents, an inventory of fixtures, and a code book for the transmission of messages.

224. Law Enforcement

Police Supervision. Except for informal social control and such supervision as the native chiefs may continue to exercise (see 221), law enforcement is almost exclusively in the hands of the police (see 223). Under the Police Affairs Section of the Branch Governments, the police are responsible for maintaining peace and order. They enforce the criminal law, including regulations concerning firearms, liquor, drugs, hunting and fishing, and industry. They supervise associations, meetings, and publications, and control prostitution and entry into and residence in the district. The police are also in charge of passports, harbor administration, census registration, and sanitation and public health.

Special Inspectors. In a very few instances, special inspectors are charged with law enforcement. This is true in particular with respect to the examination of copra for export and the inspection of shipments of live plants (see 326).

225. Civil and Criminal Law

Japanese Laws in Force. An ordinance for the Treatment of Judicial Affairs in the South Sea Islands, enacted in 1923 and revised in 1933, defines the laws and regulations which apply to the mandated islands. These are the basic laws of Japan, including the civil, criminal, commercial, and procedural codes, subject to certain special provisions specified in the ordinance as applicable particularly to the mandated area. The laws of Japan which are specifically stated to apply to the mandated islands are the following:

Law concerning the Application of Laws.

Civil Code.

Law relative to the Application of the Civil Code.

Law 50 of the 35th year of Meiji.

Law 17 of the 37th year of Meiji.
 Law 40 of the 32nd year of Meiji.
 Law 51 of the 33rd year of Meiji.
 Imperial Ordinance 144 of the 33rd year of Meiji.
 Law 50 of the 32nd year of Meiji.
 Law 13 of the 33rd year of Meiji.
 Imperial Ordinance 409 of the 33rd year of Meiji.
 Law relative to Lost Property.
 Commercial Code.
 Law relative to the Application of the Commercial Code.
 Law relative to Bills.
 Law relative to Checks.
 Ordinance relative to Protests for Non-Acceptance.
 Bankruptcy Law.
 Reconciliation Law.
 Law 17 of the 33rd year of Meiji.
 Imperial Ordinance 271 of the 32nd year of Meiji.
 Deposit Law.
 Law relating to the Hypothecation of Factories.
 Criminal Code.
 Law 9 of the 5th year of Showa.
 Law relating to the Application of the Criminal Code.
 Regulations concerning the Control of Explosives.
 Law 60 of the 15th year of Taisho.
 Law relating to the Control of Imitation of Currency and Bonds.
 Law 34 of the 22nd year of Meiji.
 Law 66 of the 38th year of Meiji.
 Law 18 of the 4th year of Taisho.
 Law relating to Punishment for Offenses concerning Stamps.
 Law for Civil Procedure.
 Law for the Enforcement of Amendments in the Law for Civil Procedure.
 Law relating to the Procedure for Personal Status.
 Auction Law.
 Law for Criminal Procedure.
 Law relating to Costs connected with Criminal Procedure.
 Law relating to Interrelative Criminal Cases.
 Law concerning Cooperation at the Instance of Foreign Courts of Justice.
 Regulations concerning the Surrender of Escaped Criminals.
 Law relating to Aid for Arrest and Detention of Crews of Foreign Vessels.
 Law relating to the Registration of Immovable Properties.
 Law for Procedure concerning Non-Contentious Matters.

Special Provisions for the Mandated Islands. The laws of Japan itself, as listed above, apply equally to the mandated islands, with certain modifications which represent special adaptations to local conditions. The most important of the special provisions for the mandated area are the following:

1. Civil cases involving natives alone are to be dealt with according to native custom rather than Japanese law, unless such a procedure is considered disruptive to morals or disturbing to public order.
2. Local custom is to be provisionally respected in regard to property rights in land. This exception was intended to apply only until such a time as a land inquiry and study of customary land laws (see 341) had been completed (it was reported as nearing completion in 1938).
3. Persons other than government agents are prohibited from entering into contracts with natives with a view to the sale, purchase, conveyance, or mortgage of land, except with the sanction of the Governor of the Nanyo Cho.
4. No contracts, except for ordinary small transactions and labor contracts for periods not exceeding one year, are to be considered valid unless the approval of the Branch Governor is obtained and registered.
5. Japanese legal procedure need not be followed in lawsuits involving only natives; the natives may follow any rule of procedure recognized by the courts of justice.
6. A system of people's courts need not be instituted.

In their official reports to the League of Nations the Japanese lay great stress upon the fact that the criminal code of Japan is applied without distinction to natives, foreigners, and Japanese alike.

226. Judicial Organization

Courts of Justice. During the German regime there were no courts of justice in the Caroline Islands. The imperial administrator was empowered to handle judicial matters, civil as well as criminal, and to impose any punishment short of the death penalty.

During the Japanese military occupation, criminal courts were established in the Civil Administration Stations (later the Branch Governments), and a civil court in the Civil Administration Department (later the South Seas Government). The chiefs of the Civil Administration Stations served as judges in criminal cases, and two secretaries of the Civil Administration Department acted as judicial officers in the civil court.

When the South Seas Government was established in 1922, three local courts were established to deal with civil and criminal cases--one at Saipan, one at Palau, with jurisdiction also in the Yap district, and one at Ponape, with jurisdiction likewise in the Truk and Jaluit districts. An appellate court was located at Koror to which appeal could be taken from the decisions of any of the local courts. A public prosecutor's office was attached to each of the courts of justice.

In 1941 the local court at Ponape was served by a judge of Sonin rank, Keizo Omori, and a clerk of Hannin rank, Takehiki Honda. The public prosecutor was Masayuki Esaki, who also acted as prosecutor for the local court at Saipan and for the appellate court at Koror. Esaki is of Sonin rank, but is treated as Chokunin. His superiority in rank to the judge strongly suggests a dominant influence over him, in accordance with the implications of the Japanese system of rank. This suggestion is supported by the fact that in 1937 the Ponape court issued no decisions of "not guilty."

In theory, all judicial matters in the mandated territory should be handled by the courts of justice. However, in districts where there are no local courts the Branch Governor is authorized to deal with certain civil cases and to render summary judgment in minor criminal cases. Thus, in the Truk district, the only cases taken to the local court in Ponape are those over which the Branch Governor has no jurisdiction and those in which an appeal is taken from his decision.

Officials with Summary Judicial Powers. To facilitate justice in districts where no local courts are established, the Branch Governor and the police lieutenant of the district are given the same powers as the public prosecutor of a local court in regard to the detection of crime, and the Branch Governor is authorized to render summary decisions in cases involving offenses punishable by detention or minor fines and in those involving gambling offenses or infractions of administrative laws and regulations punishable by detention or penal servitude of less than three months or by fines of less than ¥ 100. The Branch Governor of a district which has no local court is also empowered to draw up notarial deeds, to certify private documents, to transact affairs related to registration and deposit, to direct the sale of real estate at auction when so required by law, and to arbitrate in civil disputes upon application of the parties.

A summary decision becomes final three days after it is rendered or, if the accused has not appeared at the hearing, five days after he has been served with the decision, unless during this period he registers his dissatisfaction and applies for a formal trial. In this event the case is transferred for trial before the local court at Ponape. The Branch Governor may also so transfer the case if he decides that a formal trial is necessary or desirable. In actual fact, however, very few cases arising in the Truk district come before the Ponape court.

Village chiefs, and also village headmen, are authorized to render summary decisions in respect to certain minor offenses committed by natives in isolated islands. The offenses with which these native officials are empowered to deal are limited in the main to those punishable by the imposition of penal labor for a period not exceeding thirty days, such as failure to destroy insects injurious to palm trees, failure to report births, deaths, and changes of residence to the authorities, vagrancy, commission of public nuisances, damaging public property, and disobedience of orders issued by village chiefs or of instructions issued by the Branch Governor and duly proclaimed.

227. Judicial Procedure

Court Procedure. The procedure in courts of justice follows in general the provisions laid down in the Japanese Law for the Constitution of the Court of Justice, with certain modifications. These modifications are as follows: (1) a court, when required to appoint a lawyer to act as counsel, may call upon a person not a lawyer to carry out this function; (2) in urgent cases, where no court is in existence, suits and judicial documents presented before a Branch Government are as valid as those presented before a court; (3) in cases involving only natives, any judicial procedure accepted by the court

concerned may be followed without reference to the provisions laid down by law; (4) in civil cases, a judge may cross-examine witnesses when taking evidence and may decide the case immediately if he considers that the witnesses have committed perjury; (5) in civil cases, provisions regarding the procedure of pressing for payment are not applicable to debtors who are natives; (6) in civil cases, all relevant documents are transmitted to the Branch Governor for execution at the conclusion of a case, and when the procedure of execution is completed, the documents are returned to the court; (7) in criminal cases, if the accused does not live within the jurisdiction of the local court, his case may be transferred to the local court having jurisdiction over his place of residence; (8) in criminal cases, if the exigencies of the situation require prompt action, the public prosecutor may order an arrest without obtaining a warrant from the judge; (9) the public prosecutor or the police lieutenant may conduct inquiries and, if the case is considered sufficient to warrant prosecution, may institute such processes in the court without preliminary examination; and (10) in a criminal case, when decisions are made in a local court imposing a sentence of penal labor or imprisonment for less than one year, or a fine of less than ¥ 300, the court need not state its opinion of the case unless an appeal is made to the appellate court at Koror.

Arbitration Procedure. A local court or the Branch Governor in a district where there is no court of justice may arbitrate in civil disputes upon application by the parties concerned. Such applications, which may be made either orally or in writing, must designate the opposite party and contain a clear statement of the actual conditions of the dispute. When an application has been made, the arbitrator fixes a date for the hearing and summons the parties concerned. If one party has moved from the district, the arbitration may be transferred elsewhere at the request of the applicant. Before undertaking to arbitrate, the arbitrator may order taken any measures he considers necessary to the successful conduct of the case. He may also summon witnesses, undertake visits of inspection, and order suitable experts to render opinions.

When an arbitration fails, the arbitrator (court or Branch Governor) concludes the case by making a declaration to that effect. If the arbitration succeeds, he draws up a protocol including the names, addresses, and occupations of the parties concerned, the essential points in the statements of each, and the terms agreed upon, and he is empowered to execute these terms.

The costs of arbitration are borne by the parties involved, and are determined at the discretion of the arbitrator. An applicant for arbitration may be ordered to pay the costs in advance. Witnesses and experts are compensated for their traveling and lodging expenses and are given a daily allowance.

Procedure in Summary Decisions. In rendering a summary decision without a formal trial, the Branch Governor hears the statement of the accused, takes evidence, and delivers his decision immediately. The decision is recorded in writing in a document which contains the date of the decision, the name and the title of the official making the decision, the name, address, age, and occupation of the accused, a statement of his offense, the article and clause of the law or regulation applied, the punishment imposed, and the period within which application for a formal trial can be made. If the accused has not been summoned, or has failed to obey a summons, he is served with a copy of the decision. Service is made by a policeman or native constable either upon the accused in person, or upon a member of his family living in his home, or upon his employer or an employee.

If the accused has been sentenced to imprisonment or penal labor, the Branch Governor issues a warrant of detention against him or, if necessary, orders him detained temporarily in a police cell. If a fine has been imposed, the accused is required to pay it; if he fails to do so, he is detained one day for each yen (or fraction thereof) of the fine. If the execution of the punishment is commissioned to another office, a written authorization, accompanied by an attested copy of the summary decision, is sent to that office. If the execution is to be made in a prison, the convicted person is dispatched there, and an attested copy of the decision with instructions for its execution is sent to the prison officials.

If dissatisfied with the decision, the person sentenced is allowed three days after being heard, or five days after being served, to submit in writing an application for a formal trial. If he does so, and is under detention, he is released immediately. The application, together with all relevant information, is forwarded by the Branch Governor to the public prosecutor of the local court at Ponape. As already noted (see 226), however, such appeals are rarely made.

Judicial Fees. The Japanese Government has prescribed in great detail the fees to be paid in all judicial matters. The schedule of fees is summarized below:

For instituting an action in a local court involving a claim concerning property rights: 25 sen for a claim up to 5 ¥; 40 sen, up to ¥ 10; 80 sen, up to ¥ 20;

- ¥ 1.80, up to ¥ 50; ¥ 2.50, up to ¥ 75; ¥ 3.50, up to ¥ 100; ¥ 7, up to ¥ 250; ¥ 12, up to ¥ 500; ¥ 15, up to ¥ 750; ¥ 18, up to ¥ 1,000; ¥ 25, up to ¥ 2,500; ¥ 30, up to ¥ 5,000; ¥ 3 additional for each thousand yen, or fraction thereof, over ¥ 5,000.
- For instituting a suit not involving a claim concerning property rights: ¥ 3.50.
- For instituting an appeal: one-half of the amount of the original fee in addition thereto.
- For requesting a new trial: fees appropriate to the court to which the request is made.
- For instituting an action for the declaration of a judge's order: 20 sen if the subject matter of the suit is less than ¥ 10; one-half of the fee payable for such a suit in the local court, if the value of the subject matter exceeds ¥ 10.
- For instituting any of the actions listed below: 20 sen if the subject matter does not exceed ¥ 20; 40 sen, if it is more than ¥ 20.
- Declaration for the appointment of a date.
 - Application for the renewal of an interrupted or suspended judicial process.
 - Application for a compromise.
 - Declaration concerning provisional execution.
 - Application for the suspension or continuation of compulsory execution, or for cancellation of steps taken for execution.
 - Claim for the payment of dividends.
 - Application for compulsory auction or administration.
 - Application for seizure of obligatory or other rights over property.
 - Application for public summons procedure.
- For instituting any of the actions listed below: 50 sen if the value of the subject matter of the suit or the amount of the claim does not exceed ¥ 20; ¥ 1 if either exceeds ¥ 20.
- Complaint.
 - Protest.
 - Proposal for the examination of evidence.
 - Declaration for the preservation of evidence.
 - Application for provisional execution or disposition.
 - Application for an exemplified copy possessing executive force.
- For instituting any of the actions listed below: no fee is required.
- Application for assistance in connection with a suit.
 - Application for the appointment of a competent court.
 - Declaration for the rectification of a previous decision by amendment.
- For initiating any application, declaration, or proposal not mentioned above: 20 sen if the value of the subject matter of the suit, or the amount of the claim, does not exceed ¥ 20; 25 sen if either exceeds ¥ 20.
- For an application for arbitration of a civil dispute: 15 sen if the value of the subject matter does not exceed ¥ 5; 20 sen, up to ¥ 10; 30 sen, up to ¥ 20; 50 sen, up to ¥ 50; 70 sen, up to ¥ 75; ¥ 1, up to ¥ 100; ¥ 2, up to ¥ 250; ¥ 3, up to ¥ 500; ¥ 1 additional for each 500 yen, or fraction thereof, in excess of ¥ 500.
- For an application for arbitration of a civil dispute not involving property rights: ¥ 1.
- For obtaining exemplified or attested copies of a protocol of arbitration: 20 sen per copy.
- For obtaining copies of the transference of an execution clause in an arbitration case: 30 sen per copy.
- For bankruptcy proceedings: fees proportional to the assets after deducting costs of administration, according to the following schedule: 50 sen on assets up to ¥ 5; 80 sen, up to ¥ 10; ¥ 1.60, up to ¥ 20; ¥ 3.60, up to ¥ 50; ¥ 5, up to ¥ 75; ¥ 7, up to ¥ 100; ¥ 14, up to ¥ 250; ¥ 24, up to ¥ 500; ¥ 30, up to ¥ 750; ¥ 36, up to ¥ 1,000; ¥ 50, up to ¥ 2,500; ¥ 60, up to ¥ 5,000; ¥ 6 additional for each thousand yen, or fraction thereof, above ¥ 5,000. Whenever a dividend is paid from the assets, a sum equal to the fee payable on that amount is reserved, and when the final settlement is made, the fee paid is in proportion to the total sum of the dividends.
- For instituting proceedings in a non-contentious case: 20 sen if the value of the claim does not exceed ¥ 20; 25 sen if it exceeds ¥ 20. However, if an application for judicial subrogation, a declaration of auction, or a protest is made,

the fee is 50 sen if the value of the claim does not exceed ¥ 20, and ¥ 1, if it exceeds ¥ 20.

For applying for the judgment or judicial direction of a court of justice, except in cases concerning commercial registrations: ¥ 1 for a protest; 25 sen for a defense against a protest; 25 sen for any other application or declaration.

For applying for registration in connection with buildings: fees as follows:
Acquiring ownership of a house by inheritance or by succession to the headship of the house: one five-thousandth of the value of the building.

Acquiring such ownership by will, by gift, or otherwise without valuable consideration: one fifty-thousandth of the value of the building, except in the case of a shrine, temple, church, or juridical person, when the fee is one ten-thousandth.

Acquiring ownership of a house by any other means: one thirty-thousandth of its value.

Maintaining a right of ownership hitherto possessed: one three-thousandth of the value of the building.

Dividing common property: one five-thousandth of the part of the value of the building coming under ownership by division.

Acquiring a leasehold right: one thousandth of the value of the building when the term of the lease does not exceed ten years; one two-thousandth, if the term exceeds ten years.

Preserving or acquiring a preferential right: one six-thousandth of the amount secured or of the estimated cost of construction of the building.

Acquiring the right of pledge or mortgage: one six-thousandth of the amount secured or, if no amount is secured, of the value of the object pledged or mortgaged.

Declaring an auction: one six-thousandth of the amount secured, or of the value of the object offered for sale, whichever is less.

Submitting a provisional seizure or disposition: one four-thousandth of the amount secured, or of the value of the object concerned, whichever is less.

Seizing a mortgaged obligation: one six-thousandth of the amount secured, or of the object seized, whichever is less.

Dividing an inheritance: one two-thousandth of the value of the building for a right of ownership; one thousandth, for rights other than ownership.

Recovering a registration canceled by application or declaration: 20 sen per building.

Making a provisional registration: 20 sen per building.

Revising, changing, or canceling a registration, or making an additional registration: 10 sen per building.

For applying for registration of a factory foundation register, in connection with acquiring a mortgage, declaring a compulsory auction or compulsory administration, or submitting a provisional seizure or disposition: one thousandth of the amount secured; ¥ 2 for revising, changing, or canceling such a registration.

For applying for registration creating or canceling a trade name: ¥ 2.

For applying for registration in appointing a manager or canceling an agency: ¥ 2.

For applying for registration in connection with a commercial company or other juridical person established with a view to profit: fees as follows:

Establishing an ordinary partnership or a joint-stock partnership: one thousandth of the capital invested.

Increasing the capital of such a partnership: one two-thousandth of the total capital invested.

Establishing a joint-stock company or a limited joint-stock partnership: one two-thousandth of the paid-up shares.

Increasing the capital of such a company: one two-thousandth of the increased capital.

Paying the second and subsequent installments of the share-capital: one two-thousandth of the share-capital paid on each occasion.

Establishing a company by amalgamation or reorganization: one thousandth of the paid-up share-capital paid on each occasion.

Increasing the capital of such a company: one thousandth of the increased share-capital and of other capital invested.

Introducing a debenture: one thousandth of the amount paid.

Establishing a branch: ¥ 3 per establishment.

Removing a branch: ¥ 2 per establishment.

Appointing a manager: ¥ 2.

Canceling an agency: ¥ 2.

Amending or canceling registration: ¥ 2.

Dissolution: ¥ 2.

- Appointing, dismissing, or changing a liquidator: ¥ 1.
 Settling liquidation: ¥ 1.
- For applying for a copy of the registration of immovable property, or of a property agreement concerning a juridical person or a husband and wife, or commercial matters: 10 sen per sheet of the copy.
- For applying for verification of the fact that there is no change in matters registered, or that there is no registration of a certain matter: 10 sen.
- For obtaining a certificate attesting the completion of the registration of commercial matters or of a property agreement concerning a juridical person or a husband and wife: 5 sen.
- For applying for the drawing up of a notarial deed: 40 sen per sheet of the original copy.
- For applying for the delivery of the exemplified copy or an attested copy of a notarial deed or annexed documents: 20 sen per sheet.
- For applying for the attachment of an execution clause to the exemplified copy of a notarial deed: 30 sen per copy.
- For lodging a protest against the execution of his duty by a notarial official: 50 sen.
- For applying for the certification of a private document: 50 sen per copy.
- For applying for the inscription of the fixed date on a private deed: 10 sen.
- For applying for the drawing up of a protest: 25 sen.
- For serving documents, whether personally or by mail: 5 sen per document.
- For service in connection with seizure or provisional seizure: 30 sen when the amount of the obligation for which execution is to be levied does not exceed ¥ 20: 50 sen, up to ¥ 50; 75 sen, up to ¥ 100; ¥ 1, up to ¥ 250; ¥ 1.25, up to ¥ 500; ¥ 1.50, up to ¥ 1,000; ¥ 2, over ¥ 2,000. When the time required for execution exceeds three hours, 30 per cent is added to the above fees for each additional hour or fraction thereof.
- For service in connection with the surrender or vacation of property: 50 sen, with an additional 15 sen for each hour, or fraction thereof, above three required for the execution of the duty.
- For service in connection with sale at auction: 30 sen when the proceeds of the sale or the secured sum, whichever is less, do not exceed ¥ 20; ¥ 1, up to ¥ 50; ¥ 1.50, up to ¥ 100; ¥ 2, up to ¥ 250; ¥ 2.50, up to ¥ 500; ¥ 4, up to ¥ 1,000; ¥ 1 additional for each thousand yen, or fraction thereof, over ¥ 1,000.
- For serving a notice or summons not relating to compulsory execution: 10 sen.
- For delivering attested copies of documents: 3 sen per half sheet containing 12 lines with 20 characters per line.

228. Offenses and Sanctions

Major Crimes. The criminal code of Japan is specifically stated to apply to the mandated islands (see 225). In default of any evidence to the contrary, therefore, it must be assumed that major crimes, such as murder, manslaughter, arson, rape, mayhem, and assault, are punished in accordance with Japanese law.

Police Offenses. The Branch Governor is empowered to impose detention, fines, or penal labor for violations of police offenses. He is also authorized, upon obtaining permission from the Governor, to intrust a part of this authority to village chiefs.

Police offenses include a variety of acts recognized as misdemeanors by local custom, local ordinances, or Japanese law. The following are specifically designated as police offenses:

Trespassing.

Vagrancy.

Begging.

Accosting a person without legitimate reason.

Unreasonably annoying or intimidating a person.

Exactng donations or contributions of money, or distributing goods among people against their will, for the purpose of making a profit.

Interfering with a tender, exacting a joint tender, or exacting a share in the work, profits, money, or goods from a successful bidder.
 Making false claims through advertisement or other means.
 Forcibly demanding a subscription to a magazine, newspaper, or other publication.
 Adulterating food or drink to make a profit.
 Selling injurious food or drink for profit.
 Displaying in a store uncovered food that is eaten raw.
 Polluting drinking water.
 Blocking the free passage of a stream, gutter, or drain.
 Arbitrarily firing a gun or playing with explosives.
 Arbitrarily starting a fire near a house or other building.
 Injuring another person or defacing his property.
 Arbitrarily abandoning, or neglecting to remove, the dead body of a bird or beast, foul matter, or rubbish.
 Circulating malicious or alarming rumors.
 Deluding people by fortune telling, divination, or offering charms and amulets.
 Impeding medical treatment by practicing incantations or prayers, by administering charms or holy water, or the like.
 Practicing hypnosis.
 Treating employees unreasonably.
 Failing to aid a sick or aged person, a child, or a cripple by reporting their needs to the authorities.
 Failing to notify the authorities of a corpse or a stillborn child of which one has cognizance.
 Removing or concealing a dead body without specific permission from the authorities.
 Defiling a Shinto shrine, a Buddhist temple, a church or chapel, a graveyard, a tombstone, a monument, a statue, or any similar object.
 Obstructing a funeral service or any ceremony or procession.
 Obstructing a business procedure.
 Annoying the audience of a theater, concert, or similar assemblage.
 Disturbing the sleep of other people by such acts as singing or loud talking after midnight.
 Releasing, or using without permission, a vehicle, vessel, or animal belonging to another.
 Keeping domestic animals or fowls in a place forbidden by the authorities.
 Neglecting to chain or confine dangerous animals.
 Frightening an animal.
 Ill-treating an animal in a public place.
 Engaging in dog-fighting or cock-fighting without permission.
 Neglecting to confine an insane person in defiance of an order from the authorities.
 Behaving in a disorderly manner while drunk.
 Obstructing a public thoroughfare.
 Failing to mark a dangerous place in a public thoroughfare in a clear manner.
 Leading an animal or operating a vehicle at night without a light.
 Extinguishing without permission the light of another person's vehicle or a public night-light.
 Climbing up a public structure without permission, or using a public structure as a hitching post.
 Using a railroad track as a thoroughfare.
 Engaging in secret prostitution, pandering, or using one's house for such a purpose.

Tattooing or making marks on one's own or another's body.
 Behaving indecently in a public place.
 Committing a nuisance in a park or on a public thoroughfare.
 Creating a public disturbance.
 Soiling, damaging, or removing a posted notice.
 Using or removing any part of government property without permission.
 Disobeying a government summons without legitimate reason.
 Giving a false statement, or refusing to give a statement, to a government office.
 Giving false information to a government office concerning one's name, age, residence, profession, or the like.
 Impersonating a government official.
 Infringing a prohibition announced by, or under the direction of, a government office.
 Interfering with a lawsuit.
 Failing to respond to a call from a patient without legitimate reason, on the part of a physician or midwife.

Violations of Regulations. Regulations and the sanctions attached to their violation are described in connection with the activities to which they relate. See especially 124 for those concerned with religion, 25 for those on sanitation, 262 for those on education, 29 for those on transportation, and 313 for those on fishing.

Penalties. The principal penalties imposed by the Japanese administration are death, fines, detention, and penal labor. Confiscation can also be imposed as an accessory penalty. Some indication as to the distribution of these penalties can be inferred from the available crime statistics (see 222). Japanese offenders appear to be more often fined; native offenders, to be sentenced more frequently to penal labor.

Fines are classified according to severity into fines, i.e., heavy fines, and petty fines. If not paid, fines are commuted into detention at the rate of one day for each yen of the fine not paid.

The facilities for detention consist of a prison, a detention house, and a workhouse attached to each Branch Government. For the Truk district they are located on Dublon Island; for the Ponape district they are in the town of Colony on Ponape. Prisoners serving long terms are transferred to the prison of the Saipan Branch Government, which is better equipped than those of Truk and Ponape.

In dealing with natives, the Japanese apparently discovered that fines and detention were relatively ineffective as punishments, and they have come to rely more and more heavily upon penal labor. By law, penal labor or detention in a workhouse cannot, in the case of a native, exceed a period of one year. Penal servitude obviously offers the advantage of supplying a labor force for public works, although the Japanese have consistently maintained, in their reports to the League of Nations, that it is not to be regarded as a system of forced labor. They likewise insist that it is not wage labor, but they have instituted a system of prizes for persons engaged in penal labor which have much the effect of wages.

229. Records

Official Records. Although many official records are transferred to the headquarters of the South Seas Government at Koror in the Palau district, a considerable number are retained in the Branch Government offices in Dublon and in Colony. Among them, the most important are probably the following: meteorological observations (see 112), census data (see 143), vital statistics (see 144), crime statistics (see 222), police records (see 223), reports of all judicial proceedings (see 227), health records (see 251), educational records (see 262), postal accounts (see 271), shipping records (see 294), registers of travelers and aliens (see 296), reports of agricultural production (see 311), fishing licenses (see 313), real estate records (see 341), probate records (see 343), data on imports and exports (see 345), and fiscal accounts (see 356).

Private Records. Records of employment (see 331) and business transactions (see 326) are probably available at the main and branch offices of commercial firms. Presumably mission stations (see 134) and associations (see 166) likewise keep private records of their own.

23. PUBLIC SAFETY

231. Fire Prevention and Control

Prevalence of Fires. Owing to the high humidity, especially in the high islands, fires are rare in the Eastern Carolines. Although the low islands receive less rainfall, they are also less heavily forested, and consequently serious fires rarely occur. With the growth of larger towns, such as Colony on Ponape, there may have been some increase in the prevalence and seriousness of fires. However, no fires of a serious nature occurred in either the Ponape or the Truk district during the five-year period, 1936-41.

Fire Control. Wherever it has been considered necessary, the Japanese have established official fire-brigades, consisting of about forty men each, which are called out on the occasion of fires, storms, marine disasters, and other calamities. The necessary expenses of these brigades are defrayed by the Government. Each fire-brigade is organized with a captain and a foreman appointed by the Governor. A fire-brigade was established on Ponape in 1937, but none has been reported for Truk or Kusaie.

When there is a fire the brigade acts independently to deal with the situation, but on the occasion of any other calamity the fire-brigade acts under the direction of police officers. To announce a fire an alarm bell is rung continuously; when any other calamity occurs there are two consecutive ringings of the bell. When the emergency is over, there is a single peal of the bell, followed after an interval by two consecutive ringings.

232. Emergencies

Calamities. Storms and epidemics are the major emergencies in the Eastern Carolines. Typhoons occur from time to time, but not with great frequency. Those of 1902, 1905, 1925, and 1935 wrought considerable havoc in the islands (see 112). In 1937 a storm damaged two ships at Truk, killing four Japanese. There have also been numerous epidemics of a serious nature, though none has occurred since the Japanese occupation. Fires are relatively rare.

Emergency Control. Fires are taken care of by the fire-brigade, if there is one available. Other calamities, with the exception of epidemics, are handled by the fire-brigade under supervision of the police. Epidemics are dealt with exclusively by the medical authorities, who may, however, call upon the police for assistance.

233. Defense Organization

Fortifications and Bases. The terms of the mandate from the League of Nations prohibit the erection of fortifications and the construction of military or naval bases. Despite repeated denials by the Japanese in official reports to the League, it is well known that fortifications have been built and air and naval bases established in a number of the Caroline Islands, and that construction began long before the attack on Pearl Harbor. The principal base is at Truk. Information on military installations is found in army and navy publications of a higher classification than the present volume.

Military Training. The mandate from the League of Nations likewise forbids the giving of military training to natives except for the purposes of internal policing and local defense. The Japanese have officially denied that the native population in the mandated area has ever been subjected to military training. In 1941, however, compulsory military training for purposes of defense was initiated on Kusaie, and-presumably also on other islands.

Civilian Defense. The fire-brigades organized to handle emergencies (see 231) might well serve as nuclei for civilian defense in local areas. It is reported that practice blackout tests are held frequently in the town of Colony. On Sunday, February 16, 1941, all the male inhabitants of Kusaie between the ages of twelve and sixty were called to the playground at Lela to begin military training for island defense. This training was announced as compulsory, and it was planned to devote the entire day each Sunday to military drill. Although not specifically reported for Ponape and Truk, it is likely that similar orders were put into effect there.

24. PUBLIC WELFARE

241. Standard of Living

Natives. Judged by European standards, the natives have a relatively low standard of living. Their wealth in terms of money and other material possessions is meager. Under the German and Japanese administrations, however, they have begun to reap some of the benefits of civilization. The mandate accepted by Japan prescribes that the mandatory power shall promote to the utmost the material and moral well-being and the social progress of the inhabitants of the territory. That this has been followed to some extent cannot be questioned. The natives now have opportunities for education (see 262) and recreation (see 155) that formerly did not exist. Their diet is adequate in amount and reasonably varied (see 152). Housing conditions have been improved (see 323). The natives are provided with health and sanitation services (see 25). Earned wages (see 333) permit the purchase of clothing, household articles, trinkets, imported foods, and other wanted goods, although the inflow of foreign products has been severely curtailed since 1940 (see 345).

Japanese. No direct information is available on the standard of living maintained by the Japanese in the Eastern Carolines. It is doubtless quite satisfactory for the military, naval, and administrative personnel. For the civilian Japanese population, which has immigrated mainly from the Okinawa prefecture in the Ryukyu Islands, and for the Koreans, the standard of living is probably still somewhat below the level attained in Japan proper.

242. Poverty and Dependency

Natives. Little is known of the extent of poverty and dependency among the natives. That some natives are so poor that they cannot avail themselves of hospital services is indicated by the existence of a welfare agency supported by the Japanese Government for the care of patients in needy circumstances (see 244).

Japanese. Presumably little or no poverty exists among the Japanese inhabitants. Many of them are civil servants or military and naval personnel, recompensed by the government and protected against sickness and injury by insurance benefits (see 245).

243. Private Relief

Private Agencies. There are no known agencies or institutions in the Eastern Carolines devoted primarily to relief. However, the credit associations and cooperatives function to a limited extent as private relief agencies (see 353). There is no indication that the native Christian churches engage in relief activities, although they may possibly do so in certain cases, e.g., perhaps in Roman Catholic communities.

Informal Relief. Relief is provided informally among the natives by the prevailing customs of hospitality, by support from relatives and clansmen, and by the generosity of the chiefs. The South Seas Government requires that any person knowing of a child, cripple, or sick or aged person in need of relief report the matter to the authorities, and failure to do so constitutes a police offense.

244. Welfare Agencies

Imperial Bounty Foundation Charity Association. In February, 1927, the Emperor of Japan granted ¥ 1,000 from the privy purse to constitute a fund for charity and relief in the South Sea Islands. An organization known as the Imperial Bounty Foundation Charity Association (Onshi Zaidan Jikeikai) was established as a juridical person to administer the fund in carrying out charity and relief works. The principal activities of the Association consisted in the care of patients at leper asylums and in the relief of the sick in needy circumstances.

In August, 1932, the annual gifts of ¥ 1,000 from the Emperor began to be supplemented with other government funds. Aid was administered to the needy either by paying the expenses required for the medical treatment of destitute persons or by sending itinerant physicians to various places to give free medical treatment. Although the imperial annuities ceased in 1934, the Association continued to carry on its work with the aid of

subsidies from the South Seas Government. In 1935, for example, the subsidy amounted to ¥ 4,000. The extent to which this organization has been active in the Eastern Carolines is not reported.

Subsidies to Colonists. Japanese settlers in the mandated islands receive some assistance from the South Seas Government, especially for sanitary equipment and construction. Such grants totaled ¥ 26,916 in 1937, but the proportion of this sum expended in the Eastern Carolines is not reported.

245. Social Insurance

Pensions. The South Seas Government maintains a pension system for its employees. Payments are handled through the post offices. In 1937, 31 persons in the Truk district received pension payments totaling ¥ 2,458, and 28 persons in the Ponape district received payments amounting to ¥ 2,173.

Death, Sickness, and Accident Insurance. Certain kinds of insurance benefits were provided for day laborers on government enterprises by an ordinance of October 21, 1918, amended in 1926 and 1928, and for salaried employees of the government by an ordinance of June 6, 1928. Coverage is afforded to those sustaining injuries, becoming ill, or dying while on duty. The benefits awarded consist of relief from work, medical treatment, a recompense in consideration of physical incapacity, a terminal benefit payable after three years of medical treatment without recovery, a death benefit for the relief of the family, and a grant for funeral expenses. In 1937 the South Seas Government expended a total of ¥ 4,725 for relief benefits under these ordinances.

No social insurance measures applying to workers not in government employ have been reported.

246. Conservation

Fishing Regulations. Fishermen are required to obtain licenses, to refrain from using poison or explosives in fishing, and to observe closed seasons in shell and turtle fishing (see 325).

Soil Conservation and Afforestation. The South Seas Government has concerned itself with soil conservation and rehabilitation in the mandated area. It has sponsored experiments at the Tropical Industries Research Institute at Palau and, by subsidies and education, has attempted to promote the use of fertilizers and the rotation of crops by native agriculturalists (see 311). It has also embarked on a program of afforestation, planting deciduous trees to prevent erosion and to build up the soil.

25. HEALTH AND SANITATION

251. Diseases and Dietary Deficiencies

General Health. The general health of the natives is reported to be poor, but reliable health records are not available. Europeans arriving in the islands encounter some difficulty at first in adjusting to the climate, and are said commonly to show increased heart activity, edema of the limbs, and other symptoms. After a short time, however, their systems become adjusted, and they are said thereafter to enjoy general good health. Japanese women are reported to find the climate of Truk very trying, despite the fact that it is said to be the best in the Carolines.

Skin Diseases. Skin diseases are difficult to cure among the natives, since they are continuously reinfected from their poorly laundered European clothing. Psoriasis, a skin infection covering the body with silvery white scales, is reported to be common in the Eastern Carolines. Erythrasma and Ichthyosis occasionally occur. Bolls are frequent. 'Red bug itch' caused by chiggers occurs to a certain extent.

Leprosy has been present among the aborigines for many years. The disease is relatively rare and has been under control since 1900, when lepers were first segregated. Lepers in the Eastern Carolines are taken to the asylums on Jaluit and Palau for treatment.

Ringworm infections are prevalent among the natives, and are reported to have been present when the islands were first discovered. While nearly all natives are afflicted to a greater or lesser extent, foreigners seldom become infected. A salve of tannin and sulphur has been found moderately effective as a cure. Tinea circinata, a ringworm infection which spreads on the skin in rings with inflamed edges, is general throughout the Caroline Islands. Among the natives of Truk and Kusaie the most prevalent form of the disease, however, is Tinea imbricata. This infection covers the entire body with large scales in a tile-like pattern. Although the natives regard skin infections with a certain distaste, afflicted persons are not avoided and the disease is not a barrier to marriage.

Respiratory Diseases. The natives have become more susceptible to diseases of the respiratory system since the adoption of European clothing. Infectious colds are seasonally prevalent and tend to predispose the natives to tuberculosis. "Influenza" has been present among the natives for a long time, and appeared in epidemic form in 1845. There are usually a number of cases every year at the beginning of the trade winds. Tuberculosis is prevalent throughout the mandated islands and is reported particularly widespread among the natives of Truk.

Infectious jaundice is rare in the Eastern Carolines.

Pollomyelitis was reported for the mandated islands in 1926 and 1927, but the islands in which the cases occurred were not specified.

Mumps was apparently introduced in the latter part of the nineteenth century and is still common. Whooping cough appears occasionally throughout the mandated islands. Measles was brought to Ponape in 1865. In 1918, the disease visited Truk; more than 200 natives contracted the disease, and many died.

Chicken pox occurs occasionally, but is not a serious disease at the present time. Smallpox was introduced in 1853 on Ponape, and many natives died. An epidemic of smallpox in 1854 is said to have caused more than 2,000 deaths. The disease was common throughout the mandated islands in the nineteenth century, but it is now rare or absent. Vaccination for smallpox, though practiced sporadically since 1852, was first instituted on a comprehensive scale in 1922, and is reported to have been an effective deterrent. In 1937 the Japanese vaccinated 121 persons in the Truk district and 156 persons in the Ponape district.

Diphtheria is rare in the Eastern Carolines.

Venereal Diseases. Gonorrhea and syphilis were early introduced by whalers to Kusaie, whence they spread to the other Eastern Caroline Islands. However, syphilis is reported to be relatively rare at the present time.

Gonorrhea is probably very widespread. In 1932 the official estimate indicated that one third of the natives of Yap were infected, and it is likely that a similar situation prevails in the Eastern Carolines.

Chancroid is not specifically reported for the Truk and Ponape districts. However, from two to five per cent of the patients treated in the hospitals of the entire mandated area during the years from 1924 to 1930 were reported to be infected.

Yaws, which is a modified form of syphilis, has been present from aboriginal times and may account, in part, for the relatively low incidence of syphilis among the natives. Gangosa, usually considered to be a tertiary manifestation of yaws, is reported to occur frequently in the mandated islands.

Intestinal Diseases. Amoebic dysentery was introduced in the early 1900's, and occasional outbreaks of the disease have occurred in the Eastern Carolines since that time. During the two years, 1929 and 1930, there were 82 cases of amoebic dysentery on Truk, with 13 deaths, and 11 cases on Ponape, with one death. In 1931 there were five cases in the Truk district and 55 in the Ponape district. In 1937, four cases of amoebic dysentery were reported for Truk, one of them proving fatal.

Bacillary dysentery is not reported for the Eastern Carolines, although it is known to occur in the Palau, Yap, Saipan, and Jaluit districts.

Typhoid and paratyphoid fever are reported to occur occasionally in the mandated islands. During the two years, 1929 and 1930, there were 15 cases of typhoid with four deaths in Truk, and twenty cases with two deaths in Ponape. In the same years, there were two cases of paratyphoid in Truk and one in Ponape. In 1931, one case of typhoid was reported at the Ponape Hospital, and none of paratyphoid.

Hookworm was officially reported to infest nearly fifty per cent of the natives in the mandated area in 1932. Between 1911 and 1912, fifty persons were treated for hookworm on Ponape, and in 1927 a number of cases were reported for Truk. Strongyloidiasis, generally found where there are hookworm infestations, is probably common. Many unspecified tapeworms are reported for the mandated islands. According to the reports of the League of Nations, about 90 per cent of the natives in the mandated islands are infected with Ascaris. Oxyuriasis is relatively rare.

Insect-borne Diseases. Malaria is rare in the Eastern Carolines, although there is some evidence that sporadic cases have occurred in the past. On Ponape, 18 cases were treated in 1899, 12 in 1908-09, 38 in 1909-10, and 68 in 1910-11. Many of these cases were reported to have been introduced from elsewhere, usually from Melanesia. The Japanese official reports to the League of Nations constantly emphasize that the few cases of malaria which do occur in the mandated islands must be introduced from other areas, since there are no anopheline mosquitoes in Micronesia. The evidence definitely indicates that the establishment of malaria in the Eastern Carolines will depend primarily upon the successful introduction of Anopheles mosquitoes. Possible sources for the importation of these malaria-bearing mosquitoes are the Bismarck Archipelago, New Guinea, the Moluccas, the Philippines, and Japan.

Typhus has never been reliably established as occurring in the Eastern Carolines. Occasional references to cases of "typhus" appear in every instance to mean typhoid fever, the confusion resulting from the ambiguity in both the German and the Japanese medical terminology with respect to the two diseases. Although head lice infest the natives of Micronesia, body lice, the vectors of epidemic typhus, are reported to be absent. Moreover, although rats, which serve as reservoirs of endemic typhus, are common throughout the area, available information suggests that the fleas which convey the disease from rats to human beings are rare or absent. However, the possibility exists of the wartime introduction of the vectors of typhus into the Eastern Carolines, since the disease occurs in Hawaii, the Philippine Islands, China, Japan, and New Guinea, and might be introduced to Micronesia from any of these areas through movements of troops.

Filariasis occurs throughout the mandated area, and is present in the Eastern Carolines, although its incidence here is probably low. Women are reported to be less frequently afflicted than men. The disease is said to be especially prevalent on the Nomoi Islands, and it is also reported for Nukunoro and for Truk. Whether the Micronesian form of the disease is nocturnal or non-periodic is not reported, but it is likely that both occur. The form introduced by the Okinawa laborers from the Ryukyu Islands would be the nocturnal type borne by Culex quinquefasciatus (or fatigans), whereas that introduced from Samoa would be the non-periodic type carried by Aedes scutellaris pseudoscutellaris, both of which insects are reported to be common in the mandated islands.

Dengue fever is present in the Caroline Islands. In 1927, over a thousand persons in the Palau group were infected, and in 1928 there were two thousand victims of the disease in the Eastern Caroline and Marshall Islands. Aedes aegypti, the vector of dengue fever, is widespread.

Cholera, bubonic plague, relapsing fever, psittacosis, and sleeping sickness are all stated to be absent in the Eastern Carolines.

Miscellaneous Diseases. The natives are said to suffer occasionally from rheumatic complaints. Trachoma and scabies occur. Six cases of climatic bubo were treated in Ponape in 1903, and seven cases were observed in Truk in the same year. Guha is reported for the Carolines. Various forms of conjunctivitis are said to be common. Two

natives from unspecified localities in the mandated islands were officially reported to be infected with anthrax in 1930. Cerebro-spinal meningitis may be present in the Eastern Carolines, since 293 native and 96 Japanese cases were reported for the mandated area as a whole in 1927.

Hospital Admissions. Some indication of the prevalence and distribution of disease is given by the official reports of admissions to the Truk and Ponape hospitals. The following table gives the average yearly admissions for the four-year period from 1923 to 1927:

Type of Disease	Truk Hospital			Ponape Hospital		
	Natives	Jap.	Others	Natives	Jap.	Others
Infantile diseases	-	-	-	1	3	-
Diseases of the blood and metabolic disorders	0.5	1	-	13	5	-
Mental diseases	-	-	-	-	-	-
Diseases of the nervous system	259	25	1	26	18	-
Glandular diseases	0.3	-	-	0.3	-	-
Diseases of the circulatory system	-	-	-	2	0.5	-
Diseases of the eye	68	24	-	45	14	-
Diseases of the ear	53	16	-	25	13	-
Diseases of the nose and throat	21	12	-	57	45	0.7
Diseases of the respiratory system	501	95	0.7	151	27	-
Diseases of the digestive system	254	108	1	110	90	0.7
Diseases of the teeth	17	16	0.5	10	15	1
Diseases of the locomotor system	26	5	0.5	47	8	0.7
Diseases of the skin (non-tropical)	199	81	0.5	198	69	0.3
Diseases of the urinary and reproductive system (excluding venereal disease)	13	16	-	12	19	-
Injuries	139	38	0.5	98	39	0.5
Deformities	-	-	-	0.5	-	-
Pregnancy and childbirth	1	18	-	4	17	-
Toxicosis	-	-	-	-	0.3	-
Beriberi	0.3	34	-	-	9	-
Cancer	-	-	-	2	0.3	-
Other malignant growths	-	-	-	2	-	-
Benign growths	2	0.3	-	2	0.3	-
Hookworm	0.5	1	-	2	-	-
Roundworm	234	9	-	7	0.5	-
Tapeworm	-	-	-	-	-	-
Lung flukes	-	-	-	6	3	-
Typhoid	1	3	-	-	-	-
Paratyphoid	-	1	-	3	5	-
Influenza	53	12	0.5	-	-	-
Whooping cough (figures are for the epidemic year 1925 alone)	-	-	-	(376)	(23)	-
Tetanus	-	-	-	-	-	-
Infectious cerebro-spinal meningitis	-	-	-	2	0.3	-
Chickenpox	4	0.5	-	4	0.3	-
Measles	-	-	-	-	0.3	-
Erysipelas	0.3	0.5	-	1	1	-
Croupus pneumonia	-	-	-	-	-	-
Leprosy	-	-	-	4	-	-
Pulmonary tuberculosis	18	2	0.5	26	10	-
Glandular tuberculosis	33	0.3	-	16	1	-
Tuberculosis of the skin	-	-	-	2	-	-
Tuberculosis of the digestive system	1	-	-	1	-	-
Tuberculosis of the bones	-	-	-	4	-	-
Syphilis	0.3	2	-	1	2	-
Gonorrhea	33	16	-	7	20	0.3
Trachoma	2	2	-	3	1	-
Tropical skin diseases	30	1	-	50	3	-
Malaria	-	-	-	-	-	-
Amoebic dysentery	0.3	1	-	0.3	1	-
Yaws	500	4	-	754	4	-
Gangosa	3	-	-	3	-	-
Dengue fever	-	0.3	-	-	-	-
Filariasis	3	0.3	1	1	0.5	-

The number of patients treated at the Truk and Ponape Hospitals in 1937, classified according to major disease categories, is given in the following table:

Type of Disease	Truk Hospital		Ponape Hospital	
	Japanese	Natives	Japanese	Natives
Contagious diseases	655	668	552	854
Physical disorders	560	623	101	98
Mental diseases	634	1,100	596	726
Diseases of the circulatory system	65	99	43	48
Diseases of the respiratory system	146	165	396	1,223
Diseases of the digestive system	700	844	966	1,045
Diseases of the urinary tract	290	167	95	50
Pregnancy and childbirth	352	85	37	12
Skin diseases	479	441	746	535
Diseases of the bones and muscles	30	59	69	70
Infantile diseases	46	6	109	83
Injuries	325	157	374	412
Unknown	-	-	374	367
Tropical diseases	90	953	77	838
Total	4,372	4,767	4,535	6,361

252. Native Medicine

Theories of Disease. Throughout the Eastern Carolines most diseases are thought to be caused by angered spirits. This is particularly true of intestinal diseases, fevers, and filariasis. In the case of a protracted and severe illness it is believed that the patient's soul has left the body. If the soul can be recalled, the patient will recover; if not, death is inevitable.

Native Doctors. Since most diseases are thought to be caused by spirits, native medical practitioners are generally religious specialists who are thought to be particularly skilled in the control of spirits (see 154). Certain men and women are thought to be able to diagnose and to cure disease, and such persons generally keep the knowledge of their procedures secret. There is considerable specialization among the native doctors. Some are skilled in massage, some in bloodletting and surgery, others in diagnosis, and still others in the cure of specific ailments. These therapists enjoy considerable prestige in the community and are highly respected. Their power may derive in part from the fact that most doctors are popularly believed to be skilled in sorcery.

Remedies. Native medical remedies include surgery, bloodletting, massage, steaming, the administration of medicinal herbs, and the incantation of spells. Throughout the Eastern Carolines, native doctors are proficient in mending broken bones with bandages and splints, but surgical techniques are particularly well advanced on Truk. Native doctors in these islands are skilled in removing testicles swollen with filariasis, and in substituting pieces of polished coconut shell for damaged bones in the skull, and women practitioners have been known to perform Caesarian operations.

Many herb concoctions are used for specific illnesses. While most of them are purely magical, a few of these preparations may have some medicinal value. The following, reported from Ponape, may be of interest:

An astringent concoction used for urethritis, made from the flowers and leaves of *Hibiscus tiliaceus*.

A fever draught made by boiling the leaves of sweet basil in water.

A resinous oil used for rheumatism, extracted from the kernel of the *Callophyllum inophyllum* fruit.

A decoction made from the leaves and bark of *Compositae*, used for colic and indigestion.

Each medicine is accompanied by a magical formula which is believed to be a necessary part of the cure. The doctor must thus be skilled in magical incantations, as well as in the preparation of medicines.

The Japanese have attempted to stop native medical practices by making it a police offense to impede rational medical treatment by uttering incantations and administering charms.

In recent times the natives have become addicted to bottled "pain-killers," introduced by the traders.

Preventatives. Various amulets and charms are worn in the belief that they will ward off disease. Especially widespread is the practice of hanging bundles of charmed

herbs from the house beams to prevent the entrance of illness. On Fonape, it was formerly the custom for men to extirpate the left testicle as a means of escaping enlargement of the testicles through filariasis.

Native Terms for Diseases. The terms used by the natives for some of the more important diseases with which they are afflicted are listed in the table below:

Disease	Kusaie	Fonape	Truk
Asthma		lukoluk	
Boils and ulcers	ruf	toi, punan	
Common cold		toi	fagfag
Dysentery		pek-en-inta	anudja, bedja
Fever		cho-maupou	
Filariasis			faededeu, petebo
Gonorrhea			tau-en-bua
Hookworm		limangemang	
Leprosy		tuxotuk	
Rheumatism		matak	
Ringworm	uaranit	kili-en-wai	aragak
Smallpox		kilitap	
Syphilis	pance	kenoh	ubueilen
Tuberculosis		limongomong	sangidja
Yaws		kenoh	kilikil

253. Government Medical Services

Government Physicians. Under the German administration a government physician was stationed on Fonape, and another on Truk.

In February, 1915, the Japanese Government promulgated a series of "Regulations Concerning the Medical Treatment of Sick and Injured Persons in the South Sea Islands." One provision authorized naval surgeons to administer medical treatment to civilians.

Under the Japanese civilian administration, government medical officers have been attached to the hospitals of the South Seas Government at Truk and Fonape, and to the branch dispensary at Kusaie. They have combined the treatment of disease with public health activities (see 255). From time to time the medical officers are sent on visits to the outlying atolls, where, in addition to their routine medical duties, they give educational lectures on infectious and contagious diseases, especially venereal diseases.

In 1926 a law was enacted providing for a school physician to be employed by each Branch Government. His duties are to visit the schools in the district once a month, examining the pupils or recommending hospitalization. Each school is equipped with first aid supplies.

Hospitals. During the early part of the German administration a wooden hospital was built on Fonape. In 1908-09 this building was converted into a barracks, and a new building for medical treatment was erected, equipped with an operating room and a laboratory. Spacious verandas were added somewhat later.

In July, 1918, when the organization of the South Sea Islands Defense Corps was altered and the Civil Administration Department was instituted, a Civil Administration Station was set up at each garrison headquarters, and a hospital was established as an affiliate of each station staffed by civilian personnel, replacing the naval surgeons theretofore in service. In the Eastern Carolines such hospitals were established on Dublon Island in the Truk district and on Fonape.

The South Seas Government maintains hospitals at Dublon and at Fonape and a branch dispensary at Kusaie. There are no special leper hospitals in the Eastern Carolines, lepers being transported to the asylums in Jaluit or Palau. Each hospital is in charge of a head surgeon. The head of the Palau Hospital at Koror has supervisory authority over the entire hospital organization, and is directly responsible to the Governor. This position was filled in 1941 by Tamotau Fujii (Sonin), who had had charge of the Fonape Hospital in 1939.

The Truk Hospital has an operating room, an X-ray machine, and has accommodations for 20 patients. It was headed in 1941 by Obikumo Murato (Sonin), who is regarded by the Japanese as a fine surgeon; he is married to a graduate of Kobe College and has two children, a girl of about 13 and a boy of about 11 years of age. In 1939 the surgeon was assisted by three officials of Hannin rank: Kakuto Nishikawa, a doctor; Rokusaburo Amakase, a doctor; and Yosio Shichida, a pharmacist. Three assistant employees and four midwives and nurses completed the staff.

The Ponape Hospital is equipped with an operating room and an X-ray machine, and has accommodations for 20 patients. The head surgeon in 1941 was Noburo Okaya (Sonin). In 1939 the staff of this hospital included the following officials of Hannin rank: Shohhei Yoshida, a doctor; Jiryo Hirai, a pharmacist; and Setauji Matsumoto, a clerk. In addition there were two assistant employees and six midwives and nurses. Gengo Mayezama, who was stationed at the branch dispensary at Kusaie in 1939, was raised to Sonin rank in 1941 and attached to the Ponape Hospital as assisting physician.

The hospitals treat a considerable number of patients, as indicated by the official reports of admissions (see 251). Since 1921 they have also conducted a certain amount of educational work, giving natives instructions in sanitation and training native nurses. The hospitals also keep careful morbidity records, but for the most part these have not found their way into the official reports. The Japanese have also conducted systematic investigations into the causes of death.

Charges for hospital care are lower for natives than for others. Until 1922 the natives received medical treatment free, but in that year rates for natives were fixed at one fourth of those prevailing for Japanese. Certain poor natives were granted reduced rates, or were even exempted from payment (for medical relief to destitute patients see 244). In 1927, hospital rates were graduated into three standard classes, differing according to administrative districts. The Yap and Truk districts were placed in Class C, which had the lowest rate. The Palau and Ponape districts were placed in Class B, with charges fifty per cent higher than those in the Class C districts. In Class A, which included the Saipan and Jaluit districts, the rates were double those of Class C. In 1937 the charges to natives were raised, the Japanese Government justifying the increase by the allegedly improved standard of living. The revenue received by the Truk and Ponape hospitals in 1929 and 1930 is given in the following table:

Revenue	Truk Hospital		Ponape Hospital	
	1929	1930	1929	1930
Natives	¥ 1,765	¥ 2,277	¥ 3,048	¥ 5,995
Non-natives	5,859	8,008	4,744	2,226
Total	7,624	10,285	7,793	8,221

In 1937, the total revenue taken in by the Truk Hospital was ¥ 19,931; the Ponape Hospital received ¥ 18,618.

Native Medical Practitioners. In the Truk and Ponape districts there were no natives serving as assistant doctors in 1937. At that time, however, 45 natives were receiving instruction in sanitation at the hospitals. There were also three native women employed as midwives and nurses. These women were selected from among the graduates of the public schools and received training in the hospitals for one year.

254. Private Medical Practice

Private Physicians. There is one independent Japanese physician on Ponape. It is reported that he is often consulted by natives in preference to the government doctors. No private medical practitioners are reported for the Truk district.

Private Dentists. There are said to be no dentists in Truk, but there are two private dentists at Colony on Ponape. One of them, Dr. Ohashi, is reported to be very proficient. Since there is no dentist on the staff of the Ponape Hospital, the independent Japanese dentists are much in demand. On Kusaie there are two natives, Aloha and Joel, who learned the art of extracting teeth with forceps during the period of German administration.

255. Control of Communicable Diseases

Quarantines. Aboriginal custom prescribes certain quarantine measures which are effective in minimizing the spread of infection. Childbirth has always taken place in a special hut, where the mother and child are isolated with native midwives, and it is noteworthy that childbed fever is unknown. Ill persons are also isolated in a special shelter, according to native custom, thus reducing the chances of contagion.

The Japanese administration imposes a strict quarantine on all incoming vessels. Its enforcement is vested in an assistant expert, who is a physician, and police officers are sent to inspect all arriving vessels. The effectiveness of the quarantine is attested by the absence of cholera, plague, and yellow fever.

Public Health Officers. There are no special public health officers in the Eastern Carolines. Public health affairs are supervised by the government physicians attached to the district hospitals, and are enforced by the police. Public health duties include the enforcement of ship quarantines, the medical examination of prostitutes, the giving of popular medical lectures, the supervision of food and water, the enforcement of sanitary regulations, and the control of epidemics.

Prevention of Epidemics. On February 6, 1915, during the period of military occupation, the Japanese Government promulgated a series of regulations for the prevention of epidemics. Although phrased in terms of the existing military administration, these regulations were repeated exactly in the annual reports to the League of Nations, and were thus presumably in force, with necessary adjustments to the changed organization of the civilian government, throughout the mandate period. They are probably pertinent today, either because they are still in force or because, with military government restored, they have served as the model for similar new regulations.

According to the procedure prescribed, each physician was required to report each case of an infectious endemic disease which he attended to the local medical officer, who in turn reported the case to the Chief Medical Officer (presumably today the head surgeon of the district hospital). The latter informed the competent military administration office, which notified the naval commander, who might issue special orders concerning the methods of prevention to be adopted. The medical officer attached to the forces in the affected locality was charged with the preparation of daily bulletins concerning the patient and the spread of the disease. If the epidemic became serious, the head of the competent military administration office was instructed to organize a committee, one member of which was to be the local medical officer, to undertake the necessary preventive measures.

Among the measures which such a committee was empowered to take, when deemed necessary to prevent the spread of an epidemic, were the following:

- Ordering medical or post mortem examinations.
- Prohibiting communication with all or part of the village affected.
- Restricting or prohibiting the assembly of people for festivals, memorial services, or the like.
- Destroying, or preventing the removal of, articles likely to carry germs.
- Destroying, or prohibiting the sale or transfer of, foodstuffs likely to become the medium of the spread of germs.
- Instituting precautionary measures in markets and other places frequented by large numbers of people.
- Issuing orders for the strict enforcement of cleansing and disinfection, or for the construction, alteration, or abandonment of wells, waterworks, sewers, and lavatories.
- Restricting or suspending fishing, swimming, or the use of water within delimited areas for a period.
- Instituting measures for the destruction of rats.
- Organizing popular lectures on sanitation.
- Destroying infected houses or other buildings by fire, on the order of the chief of the competent military administration office and with the approval of the naval commander.
- Removing patients to isolation wards.
- Ordering the disinfection of patients or their dead bodies before their removal (unless disinfected and special permission were secured, the corpses of victims of epidemics had to be cremated).
- Ordering the disinfection of things contaminated by germs before they could be used, removed, or abandoned.

Many of the regulations concerning the disposal of sewage and waste (see 256) and the supervision of food and water (see 257) likewise have as their primary object the prevention of the spread of disease, as does the medical examination of prostitutes (see 153).

256. Disposal of Sewage and Waste

Sewage. Throughout the Eastern Carolines the natives take considerable care in

the disposal of excreta. The shore is generally used as the latrine. The natives are modest and avoid being observed while relieving themselves, especially by members of the opposite sex.

The policy of the Japanese Government has been to encourage the natives to install and to use pit latrines. By 1932 ten such latrines had been installed on Ponape. A number of toilets were apparently constructed on Truk as well, for it is reported that many outhouses were blown down during the typhoon of 1935. The towns of Colony and Dublon are reported to be equipped with latrines and septic tanks. A few flush toilets have been installed that drain into the sea. The more modern towns constructed under Japanese supervision doubtless have adequate facilities for the disposal of sewage. In many instances, apparently, the natives have followed the example set by the Japanese and have built private latrines. Lavatories are attached to most of the public schools. The natives show a strong distaste for cleaning out toilets, and the most effective punishment which the missionaries were able to devise was that of forcing recalcitrants to perform this task.

Japanese gardeners use night soil as fertilizer.

Garbage. On Vela, Kapingamarangi, the natives have set aside a special place for the burning of refuse, old mats, and the like. In general, however, the natives of the Eastern Carolines are not particular about the disposal of food refuse. To combat this tendency, which they consider most unsanitary, the Japanese have made it a police offense arbitrarily to abandon or to fail to remove garbage, foul matter, or rubbish, or to obstruct the free passage of streams, gutters, and drains.

The Japanese pay considerable attention to house-cleaning; the natives are constantly encouraged to keep their houses and grounds free of litter. The cleaning of buildings and grounds is a regular feature of "Physical Education Day" (see 263), held annually on the third of November under government auspices. To obtain the cooperation of the natives in improving sanitary conditions, the Japanese reward with special badges those who, whether in government employ or not, render distinguished service in improving the conditions of life.

Carion. Abandoning, or failing to remove the body of a dead bird or animal has been made a police offense by the Japanese administration. To abandon a corpse without notifying the police is also a crime.

257. Regulation of Food and Water

Contaminated Foods. In addition to special regulations regarding the sale of meat, the Japanese have instituted two general laws respecting contaminated foods. One makes it a police offense to sell or make a profit from unripe fruit, decomposed meat, or any other injurious food or drink. The second forbids the display without covering at a store of any food or drink which is consumed without being baked, boiled, washed, or peeled. Inspections of foods and beverages undertaken during the year 1937 yielded the following results:

	Truk District		Ponape District	
	Number of tests made	Number found unsatisfactory	Number of tests made	Number found unsatisfactory
Liquor	9,353	124	1,047	-
Fruits and vegetables	-	-	-	-
Canned food	2,735	59	1,890	25
Beverages	7,792	199	5,343	28
Pastries	171	13	1,195	16

Regulation of the Sale of Meat. In 1934 the South Seas Government instituted a special ordinance governing the sale of meat. It provides that all traders in meat must acquire a certificate of health from a physician and must obtain permission to operate from the Branch Governor. If a shop is maintained, the place where meat is displayed must be so constructed that dust and flies are excluded. A suitable refrigerator must be kept, and there must be a covered vessel into which all refuse matter is thrown. All meat must bear a seal of inspection. While at work, the butcher is required to wear a clean outer garment, and the entire shop must be kept clean. Persons suffering from tuberculosis, leprosy, syphilis, or any other infectious disease are forbidden to handle meat.

Japanese regulations also prescribe that animals may be slaughtered only at government abattoirs or by persons appointed as government butchers.

Regulation of the Water Supply. The unsanitary nature of many of the sources

from which the natives obtain their drinking water (see 121) has created a difficult public health problem for the Japanese. The defiling of drinking water or of the vicinity of places where it is obtained has been made a police offense, and all sources of drinking water are supposed to be tested periodically by government agents, although in actual fact such inspections appear to be rare or perfunctory. The natives are encouraged to improve their water supply, and official publications assert that subsidies are offered to aid in the construction of wells and tanks and in the installation of corrugated iron or other suitable roofing materials for surfaces from which rainwater is collected for drinking.

258. Regulation of Drugs and Alcohol

Liquor Control. The natives are fond of beer and gin, but not to excess. Under German rule only the chiefs were permitted to drink imported alcoholic liquors. The Japanese, in conformity with the stipulations of the mandate from the League of Nations, have prohibited the supply of intoxicating liquors to natives and have forbidden the natives to drink liquor except for medical purposes and on religious and ceremonial occasions, for which permission must be obtained from the government. Any native who manufactures, sells, buys, has in his possession, or drinks alcoholic liquor is subject to detention or a fine, and any person selling or giving liquor to a native is subject to a fine.

During the earlier years of the mandate these regulations appear to have been reasonably well enforced. As time went on, however, an increasing amount of bootlegging was carried on by peddlers traveling on the interisland steamers, and the officials grew more and more lax in enforcement. In some instances, indeed, it is charged that the Japanese have plied chiefs with liquor as a means of making them more amenable to control.

The Japanese inhabitants of the islands consume considerable quantities of liquor (see 152), and their drinking is not subject to regulation. The Okinawa laborers, in particular, are heavy drinkers. It is, however, a police offense for anyone to wander around the streets in an intoxicated state.

In 1937, 14 cases of violations of the liquor laws, involving 13 Japanese and 45 natives, were handled by summary decision in the Truk district, and 52 such cases, involving 57 Japanese and 135 natives, came to trial before the Ponape Local Court.

Kava Control. The natives of the Ponape district still drink kava, a non-alcoholic beverage prepared from the *Piper methysticum*, a species of pepper plant (see 152). Native custom prescribes ceremonial kava drinking on such occasions as marriages, funerals, and feasts. If the brew is indulged in habitually, it is thought by the Japanese to cause certain forms of toxicosis, and its use is unquestionably conducive to indolence. For these reasons the Japanese have prohibited the drinking of kava except on authorized ceremonial occasions, and then not more often than once a week.

Narcotic Control. The natives are not addicted to the use of any dangerous drugs, such as morphine or cocaine. The extent of drug addiction among the Japanese population is not reported. The Government, however, has prohibited the manufacture, importation, and possession of narcotics, except in the case of persons who require them for professional purposes and who have obtained special permission. In 1937 it was officially reported that 2 grams of morphine, 35 grams of methyl morphine, and 49 grams of cocaine were brought into the Ponape district and that no drugs were imported into the Truk district.

26. EDUCATION AND PROPAGANDA

261. Family Training

Education in the Home. Aboriginally, education was carried on almost entirely by the family. The native culture was taught to children by their parents and older brothers and sisters. The children were well treated and seldom severely punished, but absence of filial respect was regarded with extreme disfavor and was thought to bring supernatural punishment. Although the natives relied primarily upon scoldings and ridicule to exact obedience, they apparently did not mind missionaries using more drastic means of punishment. Natives are reported, however, to become much incensed if strangers, whom they have not learned to respect, interfere with their children.

Girls learned to help their mothers and older sisters with the household tasks, whereas boys were instructed in masculine pursuits by the older youths and men of the community.

Informal Education. Cultural values and religious tenets were formerly transmitted in part by the myths and folktales which were told at the family circle in the evenings, and practical knowledge was gained by experience guided by instructions and warnings from parents and other adults. Those who were to become specialists in medicine, navigation, or some other art served an informal apprenticeship to acquire special knowledge and skill. Despite mission and government schools, much of the native education is probably still effected by informal means.

262. Educational System

Government Schools. The South Seas Government has established elementary schools for Japanese children and public schools for native children. These educational institutions are under the direct supervision of the Governor of the Nanyo Cho, who determines the curricula, assigns the textbooks, and appoints the teachers. Japanese teachers appointed by the Governor must meet the standards for schoolteachers in Japan. In matters of educational policy the Governor is advised by the Planning Section of the Department of Domestic Affairs.

The Branch Governors may appoint native assistant teachers in the public schools for native children in their districts, but in so doing they must adhere strictly to the rules governing such appointments as determined by the Governor. Native assistants must be over eighteen years of age, must be of sound health and stable character, and must be able to speak Japanese. The Branch Governor may expel any pupil considered to be a hindrance to the education of other pupils. During an epidemic the Branch Governor may reduce the number of school hours for a temporary period, reporting the fact that he has done so to the Governor.

One teacher in each government school acts as principal. He is required to make out a report at least once a year, including details of school attendance and curricula, and submit it in triplicate to the official in the office of the Branch Government who handles educational matters in the district. This official retains one copy for the files of the Branch Governor and transmits the others to the office of the Governor at Koror; the latter keeps the second copy and forwards the third to Japan. The principal may suspend any pupil considered to be deserving of such discipline, but he is forbidden to use corporal punishment as a disciplinary measure.

A school physician is attached to each Branch Government who makes a monthly inspection of the hygienic conditions of each school and a yearly examination of each pupil. A detailed system of school inspections was instituted in 1937. Inspectors are appointed by the Governor to visit the government schools in the several districts and to report to him concerning attendance, teaching methods, records of pupils, sanitation, dormitory conditions, equipment, expenditures, the guidance of graduates, and the protection of the Emperor's portrait and the certified copy of the imperial rescript. Inspectors are empowered to call attention to contraventions of regulations, to criticize methods of teaching, training, and supervision, and to order changes in the daily schedule of teaching.

Expenditures for government schools are reported only for the mandated islands as a whole. In 1936, they totaled ¥ 211,192, including ¥ 123,599 for salaries, ¥ 40,153 for office expenses, ¥ 44,491 for educational expenses, and ¥ 2,949 for construction and repairs.

Public Schools for Natives. The South Seas Government has established five public schools for native children in the Ponape district--one on Kusaie, and one each at

Colony, Ronkiti, U, and Metalanim on Ponape. The combined enrollment for these schools has hovered around six hundred each year since 1934. In 1937, 599 pupils were enrolled, 338 boys and 261 girls. Of this total, nearly half attended the school at Colony, the remaining pupils being rather equally distributed among the other schools. In 1937, 109 of the 275 students at the Colony Public School were taking the advanced supplementary two-year course. All other students were taking the regular three-year course. A total of 174 pupils were graduated from public schools in the Ponape district in 1937.

In the Truk district, seven public schools for native children have been established--one each on Dublon, Fera, Moen, Tol, Udot, Uman, and one of the Nomoi Islands. The combined enrollment has been well over 700 since 1934, and in 1936 and 1937 there were more than 800 pupils. The greatest number attended the schools on Dublon, Moen, and Tol. The Dublon Public School is the only one in the Truk District offering the advanced two-year course; in 1937, 124 of the 280 pupils in this school were enrolled in this course. A total of 244 pupils were graduated from the public schools in the Truk district in 1937.

The Government requires each village headmen to fill a quota of pupils for the public schools each year. Since native parents are usually eager to have their children educated, this requirement has met with little resistance. Parents who do not live near one of the schools frequently move to one of the sections served by a public school to enable their children to attend. Those who cannot do so permit their children to live at the boarding school dormitories. Boarders are taken at the Colony Public School on Ponape and at the Dublon Public School in Truk. Since 1933, there has been an average of 55 boarders each year at the Colony School, and an annual average of 185 boarders at the Dublon School. Since the Kusaie Public School has no dormitory, a pupil who lives too far away from Lele to commute must live either with a local family or in a special house belonging to his village. The various villages of Kusaie own one or more houses at Lele, where the residents of the village stay when they visit Lele and remain overnight, and where their children may live while at school.

The public schools offer a regular course of three years and a supplementary or advanced course of two additional years. The school year covers 48 weeks, and pupils are in attendance six days in each week. The curriculum of the regular course stresses the teaching of Japanese. In the first year the pupils are taught to speak this language, and in the second and third years to read and write it, including kana and Chinese characters in daily use. Half of the curriculum (12 hours a week) is devoted to this subject. The remaining hours each week are devoted to arithmetic (4 hours), singing (2 hours), physical exercise (2 hours), and one hour each to morals, drawing, manual work, agriculture (for boys), and housekeeping (for girls). The same subjects, with the addition of geography, are taught in the supplementary two-year course. Somewhat less time (10 hours a week) is devoted to the Japanese language, and more time (4 hours a week) is given to manual training, agricultural work, and housekeeping. The only textbook in use in the public schools in 1932 was a Japanese reader published in 1925.

The proportion of native children of school age attending the public schools in 1937 is indicated by the following table:

	Number of Children Of School Age	Attending School	Percentage of Attendance
Truk District			
Boys	1,334	554	41
Girls	1,266	424	33
Total	2,610	978	37
Ponape District			
Boys	684	451	66
Girls	596	382	64
Total	1,280	833	65

The teaching staff of a public school consists of one or more Japanese teachers and usually one native assistant. The teaching personnel of Hannin rank in the public schools in 1939 was officially reported as follows:

Dublon Public School

Kizo Ina, principal, treated as of Sonin rank.
Zensaku Iwasaki, part-time teacher, also teacher at the Truk Elementary School.
Naka Yamasaki, teacher.

Tol Public School

Shumbei Sato, principal, also principal of the Tol Elementary School.
Ioho Furuichi, teacher.

Moer Public School
Teutomu Yokoyama, principal.
Tadayoshi Watanabe, teacher.

Fefan Public School
Masazo Watanabe, principal.

Uman Public School
Hirasaburo Tsuchii, principal.

Udot Public School
Seieki Takino, principal.
Ichio Furuichi, teacher.

Mortlock Public School (Nomo Islands)
Keiji Murada, principal.
Ichio Furuichi, part-time teacher, also teacher at the Udot Public School.
Zensaku Iwasaki, part-time teacher, also teacher at the Dublon Public School.

Colony Public School (Ponape Island)
Tauremase Cho, principal, treated as of Sonin rank.
Mitsuo Futagawa, teacher.
Sho Hanshima, teacher.
Shoichi Miura, teacher.

Kiti Public School (Ponape Island)
Setsuzo Chashi, principal.
Iwasuke Yamashita, teacher.

Metalanim Public School (Ponape Island)
Tokutaro Aigawa, principal.
Junichi Tanaka, teacher.

U Public School (Ponape Island)
Onoi Itaya, principal.
Kijuro Yanamatsu, teacher.
Junichi Tanaka, part-time teacher, also teacher at the Metalanim Public School.

Kusaie Public School
Shoichiro Nishimura, principal.
Shigahiko Ibaraki, teacher.

A public school consists of at least a classroom building and a teachers' residence. In addition, at the Colony Public School and the Dublon Public School there are dormitories for boarding students, supervised by teachers assigned by the principal. Adjacent to the school buildings is a play yard. The school buildings and grounds in the Eastern Carolines have been considerably improved under the Japanese administration, and they are reported to be in a state of good repair. Each schoolhouse is reported to be equipped with a latrine. Although most of the buildings are of wood, some have been constructed of stone or brick. The schoolhouse on Udot Island in Truk, for instance, is a one-story brick building containing a teachers' room and a number of classrooms.

Pupils are provided free of cost with textbooks (selected by the Governor), with other school supplies, with medical services from the school physician, and in some cases with clothing. Pupils who live at a school boarding house are likewise provided with food and lodging at government expense.

Elementary Schools for Japanese. The South Seas Government maintained four elementary schools for Japanese children in the Eastern Carolines in 1937. Three of these were located in the Ponape district, one at Metalanim, one at Shunrai in Jokaj, and one at Colony, the last offering advanced courses in addition to the regular curriculum. In the Truk district there was one school for Japanese, on Dublon Island, although a second was established on Tol Island by 1939. In 1937, 188 students were enrolled in the school at Colony, 48 in the Shunrai school, 69 in the Metalanim school, and 130 in the Truk school. Of those enrolled in the Colony school, 23 were taking the advanced course. The number of graduates from each school in the same year was as follows: Colony, 20; Shunrai, 7; Metalanim, 5; and Dublon, 8. In 1940 a school for Japanese children was established on the main island of Kusaie across from Lele. It was run by Mrs. Nishimura, the wife of the principal of the public school for native children, and was attended by about five pupils in 1941. Whether this was a government or a private school, however, is not reported.

The elementary schools for Japanese children offer a regular course covering six years, and the school at Colony offers a supplementary advanced course of two years. In the regular course, intensive training in the Japanese language is stressed, from nine to thirteen hours a week being devoted to diction, grammar, reading, and writing. Arithmetic is taught six hours a week. Throughout the course, two hours a week are devoted to

the study of ethics, and two hours to singing, calisthenic drill, and sports. The remainder of the curriculum provides the pupils with an elementary knowledge of Japanese geography and history, natural science, sewing (for girls), and drawing (for boys). The supplementary two-year course gives advanced classes in the same subjects. The only textbook in use in the elementary schools in 1932 was the South Sea Islands National Reader, which was first compiled in 1917, revised in 1919, and reprinted in 1927. No tuition is required of the Japanese children, but they must provide themselves with materials demanded by the curriculum.

The teaching staff of an elementary school for Japanese children consists of one or more Japanese teachers of Hannin rank and, in some instances, an assistant instructor, also Japanese. All teachers have received their educational training in Japan and have been selected from among those qualified to teach in comparable positions in the schools in Japan proper. The teaching personnel of Hannin rank in the several schools, as reported in 1939, is given below:

Truk Elementary School (Dublon Island)

Hoji Togaishi, principal.
Zenseku Iwasaki, teacher.
Muneco Matsumoto, teacher.

Tol Elementary School

Shumbei Sato, principal.
Toshiyoshi Ariyoshi, teacher.

Ponape Advanced Elementary School (Colony)

Sekuma Sato, principal.
Tetsuzo Iida, teacher.
Kiyotoshi Ikeda, teacher.
Toshio Imaizumi, teacher.
Toshiro Sakamoto, teacher.
Sawa Haniu, teacher, female.
Shigehiko Ibaraki, part-time teacher.

Metalanim Elementary School (Ponape Island)

Ryochi Sakamoto, principal.
Haruhiko Tsunida, teacher.

Shunrai Elementary School (Jokaj district, Ponape Island)

Yoshisata Sankoku, principal.

Kindergartens. A kindergarten for Japanese children was opened on Ponape in 1927, and another was established on Dublon Island in Truk in 1936. In 1937, there were 43 pupils in attendance at the former and 30 at the latter. Each school was staffed by two Japanese teachers. The curriculum of a Japanese kindergarten consists of stories, singing, games, handicrafts, and training in observation. The children attend school for three hours a day, six days a week. The standard tuition fee throughout the mandated islands is ¥ 3 per month per child, with a reduction of 50 per cent for a second child from the same family.

Vocational Schools. There are no vocational schools in the Eastern Carolines. However, a few natives have been sent each year since 1926 to the Apprentice Woodworkers Training School at Koror in Palau (see 334). In the four-year period from 1933 to 1937 a total of nine natives from the Truk district, and five from the Ponape district, graduated from this training school.

Educational Associations. In 1924, on the occasion of the marriage of the Emperor of Japan, an organization known as the Imperial Bounty Foundation for the Encouragement of Study (Onshi Zaiden Shogoku Kai) was established for the "encouragement of study among school children in the islands." After its initial imperial grant of ¥ 2,000, it received a similar amount each year from the South Seas Government, in addition to contributions from miscellaneous sources. By 1937 it had accumulated a fund of ¥ 25,300, of which ¥ 21,500 was invested in 5 per cent government bonds. The activities of the association are the following:

Commendation of exemplary pupils. Prizes are awarded at the end of each school year to native and Japanese pupils with outstanding scholastic records, and Japanese pupils with exceptionally good health records are publicly commended.

Contributions to school libraries. Annual grants-in-aid are made toward the maintenance of libraries in the public, elementary, and vocational schools.

Publication of an educational magazine. An educational magazine, called *Hinohikari* (Light of the Sun), is published several times a year, and copies are distributed gratis to natives who have graduated from the public schools.

Scholarship aid. The association offers scholarships for study in Japan to natives who show promise of being useful in the development of the islands, and also to natives who aspire to become teachers. In 1932, two scholarships of the former type and one of the latter were given in the mandated islands as a whole.

A second organization, the Educational Association of the South Sea Islands (Nanyo Gunto Kyoiku Kai), was organized at about the same time "to carry out the study of educational problems and engage in various activities in the sphere of social education." It is supported by a modest annual grant of ¥ 600 from the South Seas Government, supplemented by contributions and membership fees, and it publishes a bimonthly professional journal, Gunto Kyoiku Kenkyu (Insular Educational Research). It has local branches at the seats of the district governments which engage in research, sponsor lectures and motion pictures, direct young people's associations (see 166), and assume leadership in community educational matters.

Both the above associations are clearly concerned with adult education and propaganda, as well as with the promotion of public school education.

Church Schools. The American missionaries instituted a policy of establishing a school with each church and preaching station. Native children attended these church schools five days a week. The instruction was provided by native teachers, who had usually been trained at the Mission Training School at Kusaie and who were often later ordained and became pastors. The pupils were taught mainly to read and write in their native language, using translated hymns and Bible excerpts as texts. Much time was devoted to practicing the group singing of hymns. A smattering of arithmetic and geography was also taught. Classes were conducted exclusively in the native language, not in English or Japanese.

Since 1935, when attendance at the government public schools was made compulsory for native children, most of the church schools which had not already succumbed to competition with the superior Japanese schools closed down. In Kusaie, however, they continued to operate, drawing their pupils either from the children too young to attend the public schools or, more usually, from those who had already graduated and who wished to avail themselves of the opportunity to learn to read and write their own language. In 1941, church schools were still functioning at the villages of Lele, Malem, Tafwensak, and Utwe.

Mission Schools. The Boston Mission established the Micronesian Mission Training School at Kusaie in 1880 for the purpose of training Marshall and later Gilbert Islanders to become native evangelists (see 134). After World War I, Kusaiean children were admitted to the school, but for the purpose of getting a general religious education rather than of receiving special training as evangelists. Somewhat later a few general students were also admitted from other islands in the Eastern Carolines. Since 1939, the Japanese have refused to allow boys to come to the school from the Marshall Islands; and in 1941 this prohibition was extended to girls.

Instruction at the Mission Training School at Kusaie has always been in native languages--first in Marshall and Gilbert and later also in Kusaiean. Since 1936 the curriculum has consisted of Japanese, English, Bible, music, arithmetic, algebra, geography, and weaving. Japanese is taught five days a week, and the other subjects from two to five days a week, each class being 35 minutes in duration. The school has been financed by grants from the American Board of Commissioners for Foreign Missions, supplemented by contributions of money and food from the Marshall Island churches, by food gifts from the Kusaieans, and by a ¥ 5 tuition fee paid by children from other islands. Native teachers receive their board and ¥ 250 a year per household (i.e., the same for a married couple as for a single teacher). Japanese teachers receive ¥ 50 per month. The school has been practically self-supporting as far as food is concerned, since it maintains a large garden and orchard, as well as cows, chickens, and pigs, all cared for by the pupils. The boys attending the school also catch enough fish to supply the school.

When the American missionaries, Miss Wilson and Miss Baldwin, left Kusaie in 1941, the school was taken over by Miss Suzuki, a Japanese Christian woman who was on the staff. Later in 1941 Miss Yamada, a former teacher at the school, was sent from Japan to assist. The rest of the staff at that time was composed of Frank Skillings, the son of the pastor of the church at Lele; his wife, Srue; Rose Kaumai, a Gilbert Islander who had received most of her schooling in America; and Caleb and his wife, Lilly, two Marshall Islanders. Approximately sixty pupils were attending the school in 1941, one from Pingelap, one from Kapingamarangi, one from Ponape, and the remainder about equally divided between Marshall Islanders and Kusaieans.

Mr. Tanaka, the son-in-law of the pastor of the Nanyo Dendo Dan church at Colony, Ponape, ~~was~~ operating a mission training school at U in 1941. Only graduates of the public schools were admitted to this school, at which theology and other subjects were taught.

The students were presumably trained to become native evangelists, but not all of them went on to become ordained. There were approximately forty boys at this school in 1937.

Both the Nanyo Dendo Dan and the Leibenzeller mission operate evangelists' training schools for boys at Truk. The combined enrollment of these two schools was 47 in 1937. There are also two Protestant mission schools for girls in the Eastern Carolines. One of them, conducted at Udot in Truk by Miss Zuber, a German Liebenzeller missionary, had an enrollment of 36 in 1937. The other, operated at Colony in Ponape by Mrs. Tanaka, the wife of the Nanyo Dendo Dan pastor there, had an enrollment of about 20 in 1941. Religion and handicrafts are taught at these schools.

The Jesuit missions operate two schools in Truk, where pupils who do not attend the public schools receive religious instruction and an elementary education. The enrollment of these schools in 1937 was 77 boys and 92 girls.

Physical Education. Physical education is promoted by setting aside November third of each year as a special Physical Education Day, with appropriate activities (see 263). Considerable emphasis is also placed upon physical education in the regular curriculum of the public schools, in which calisthenics and athletic sports constitute part of the daily program.

Literacy. As a result of the educational program of the missions, a high proportion of the natives of the Eastern Carolines can read and write in their own language. This is particularly true of Kusaie, where nearly everyone is literate in Kusaian.

Although the majority of the natives under 30 years of age have had intensive training in the Japanese language for three years, only those who hold government positions, e.g., as assistant school teachers, have any real competence in reading or writing Japanese. Those who have taken the five-year course, however, know a few Chinese characters and are usually literate in kana. According to official reports, approximately 4,000 natives in the Eastern Carolines have had intensive instruction in speaking Japanese for a period of at least three years in the public schools. In actuality, however, their ability to speak Japanese will depend very largely on the extent of their individual contacts with Japanese since graduation.

Very few natives are literate in English. The exceptions for the most part are native evangelists who have attended the Mission Training School at Kusaie. About a dozen of these evangelists are reported to be able to speak English well and to possess a modest facility in writing the language.

263. Propaganda and Public Relations

Propaganda Policy. In all propaganda issued by the Japanese to the natives, primary stress is laid upon the greatness, might, and invincibility of the Japanese empire. The attempt is made to impress upon the natives that Japan is the leader in world civilization. Thus pupils in the public schools are taught that airplanes, electric lights, and other outstanding technological achievements were invented by Japanese and copied from them by Europeans and Americans. The teaching of history is forbidden in the mission schools, lest the students encounter contradictory evidence.

There has been no propaganda emphasis upon the common interests and fundamental unity of the peoples of Eastern Asia and the Pacific. The Greater East Asia Co-prosperity Sphere had played no role in the Japanese propaganda in the islands as late as 1941. The objective seems to have been to intimidate rather than to conciliate the natives.

Propaganda in the Schools. The Japanese have used the public school system as a main channel for propaganda. Japanese standards of conduct are imposed upon native pupils throughout their course, and Japanese ethics and morals are taught one hour each week. Courses in history are primarily concerned with the history of Japan, and those in geography start with the mandated islands and lead thence to Japan. The schools for Japanese are legally required to keep a carefully guarded picture of the Emperor, although this regulation is said not to be observed except perhaps at the Ponape Advanced Elementary School. All Japanese national holidays are celebrated by a special ceremony in which both pupils and teachers participate. This ceremony includes singing the Japanese national anthem in chorus and a lecture by the principal on the meaning of the holiday.

The school principals have organized young men's associations (see 166) and alumni societies, and propaganda lectures are frequently given at the meetings of these organizations. The educational associations (see 262) are likewise concerned to a considerable extent with propaganda.

Physical Education Day. Since 1928, the third of November of each year has been

set aside as Physical Education Day, and a celebration is arranged under the auspices of the government offices, the schools, and the educational associations. Although ostensibly intended to promote and encourage physical education, the occasion is made to serve a variety of propaganda purposes. The attention of the public is secured by such means as the distribution of artificial flowers or badges. The program for the day includes such activities as athletic sports, games, and excursions; exhibits, lectures, and study groups on physical education and its value; public commendation of persons in robust health and of accomplishments in physical education; physical examinations and hygienic training; and communal cleaning of buildings and grounds.

Trips to Japan. Since 1923, tourist parties of native village officials, men of local influence, and young men who will become local leaders have been sent every year to Tokyo, Osaka, and other noteworthy places in Japan. The visit usually lasts twenty days, and the Japanese Government pays half of the expenses. These trips have apparently been successful; the natives have enjoyed them greatly and have been much impressed by what they have seen. In 1937, ¥ 1,500 was allocated by the South Seas Government for such tours to Japan, mainly by natives of the Eastern Carolines. Of the 24 natives who were given such trips in 1937, eight were from the Truk district and fifteen from the Ponape district.

Honors. On July first of every year, persons adjudged to have improved native communities are publicly honored. Village officials receive red badges; others, green badges. Yellow badges may be given to persons who have been especially assiduous in the pursuit of agriculture. By 1931, four natives in the Truk district had been honored in this manner. More recently two natives of Kusaie, Sigra and Kefwas, have received badges.

Use of the Channels of Communication. Radio and motion pictures, in view of their relatively slight development in the islands (see 273, 274), are of little use as vehicles of propaganda. Posters are employed to some extent, and periodicals (see 275) still more widely.

264. Censorship

Postal Censorship. All incoming and outgoing communications must pass through the post offices at Ponape and Truk (see 271). It is probable that they have always been subject to censorship here, although there is no conclusive proof. In 1940, however, censorship of outgoing first-class mail became official, and all foreigners were required to submit letters unsealed to the police stations.

Censorship of the Press. An ordinance of the South Seas Government, promulgated in 1929 and amended in 1933, specifies in detail the matter which newspapers and journals may not publish, and empowers the Governor to prohibit the same and distribution of local or imported periodicals if he adjudges them to contain matter "injurious to the public peace and good morals."

Surveillance of Visitors. Visitors to the Caroline Islands must register with the Branch Governor of the district visited and are liable to deportation if thought likely to disturb the public peace or morals, and visits by Europeans and Americans have been markedly discouraged (see 296). Through such a policy, coupled with censorship, the Japanese have been able to keep almost complete control of all information entering or leaving the islands.

27. COMMUNICATIONS

271. Postal Service

Post Offices. During the period of military administration, the Japanese established post offices to handle military communications, and these were subsequently expanded to deal with private communications. With the formation of the South Seas Government these military offices were replaced by government post offices. Regular post offices have been established in the Eastern Carolines at Dublon in Truk and at Colony in Ponape, and a special post office has been set up at Lale in Kusaie. Each post office and special post office is headed by a postmaster. The postmaster of the Saipan Post Office serves as the administrative head of the entire postal organization in the mandated islands, and reports directly to the Governor. This position was held in 1941 by Teiji Nakane (Sonin). The regulations governing postal affairs are essentially those prevailing in Japan proper. The Governor is advised on postal matters by the Postal Affairs Section of the Department of Economic Development at Koror.

The postal business handled by the post offices is classified as ordinary and special mail, ordinary and special parcel post, postal money orders, and postal savings (see 353). In 1927 the post offices were directed to handle business connected with the annual revenues and expenditures of the South Seas Government. The post offices also operate all public telegraph, wireless, and telephone facilities (see 272).

Postal Personnel. In 1939 the postmaster of the Ponape Post Office was Mochita Sakiyama (Hannin). His staff included the following officials of Hannin rank: three communications clerks, Umejiro Adachi, Satao Ito, and Mashi Kaneko; two assistant communications experts, Ryuhei Arai and Hojiro Nakamura; three assistant communications clerks, Nobuji Itakaki, Yoshizo Namekura, and Daitaro Seo; and one additional clerical employee. The postmaster at the special post office on Kusaie in the same year was Shigetaro Hirano (Hannin).

In 1939 the postmaster of the Truk Post Office was Teiji Fukunaga (Hannin). He was assisted by the following officials of Hannin rank: four communications clerks, Benichi Iguchi, Ryuhaeni Matsusaka, Yoshio Okawa, and Takeo Ono; three assistant communications experts, Ryoze Hiramatsu, Kaho Kitabatake, and Shigeo Hairida; three assistant communications clerks, Toyomi Oi, Kazuo Sasaki, and Goro Tomoto; and one additional clerical employee.

Mails. Throughout the mandated area the postal service depends upon the steamship lines (see 294) to carry the mails. Between 1927 and 1935, mail was received at and dispatched from Truk and Ponape about once a month. In 1936 the interval between mails was decreased to about three weeks. Since the development of air transportation in the islands airmail service has presumably been instituted, but no specific information is available.

The number of letters and parcels handled by the post offices at Truk and Ponape in 1937 is given in the following table:

	Truk		Ponape	
	Japanese	Natives	Japanese	Natives
Letters received	152,214	4,003	188,991	4,211
Letters sent	267,230	3,951	382,660	5,586
Special letters received	2,158		2,543	
Special letters sent	3,013		2,933	
Parcels received	813		933	
Parcels sent	1,110		1,612	
Special parcels received	1,269		1,065	
Special parcels sent	7,824		6,988	

Natives seldom use the post offices. They usually entrust their letters and packages to friends, who give them to the addressees. However, natives do correspond to a limited extent with other natives living in distant islands and with missionaries who have gone to Japan or returned to their own country. They also make use of the postal system in purchasing goods from mail-order houses in Japan.

Postage. The standard postal rate for letters to any part of the Japanese Empire is three sen; letters to other countries require a postage of 20 sen. The revenue from the sale of postage stamps in 1937 amounted to ¥ 30,377 at the Truk Post Office and to ¥ 16,738 at the Ponape Post Office, as compared with ¥ 281,366 for the mandated islands as a whole.

272. Telephone, Telegraph, and Cable.

Telegraph. During the period of military occupation the Japanese established telegraph offices to deal with military business, but in 1922 the telegraph service was transferred to the jurisdiction of the Governor of the Nanyo Cho, and its operation was entrusted to the post offices. Telegrams are accepted either in Japanese or in European languages.

The post offices at Truk and Ponape are equipped to transmit messages by wireless to or from Yap, Palau, and Jaluit. The wireless station at Truk serves as intermediary between Palau and the islands in the east. Since it is in direct communication with Rabaul, it also handles messages to and from the islands of the South Pacific. At Yap, connection is made with two submarine cables, the Yap-Nawa line, used for communication with Japan and thence with foreign countries, and the Yap-Guam cable, used for communication with the Philippines and the United States. The latter cable, however, has been in disrepair since 1925. Palau maintains direct wireless communication with Japan. There are also wireless stations on Alet Island in Puluwat atoll, and on Nunakitsu Island in Kapingamarangi atoll. There is a military wireless on Lele Island, Kusaie.

Rates for domestic telegrams are governed by two tariffs, one for interisland messages and one for communications between the islands and Japan. The charges for foreign telegrams are the same as those prevailing in Japan, except that reduced rates are allowed for direct wireless communications with Rabaul, Nauru, other Pacific islands, and Australia. The revenue from telegraph operations in 1937 was ¥ 11,110 in the Truk district, and ¥ 11,520 in the Ponape district, as compared with a total of ¥ 74,034 for the mandated islands as a whole.

Cables. No submarine cables touch the Eastern Caroline Islands. The nearest cable station is at Yap in the Western Carolines. However, cable connections are believed to exist between Dublon and other islands in the Truk group.

Telephone. In July, 1927, the South Seas Government issued a series of "Rules for the Telephone Service in the South Sea Islands," and telephone services were initiated shortly thereafter at the post offices in Palau and Saipan. They were operated, however, exclusively for government use, and as late as 1937 no public telephone facilities had as yet been installed at the post offices of any of the Branch Governments.

A private telephone system, presumably for commercial use, is reported for Ponape. On Ponape there is also a small telephone system connecting various government offices in the town of Colony. A similar telephone system has been established on Dublon Island in Truk. In 1937 it was reported that there were 19 telephone sets in the Truk district, and 24 in Ponape. Military telephone communications are doubtless in operation today at various places in the Eastern Carolines.

273. Radio

Radio Stations. A radio station, powerful enough to broadcast to Japan, was formerly located on the high hill of Lele Island in Kusaie, but it is reported to have been dismantled and transported to Ponape. In 1939 a license was granted to operate a radio station, JPK, at the police station on Lele Island. This station was permitted to use short-wave equipment and was probably in full operation early in 1942.

A radio station with the call letters JRV is located behind the town of Colony on Ponape. It is in direct communication with Japan and transmits telegrams by radio to Yap. Naval radio stations are reported for Langar and Jokaj islands in Ponape.

At Truk on Dublon Island there is a powerful radio station, JRT, with at least 15 Japanese operators and powered by three diesel-oil generators. It is a modern station with two steel towers 12 feet in diameter and 275 feet high. The radio consists of two sets, a 20 kw. (Paulsen) and a 5 kw. quenched gap spark, communicating on 72, 123, 438, 600, 7300, and 14320 kc. Four other radio stations are reported for Truk, their call letters being JPD, JPE, JPH, and JPL.

There is a military radio station on Kapingamarangi, and naval radio stations have been reported for Pingelap and Puluwat. As late as 1941, no radio stations were reported for Losap, Mokil, Namoluk, Namonuito, Ngatik, the Nomoi Islands, Oroluk, Pulap, or Pulusuk.

Receiving Sets. Mr. Arthur Herrman of Lele Island, Kusaie, is reported to have had a short-wave receiving set in 1941. Although no specific information is available, probably few if any of the native inhabitants of the Eastern Carolines possess receiving sets. All police stations are reported to be equipped with radio receiving sets.

"274. Motion Pictures

Moving Picture Theaters. No motion picture theaters are reported for the Eastern Carolines, although there may be one in the town of Colony on Ponape. However, motion pictures are prepared in Japan to be shown in the mandated islands, and are said to be projected on occasion against the side of a building or a ship. In 1937, 41 motion pictures are reported to have been shown in the Truk district, with a total attendance of 18,346, and 48 in the Ponape district with a total attendance of 32,827. It is likely that most of those attending these performances were Japanese.

Educational Motion Pictures. The public schools are reported to make no use of educational motion pictures. However, the local branches of the Educational Association of the South Sea Islands (see 262) occasionally sponsor motion pictures, presumably of an educational nature.

275. Newspapers and Periodicals

Newspapers. In 1935, seven newspapers were published in the Japanese mandated area. They bore the following names: Nanyo Shinko Nippo, Nanyo Rajio Shimbun, Nanyo Nichinichi Shimbun, Truk Jiho, Dempo Shimbun, Caroline Times, and Yap Nippo, all but the first three being inconsequential. The place of publication is not reported for any of these journals.

According to detailed regulations promulgated by the South Seas Government in 1929, the publisher of a newspaper is required to inform the authorities of material to be published and to present them with copies of each issue. A revision in 1933 made it necessary to obtain official permission in order to start a newspaper. Like other periodicals, newspapers are subject to censorship (see 264).

Official Gazette. On December 17, 1936, the Archives Section of the Secretariat of the South Seas Government was instructed to publish an official gazette. Its contents, though nowhere explicitly described, presumably consist in the main of laws and regulations. The express purpose of this official publication is to keep village chiefs and other officials informed of changes in existing ordinances and regulations.

Educational Periodicals. Each of the two principal educational associations (see 262) publishes a periodical. The Hinohikari (Light of the Sun), a magazine published by the Imperial Bounty Foundation for the Encouragement of Study, is issued several times a year and is distributed free of charge to native graduates of the public schools. The Gunto Kyoiku Kenkyu (Insular Educational Research), a journal for professional educators, is the bimonthly organ of the Educational Association of the South Sea Islands. Some of the local branches of the latter association are said to issue magazines of their own, but whether or not there are such publications in the Truk or Ponape districts is not reported.

Missionary Tracts. A printing press at the Mission Training School on Kusaie, run by natives under the direction of the missionaries, publishes religious tracts and translations of sectarian publications in Kusaian and other native languages for use in religious services and for distribution among the Christian natives.

28. PUBLIC UTILITIES

281. Water System

Waterworks. There are few waterworks of any magnitude in the Eastern Carolines. The largest is a dam which was reported under construction in 1936 on the Tawenjokola River, three miles south of the town of Colony on Ponape. This dam, which was expected to provide a fair sized reservoir, has probably now been completed. The principal facilities for the artificial storage of water are wells, cisterns, and tanks (see 121). For the regulations concerning drinking water see 257.

282. Sewerage System

Sewers. There are no extensive sewerage systems in the Eastern Carolines. The only modern methods for the disposal of sewage are pit latrines, septic tanks, and a few flush toilets (see 256).

283. Gas Works

Illuminating Gas. Illuminating gas is not used in the Eastern Caroline Islands, and there are no gas works.

284. Electric Light and Power Facilities

Electric Lights. Since 1924 electricity has been supplied by the government to public consumers on Dublon Island, Truk, under the direction of the Branch Governor. Ice has been manufactured as a side line since 1928. In the Truk district in 1937 there were 638 electric lights in official use, and the governmental revenue from electric power and light amounted to ¥ 7,842.

In the town of Colony on Ponape, electricity was still being supplied by a private concern in 1932, although for some time the government had planned to take over the enterprise. Apparently this had been accomplished by 1937, since it was officially reported that the South Seas Government derived a revenue of ¥ 14,593 from electric power and light in the Ponape district during that year. In the same year 1,437 electric lights were in official use in this district.

In Kusaie, Mr. Arthur Herrman's house and repair shop, the post office, the weather station at Lele Harbor, and a newly constructed building at Malem are supplied with electric lights.

Power Plants. The dam which in 1936 was under construction across the Tawenjokola River in Ponape (see 281) was intended to supply water for a hydro-electric power plant at Nanpil, as well as to provide a reservoir for the town of Colony. Three other electric power generators, operating with diesel engines, are reported for Ponape, each of less than fifty kws. Two similar generators are reported for Truk, one of which is located at Dublon. There is one such generator on Kapingamarangi. On Kusaie there is a power plant for the post office, another for the weather station at Lele Harbor, and a third has been reported at a government building at Malem. A small plant supplies electricity to Mr. Arthur Herrman's house and repair shop at Lele. Power stations have doubtless been installed to supply electricity to the newly constructed airfields (293) and radio stations (273).

285. Public Buildings, Parks, and Improvements

Schools. Most of the seventeen public and elementary schools operated by the South Seas Government (see 262) are housed in wooden buildings, but a few schoolhouses are constructed of stone or brick. The buildings of the Mission Training School at Mwot in Kusaie include a chapel, a three-story building with classrooms and dormitory facilities for girls, three dormitories for boys, and four houses occupied by teachers.

Hospitals. The South Seas Government operates hospitals at Colony in Ponape and at Dublon in Truk (see 253). Both are equipped with laboratory facilities, X-ray equipment, and operating rooms, and the Truk Hospital has a large sun parlor with a consulta-

tion room at one end. The Ponape Hospital, called Koroniya Iin by the Japanese and Imen Wini by the natives, is a one-story frame building with a galvanized iron roof.

Government Buildings. The offices of the Truk Branch Government are situated on a hill in the town of Dublon. They are light airy structures of wood, with tin roofs. Other government buildings at Dublon include the post office and the radio station. There are also on Dublon Island a number of small wooden barrack-like buildings bearing the names of the other islands of the Truk group and possibly used as dormitories by visiting natives of the other islands.

The government buildings at Colony on Ponape include the office of the Ponape Branch Government, the district courthouse, the post office, the jail, the radio station, the meteorological observatory, and a branch station of the Tropical Industries Research Institute. The Branch Government office, situated on Government Hill, is a white two-story wooden building with a wide veranda and long one-story wings on either side. The Ponape Local Court is housed in a one-story frame building on the side of the hill, with a large veranda. The most imposing building at Colony is the branch station of the Tropical Industries Research Institute. It is a modernistic five-story brick building, set well back from the road. In front of the building are two low white structures which house meteorological instruments and a rain gauge.

The government buildings in Kusaie are located on the main island of Ualan opposite Lele. The post office and the weather station are constructed of concrete. The radio station has two masts and a power plant. A large wooden structure was being erected near the above buildings in 1941, and a large government building was built on the hill back of the village of Malem in 1940. Each village on the island of Kusaie has an assembly hall; that in Malem is rectangular with wooden walls and a concrete floor.

Parks. There are public parks in the towns of Colony and Dublon. The Ponape Public Park at Colony is an attractive little plot with ornamental trees and rocks, a swing for children, and an octagonal pavilion on eight posts with a corrugated roof. There is a small recreational field on Lele Island in Kusaie. The Ponape Gurando (Ponape Athletic Ground) at Colony is a ball-field with a wire back-stop, a score-board, and a shelter for the players. Each government school is equipped with a playground (see 262).

At Ronkiti in Ponape there is a large bronze statue of Henry Napei, the first chief of Ponape under the German administration. The statue is mounted on a high stone pedestal set on a stone base and surrounded by a low railing.

Public Improvements. A number of public baths and washing places have been constructed under government subsidy. In 1937, one was reported on Ponape, one at Lele on Kusaie, and eight in the Truk district. For improvements instituted by the Japanese in the field of public health see 25.

29. TRANSPORTATION

291. Road Transport

Paths and Trails. Narrow footpaths are found on most of the larger islands in the Eastern Carolines. Within each settlement (see 163) there are better paths, connecting the native dwellings. On some islands superior paths connect the various settlements. Puluwat, for instance, is reported to have a path six feet wide connecting the three villages on the principal island.

Streets and Roads. Considerable road construction was done under the German administration. A good road was built encircling the island of Ngatik. A number of roads and other communications facilities were built on Ponape, including a stone causeway from the main island to the island of Jokaj, a highway from Colony to Metalanim, and a bridge across the Metalanim lagoon. A good road was also constructed around the island of Dublon in the Truk group.

The Japanese administration has spent considerable effort and money on the repair of the German roads and the construction of new ones. By 1932 it had spent ¥ 380,500 on road construction in the mandated islands and had completed a total of 67.5 miles of new roads. In 1937 the entire mandated area was reported to have a total of 340 miles of roads, of which 147 miles were less than 12 feet in width, 169 miles were between 12 and 21 feet wide, and 24 miles were highways more than 21 feet broad. Of the above totals the Ponape district had 24.5 miles of roads, of which 14.7 miles were less than 12 feet in width, 7.4 miles were between 12 and 21 feet wide, and 2.4 miles were over 21 feet in width. The roads of the Truk district totaled 40.6 miles, of which 39 miles were less than 12 feet wide. The sum of ¥ 30,000 was appropriated for road construction on Ponape alone in 1940.

On Kusaie a road leads from Lele Harbor on the east to Coquille and Mwot on the west along the one possible overland route across the island. This road was reported under repair in 1941. A single-lane road of crushed rock and coral paralleling the shore encircles Lele Island. A causeway may recently have been constructed across the reef between Lele and the main island of Ualan. All coastwise travel in Kusaie is by boat.

A good road encircles the island of Ngatik, close to the coast. Nukuoro Island is traversed from end to end by a road. There is a good road on Nunakitsu Island, Kapingamarangi.

On Ponape, road building is rendered difficult by the rocky ground, the precipitous slopes, and the daily downpours. Nevertheless, a fair road has been built around the entire coast of the island. The section of this road from Palikir eastward to Colony and thence to U is surfaced with coral rubble and is wide enough for vehicular travel. From a little west of Ipat to Colony, this section has a stone bed constructed during the German regime. Around most of the rest of the island the road is a path about six feet wide. In a few places, e.g., from the Chapalap River to Tamoroi in Metalanim and from Roi to Pok in Kiti, it is suitable for vehicles. From Wone in southern Ponape a trail leads northward into the Hoi Mountains, skirting the western side of Mt. Tolocome and crossing over into the Metalanim Valley. At Tamoroi the coastal road connects with Nanue Island by means of a causeway 400 yards in length, three feet above high-water level, and from three to four feet wide. At Ipat a causeway of coral rubble, 200 yards long and ten feet wide, leads from the coastal road to Jokaj Island; in its center is a wooden bridge about thirty feet long with a corrugated iron roof. A road encircles the island of Jokaj. A causeway also connects Tapak Island with U, and another crosses the lower part of the Tawenjokola River. The town of Colony has about a dozen streets and connecting alleys; the principal street, running along the waterfront, is about 25 feet wide and has a dirt surface.

The larger islands of the Truk group possess good roads, usually of sand or coral and about six feet wide. Dublon Island is criss-crossed with wagon roads, and a hard surfaced three-lane highway leads from the northern to the southern shore of the island. A road is reported to encircle the island of Fefan. On Moen a wide road runs along the west coast, and several other good roads have recently been constructed.

Vehicles. There are relatively few vehicles in the Eastern Carolines. In 1936, 7 automobiles, 3 motorcycles, 416 bicycles, 22 carts, and 2 wagons were reported for the Truk district, and 7 automobiles, 7 motorcycles, 514 bicycles, 5 carts, and 2 wagons for the Ponape district. In 1937 there were reported to be 4 busses and 2 trucks on Truk atoll. For police offenses relating to roads and vehicles, see 228.

292. Rail Transport

Railroads. There are no railroads in the Eastern Carolines. However, two piers, one on Dublon Island and the other on Langer Island, Truk, are equipped with cars and narrow-gauge tracks, totaling 374 yards in 1932. On Kusaie there is reported to be a narrow-gauge tram, with small dump cars pushed by hand, running along the south side of the Innema River and extending inland about half a mile.

293. Air Transport

Airlines. In 1934 the Japanese reported that the South Seas Government had made practical arrangements for establishing aerial navigation lines throughout the mandated islands. From that time on there has been a rapid development in the construction of airfields and seaplane landing facilities and in the importation of planes and equipment. For the fiscal year 1940-41, for example, the budget of the South Seas Government included items totaling ¥ 1,698,399 for the establishment of air routes and aircraft facilities.

During peace time this expansion was justified on the ground that the air service assisted in the industrial and social activities of the population and promoted the efficiency of their administration. Plans were projected in 1941 for the extension of interisland commercial air services, using Kawaniski flying boats. They called for an airline from Seipen to Truk, and for another from Palau to Jaluit via Yap and Ponape. Both lines are presumably now in operation.

Air Bases. The strong defenses of the Eastern Carolines include a number of military and naval air bases. The location and facilities of the various airfields and seaplane bases in the area are described in Army and Navy monographs carrying a higher classification than the present volume.

294. Water Transport

Native Navigation. The natives of the Eastern Carolines have long been competent navigators. In prehistoric times the inhabitants of Kusaie and Ponape made long voyages in large sailing canoes, but these had largely ceased by the time the islands were discovered. During the historical period the most accomplished mariners in the area were the natives of Puluwat. For several centuries they made regular trading voyages between Truk, Guam, and the Western Carolines (see 133). As late as the time of World War I a native of Puluwat with four companions sailed to Truk, then on to Ponape, and thence back to Puluwat. The inhabitants of the Nomoi Islands (Etal, Lukunor, and Satawan) and of other atolls in the Truk area were also skilled seafarers and traders. Reports from various parts of the archipelago indicate that the aboriginal sailing canoes were able to maintain a speed of five or six knots with a fair wind. In their navigation the natives relied primarily upon the stars, but they also paid close attention to the currents and prevailing winds. They did not, however, share with the Marshall Islanders the art of making and using charts.

Today the natives seldom make long voyages. On Kusaie and Ponape the old sailing canoes have been almost entirely replaced by smaller paddling canoes, and in the coral islands throughout the area the use of native craft is now practically confined to short trips to other islets of the same atoll. The Japanese administration has discouraged long voyages in native sailing canoes. The Yap Branch Government in 1928 forbade extended voyages in native craft by the inhabitants of isolated islands, and the other Branch Governments have adopted a similar attitude.

Native Craft. Canoe building was an important aboriginal industry. It was a specialized craft, confined to expert carpenters who enjoyed high prestige in their society, and its practice was accompanied by an elaborate ceremonial.

When native canoe travel was at its height, several types of craft were constructed. There were large sailing canoes for deep sea travel, smaller sailing canoes for shorter voyages, and paddling canoes for use in the lagoons. In addition, on Truk, there were huge double canoes. Today the canoes in use are all small and are confined to two major types: the small sailing canoe and the paddling canoe. Both craft are made of wood, lashed together with sennit, and stabilized by a single outrigger. The hull is generally a dugout with bow and stern identical. Nearly every native family has a small canoe.

While the canoes are generally similar throughout the Eastern Carolines, certain distinctive features make it possible to determine the local area to which the craft be-

long. The following table lists the distinguishing characteristics of the canoes and gear of different islands which may be of assistance in identifying them:

	Canoe	Paddle	Hull	Decoration	Float
Kusaie	Paddling only.	Long shaft, pointed blade, painted red.	Slender, no keel, round bottom.	Painted red and white.	Almost as long as the canoe.
Pingelap	Paddling only.	Red shaft, pointed blade, painted black and white.	Broad.	None.	Medium length.
Mokil	Paddling & sailing.	Long blade with cornered edges.	Slender, sides symmetrical.	None.	Long, curving upward at both ends.
Ponape	Paddling & sailing.	Long shaft, oval blade, painted red.	Slender, no keel, round bottom.	Painted red.	Almost as long as the canoe.
Nukuoro	Paddling & sailing.	Long shaft, lanceolate blade.	Broad.	None.	
Kapingamarangi	Paddling & sailing.	Plain shaft, flat oval blade, unpainted.		Painted white.	Long, pointed at both ends.
Nomoi, Truk, Hall, Pulap, Namonuito, & Puluwat	Paddling & sailing.	Slender shaft, lanceolate blade.	Forked-tail figureheads at bow and stern.	Painted red and black, or black.	Canoe-shaped.

Harbor Craft. At Kusaie there are reported to be a number of Japanese motor sampans, which are low, flat craft 18 to 25 feet in length with a low cabin astern. Mr. Arthur Harrmann is said to own two small power boats with inboard motors at Lale Harbor. One lighter is also reported at Kusaie.

For Ponape, three power launches, two small lighters, a few schooners, and a number of barges, tugboats, and rowboats are reported.

At Truk there are said to be three lighters, two small steam tugs, a water barge with a capacity of 50 tons, coal barges and tugs with a daily transportation capacity of 150 tons, and a number of schooners and sloops.

In 1937 there were 222 commercial fishing boats in the Eastern Carolines, with crews totaling 1,723 men. In the Ponape district there were 51 such boats of less than 5 tons without motive power, 14 of less than 20 tons with motive power, and one power boat of more than 20 tons, making a total of 66 vessels. In the Truk district there were 100 such boats of less than 5 tons without motive power, 52 of less than 20 tons with motive power, and 4 of more than 20 tons with motive power, making a total of 156. Most of these boats were used in trawling for bonito.

Shipping Services. Under the German regime, the government subsidized a regular service of three voyages each year between Sydney and Hongkong by the steamer Germania (1,906 tons), which called at Palau, Yap, Saipan, Truk, Ponape, Kusaie, Jaluit, Nauru, and Rabaul. A regular bi-monthly service was also maintained by the vessels of the Burns Philp Company between Australia and the Caroline and Marshall Islands; in 1925, however, the Japanese stated that vessels of this company no longer visited these islands. Steamers of the North German Lloyd and sailing vessels of the Nanyo Boeki Kaisha of Japan also made occasional calls at some of the islands.

Under the Japanese administration, shipping services to the Caroline Islands were considerably expanded. In 1922 the South Seas Government made arrangements with the Nippon Yusen Kaisha to maintain a regular steamer service between Japan and the principal islands of the mandated area, and with the Nanyo Boeki Kaisha to do the same between the principal islands and adjacent isles. Subsidies from the South Seas Government to the shipping lines averaged about ¥ 700,000 yearly from 1922 to 1937, five sixths of this amount going to the Nippon Yusen Kaisha. The navigation subsidy in the 1940-41 budget amounted to ¥ 730,000.

Before the war the Nippon Yusen Kaisha operated four subsidized lines: an Eastern line, a Western line, a line connecting the Eastern and Western lines, and a Saipan line. The Eastern line started from Kobe and terminated at Jaluit, touching Moji (Osaka

on the return trip), Yokohama, Saipan, Truk, Ponape, and Kusaie en route. The total distance was 7,320 nautical miles, and the voyage required about 50 days. The steamers reported to be in use were the Yawata Maru (3,500 tons) in 1931, the Shizuoka Maru (6,200 tons) in 1932, and the Kinko Maru (3,400 tons) in 1933, while in 1937 a regular service of ten voyages a year was maintained by three unnamed steamers of 6,100 tons, 4,500 tons, and 3,100 tons respectively. In 1938 there were fifteen such voyages. The East-West line also started from Kobe and terminated at Jaluit. Its ports of call were Moji (Osaka on the return trip), Yokohama, Palau, Angaur, Truk, Ponape, and Kusaie. The total distance was 9,260 nautical miles, the voyage requiring about 53 days. In 1933 the steamer used on this run was the Haruki Maru (3,500 tons). In 1937 six voyages were made by an unnamed steamer of 3,400 tons. The Western line and the Saipan line did not call at ports in the Eastern Carolines.

The Nanyo Boeki Kaisha operated five lines: the Marianas line, the Yap Isolated Isles line, the Ponape Isolated Isles line, the Truk Isolated Isles line, and the Marshall line. Of these, only the Ponape Isolated Isles line and the Truk Isolated Isles line serviced the Eastern Carolines. In 1933 the Truk Isolated Isles line maintained two services. Two voyages a year were made between Truk and Rabaul, touching Losap, Namoluk, Lukunor, and Kavieng en route, covering a distance of 1,740 nautical miles in 22 days. Three voyages a year were made between Truk and the Hall Islands, calling at Pulusuk, Puluwat, Pulap, and Namonuito, a trip of 465 miles covered in 6 days. The Ponape Isolated Isles line maintained one route covering the eastern ports three times a year, with calls at Mokil, Pingelap, Kusaie, Ujelang, Eniwetok, and Engebi. The round trip from Ponape covered 1,524 nautical miles in 25 days. A second route maintained by the same line started from Ponape and called at Pakin, Ngatik, Nukuoro, Kapingamarangi, and Oroluk, covering a distance of 1,240 miles in 24 days. Three trips a year were made on this run. In 1933 the steamer used was the Heiei Maru (465 tons). Two new routes were added by the Nanyo Boeki Kaisha in the late 1930's, both with Ponape as their terminus. One route touched Rabaul in New Britain and Salamau and Samarai in New Guinea; the other connected Ponape with the same ports and with Kieta in Bougainville, Shortland, New Caledonia, Tonga, and Fiji.

In addition to the above, the Nanyo Boeki Kaisha operated a Truk Inter-Insular Line, which used Dublon Island as its terminus and made ports of call at Moen, Fefan, Uman, Udot, Tol, and the Nomoi Islands. The vessels of this line made 192 voyages a year, covering a total distance of 12,162 nautical miles. The Nanyo Kohatsu Kaisha (South Sea Development Company) was ordered in 1938 to operate a steamer once a year between Palau, Yap, Truk, and their respective outlying islands. From Ponape a steamer made 132 trips in 1938 to other islands of the Senyavin group.

Port Statistics. The number of ships arriving at and departing from the ports of Truk, Ponape, and Kusaie is reported for the years 1932 and 1937. The figures are presented in the following table:

	Truk		Ponape		Kusaie	
	1932	1937	1932	1937	1932	1937
Steamers						
Arriving	32	37	35	40	28	33
Departing	34	38	33	40	28	33
Sailing Vessels						
Arriving	2	14	2	7	3	2
Departing	2	14	3	8	3	1

In 1937 the gross tonnage of the vessels arriving in port was 128,756 at Truk, 114,201 at Ponape, and 106,373 at Kusaie. In the same year the gross tonnage of departing ships was 130,543 for Truk, 119,591 for Ponape, and 104,090 for Kusaie.

Shipping Regulations. A series of regulations for the control of shipping in the mandated area was promulgated on September 1, 1917, during the period of military occupation by the Japanese Navy. Although phrased in terms of the existing military administration, these regulations were repeated exactly in the annual reports to the League of Nations and were thus presumably in force, with necessary adjustments to the changed organization of the civilian government (see 213), throughout the mandate period. Indeed, the report to the League for 1937 specifically stated that they were still operative.

According to this law, only such ships shall navigate to the South Sea Islands as have received permission to do so from the Naval Department or the Headquarters of the Extraordinary South Sea Islands Defense Corps. Ships are not allowed to enter any places other than communication ports, unless they have obtained permission from the chief of the competent Military Administration Office.

In entering port a ship shall hoist its national flag and signal code characters. Upon making port, the ship's master must present a written report describing the vessel, its owner, nationality, and port of registry, its port of departure and ports of call, and the nature of its cargo. He must state whether or not birth, death, or crime has occurred during the voyage. He must also present an inventory of freight carried, a list of articles used on board, a register of the crew, a passenger list, a certificate of the nationality of his vessel, and the clearance permit issued at the port of departure.

A vessel at anchor or mooring in a harbor shall hoist a light in accordance with the provisions of the Law for the Prevention of Collisions at Sea.

A vessel entering a port shall not communicate with other vessels or with the land before the quarantine and police inspection have been completed.

When a vessel desires to sail, her master shall obtain a clearance permit, by presenting for that purpose to the competent Military Administration Office written reports, lists, and registers comparable to those presented upon arrival. No vessel shall take on board any foreigner not possessing a written permit issued by the Commander or the Chief of the Military Administration Office, or shall carry away by request any letter or other article which has not passed the examination of the Headquarters or the Military Administration Office.

The above rules are stated not to apply to vessels plying within a single civil administrative district.

Piers and Wharves. Kusaie has several piers for small boats, and there are two wharves at Lele Harbor. Berths are provided at Coquille Harbor, Port Berard, and Port Lottin.

At Ponape Harbor there is a concrete pier, as well as several jetties, four small piers, and a small stone wharf. The coal wharf at the southern end of Langar Island has a wide stone jetty with rails and a pier where boats may land. There are several small wharves in Metalanim and Ronkiti harbors. At Auak, east of Colony, there is a long stone jetty. On Nikalap Aru Island, Ant atoll, there is a small jetty owned by Chief Nampai.

There are four piers and a finger wharf on Hare Island, Kapingamarangi. Several of the islets of Nukuoro atoll have small piers. In the Nomoi Islands there is a small boat pier on the western side of Lukunor, a trader's wharf on the west of Satawan Island, and jetties on the lagoon sides of Ta and Kutu islands.

Truk has about a dozen small piers: two in southwestern Dublon, three in southwestern Dublon, three on the southeast shore of Tol, one at the Nanyo Boeki Kaisha coaling depot on Eten, two on the west side of Moen, and one small stone causeway on Fefan Island. On the islands of Tais, Tarik, and Param there are small rock jetties.

Harbors and Ports. The lagoons of many of the atolls in the Eastern Caroline Islands provide natural anchorages, and some of them possess promising qualifications as harbors. The best harbors are at Truk, Oroluk, and Ponape.

In 1924 the Japanese Government made extensive surveys and took preliminary steps for the improvement of harbors in the mandated islands. In 1927, a sum of ¥ 1,500 was expended for dredging Truk Harbor at Dublon Island. In 1933, after the withdrawal of Japan from the League of Nations, the expenditures for harbor works in the mandated islands jumped from ¥ 118,254 for 1932 to an estimated ¥ 515,000, giving rise to considerable discussion in Geneva and elsewhere. Nevertheless, activity in harbor improvements continued to increase, and ¥ 752,000 was allocated for such projects in the budget of the South Seas Government for 1940-41.

In 1927, Truk, Ponape, and Kusaie were declared ports of communication, and the procedure to be followed during arrival at and departure from these ports was prescribed in "Rules for the Control of Ports of Communication in the South Sea Islands." These rules provide that an arriving or departing vessel shall hoist, between sunrise and sunset, a flag showing her nationality and signal flags showing her name, and, between sunset and sunrise, shall display three lights, respectively white, red, and white, on the foremast at the point for showing the anchor-light. A regular mail ship, however, may display a flag indicating her owner in place of displaying signal flags. These flags must not be hauled down until the ship's arrival has been duly reported to the authorities. A vessel which has reported her intended departure to the authorities shall fly the blue peter. Immediately upon arrival a formal report shall be dispatched to the Branch Governor, and a similar report must be presented at least one hour before departure. Upon receiving a report of the arrival of a vessel, the Branch Governor sends competent officials to inspect the sanitary conditions of the ship and health of crew and passengers. Until the vessel has been cleared, the crew and passengers are not allowed to land or to communicate with other vessels. A vessel mooring or being navigated in a harbor or in its vicinity shall hoist, between sunset and sunrise, the lights provided

for by the laws and regulations concerning the prevention of collisions at sea. Unless engaged in construction work at the harbor or in the salvage of wreckage, or disabled from navigation, or given special permission by the Branch Governor, no vessel shall anchor or remain in a fairway. A vessel arriving in port laden with explosives or inflammable materials in excess of normal needs shall fly the red burgee of the International Code of Signals between sunrise and sunset, and shall display a red light between sunset and sunrise. Special arrangements for unloading and anchoring must be made with the Branch Governor.

Aids to Navigation. In 1937 it was reported that there were no lighthouses in either the Truk or Ponape districts. The following aids to navigation were specified: two floating buoys, eight fixed marks for large vessels, and one mooring buoy at Truk; four floating buoys, nine fixed marks for large vessels, two guiding posts, and one mooring buoy at Ponape; and five fixed marks for large vessels, one guiding post, and one mooring buoy at Kusaie.

The following regulations concerning nautical marks were promulgated on October 23, 1925. Beacons are ordinarily established by the South Seas Government. To establish a beacon at other than government expense it is necessary to obtain permission from the Governor through the Branch Governor. The same procedure must be followed to change its position or construction. Any such beacon may be altered or removed by order of the Governor. Any person who has damaged a beacon, changed its construction, or in any way altered it, and any person who has put up in any area a light which may easily be taken for that of a beacon, shall be punished with penal labor for a period not exceeding one year or a fine not exceeding ¥ 200. Any person who has moored anything to a beacon, or has caused a vessel, a raft, or any other thing to collide with a beacon, or has climbed upon or stained a beacon shall be liable to police detention or a minor fine.

The budget of the South Seas Government for the fiscal year 1940-41 included an item of ¥ 106,329 for the improvement of fairway marks. The total expenditures on aids to navigation in 1937 amounted to ¥ 210,080, of which ¥ 195,982 was spent for construction.

295. Storage Facilities

Warehouses. Copra sheds and storehouses are reported for most of the islands in the Eastern Carolines. There is a large coal shed on Langan Island, Ponape. A large warehouse was built at Colony in 1909. Mr. Arthur Herrman owns a large storehouse at Lele in Kusaie.

Coal Depots. Stores of coal are reported for Eten and Dublon islands in the Truk group, and for Langan and Takatik islands in Ponape.

Oil Tanks. Facilities for storing gas and oil are reported to be available at Dublon Island in Truk and at Langan Island and Ronkiti Harbor in Ponape. All military, naval, and air bases in the area will, of course, have stores and facilities.

296. Travel

Native Travel. The Caroline Islanders travel extensively, trading and visiting with their relatives and friends on neighboring islands and atolls. In Kusaie the natives make frequent visits to Lele, where each village maintains a house at which its residents stay while in town (see 262). The favorite months for travel are October, November, December, and January. During the German regime the natives traveled frequently on the German vessels as well as making extensive voyages by canoe.

Under the Japanese administration natives are permitted to travel as deck passengers on the regular trading vessels. For the most part, such travel has been restricted to vessels which operate within a single administrative district. Each year, however, a few selected natives are sent on a visit to Japan at Government expense (see 263). In recent years natives have not been permitted to travel from Kusaie to Eniwetok, Ujelang, or any of the islands under the jurisdiction of the Jaluit Branch Government.

Some idea of the amount of travel which normally takes place can be gained from number of passengers embarking and disembarking at the ports of Kusaie, Ponape, and Truk. These statistics are available for 1932 and 1937, and are summarized in the following table:

	Kusaie		Ponape		Truk	
	1932	1937	1932	1937	1932	1937
Arriving						
Japanese						
Men	28	111	243	776	343	848
Women	21	13	81	335	119	336
Natives						
Men	76	197	528	584	307	818
Women	17	116	231	151	58	182
Foreigners						
Men	-	0	-	8	-	7
Women	-	0	-	11	-	4
Departing						
Japanese						
Men	45	97	441	1,140	348	1,539
Women	18	21	185	556	129	635
Natives						
Men	87	190	569	445	468	757
Women	11	190	258	141	52	197
Foreigners						
Men	-	1	-	6	-	6
Women	-	2	-	1	-	1

In 1937 the destinations of persons embarking from Truk, Ponape, and Kusaie were reported to be as follows: to Japan from Truk, 457 persons, from Ponape, 445, and from Kusaie, 17; to other South Sea Islands from Truk 1,738, from Ponape, 1,407, and from Kusaie, 420; to destinations other than Japan or the South Sea Islands, 13 persons from Ponape.

Foreign Visitors. All visitors to the islands who intend to stay for more than three months must register with the Branch Governor and must report any change of address. A visitor may be deported for disturbing the public peace or morals, or even if he is thought likely to do so.

The Japanese administration has discouraged Europeans and Americans from visiting the islands. There has been a little tourist traffic from Japan but none from other countries. Very few visitors from abroad have entered the islands in recent years. In 1930 and 1931 William F. Coultas visited the Eastern Carolines, spending two months in Ponape and five months on Kusaie. In 1931 Harold W. Hackett visited Kusaie and Ponape to inspect the American mission establishments. In 1932 and 1933 Major Bodley, presumably a British subject, traveled through the mandated islands as a special correspondent for the Sphere. In 1934, Professor Paul H. Clyde toured the mandated islands at the invitation of the Japanese Government, visiting Kusaie, Ponape, and Truk. Willard Price visited Kusaie, Ponape, and Truk in 1936. Captain Alfred Parker, a Norwegian, was stranded in the mandated islands when the S.S. Fijian under Panamanian registry sank on March 25, 1937, in the Marshall Islands; he was rescued by the Japanese and taken to Yokahama via Jaluit, Kusaie, Ponape, Truk and Saipan. In September, 1937, a French steamer of 997 tons, with a crew of eight Filipinos, visited Kusaie.

3. ECONOMICS

31. FOOD PRODUCTION

311. Agriculture

Native Agriculture. The natives of the Eastern Carolines have always depended upon agriculture for their primary means of subsistence. Before the advent of Europeans the staple food crops were breadfruit, coconut, and taro. These were supplemented by bananas, pandanus, arrowroot, yams, and sweet potatoes, and by wild oranges, limes, and sugar cane. Hibiscus was cultivated for the production of bast, turmeric (*Curcuma longa*) for its value as a dye, and kava (*Piper methisticum*) for its root, from which a popular beverage was prepared (see 152). The relative importance of the various food plants differed somewhat from island to island. In general, coconuts and taro assumed first place on the coral atolls, breadfruit on the volcanic islands. Bananas were important on Kuaisai, and taro cultivation was especially highly developed on Kapingamarangi.

With a few exceptions, the above products still constitute the backbone of native agriculture. The cultivation of turmeric, for which Truk was the center, has practically disappeared. The acreage devoted to coconuts has expanded greatly in consequence of the development of copra production for export (see 326). The natives have adopted, and cultivate in their gardens, a number of plants introduced by Europeans, notably, tobacco, melons, cucumbers, pumpkins, manioc, and papayas. On the whole, however, native agriculture has changed very little in its products, and still less in its tools and techniques.

Because of the relatively slight seasonal variation in climate (see 112), most trees and vegetables bear throughout the year, and planting and harvesting take place at all seasons. The principal exceptions are breadfruit, which does not yield in midwinter and produces most abundantly in the summer months, and taro, which in the Truk district is usually planted in the spring although it yields at all seasons.

Except for copra plantations, native garden plots are small and individually owned, each family raising just enough for its own needs. A few vegetables and trees are normally planted near the dwelling, but the main garden is located some distance away--usually on the mountainside in regions where breadfruit is the staple, near the shore when the main dependence is on taro. Frequently a hut is built near the garden for shelter during extended agricultural operations. Both sexes engage in agricultural work (see 334).

Land is cleared by cutting the grass and underbrush with a bush knife, allowing it to dry, and then burning it. Small trees are felled with an axe; larger ones are left standing but are killed, by burning them around the base, so that their foliage will not shut out the sunlight. The soil is broken with a wooden digging stick. Instead of turning up the whole plot, the natives merely loosen the ground around the spots where seeds or sprouts are to be inserted. The position of these spots relative to one another is determined by accidents of the terrain rather than by a traditional geometric pattern, a fact which has led European and Japanese observers to criticize native farmers for carelessness.

Planting techniques differ according to the crop. To plant breadfruit, the natives transplant sprouts which grow from the roots of mature trees. In the case of the coconut, they set out nuts which have sprouted. They cut the crown from mature taro plants, or dig up sprouts from the runners, and plant them, wrapping the young shoots in leaves to protect them from the sun. They cut up yams and plant the pieces in hills. They pull up suckers from the base of sugar canes and transplant them. They broadcast tobacco seeds over the ground and depend upon the rain to wash them into the soil.

Fertilizers have been used since aboriginal times only in the western islands. In Pulep, Pulusuk, and Puluwat, dead breadfruit leaves are put in taro hills, and in Namoluk cut grass and weeds are placed around young plants as a mulch. Exhaustion of the soil is avoided by clearing new plots of land after one or two crops have been harvested. Recently the Japanese have sought to promote the more extensive use of fertilizers.

Irrigation has been practiced from early times in the case of taro, which requires adequate moisture. In Kapingamarangi, taro plots are dug below the general level of the ground, and embankments are thrown around them to keep out the sea water. The natives of Puluwat dig ditches around their taro plots, throwing the soil upon the cultivated area and thus raising it above the general level of the land. In Lukunor, small irrigation canals have been built to catch drainage water from the center of the islets and lead it to the taro plots, which are located near the shore.

Fields are ordinarily weeded and hoed only when the plants are very young. Once the crop has gotten a start, the weeds are allowed to grow freely. Efforts on the part of both the Germans and the Japanese to indoctrinate the natives with the importance of weed-

ing have met with only moderate success. Yams are not supplied with poles to support their vines but are planted near the dead trees left standing in the gardens, and their vines are trained up the trunks.

Birds and fruit bats do a considerable amount of damage to fruit crops, and the natives have devised several techniques for combatting them. They set various kinds of snares in the trees. They hang up coconut-shell rattles to act as scarecrows. Sometimes they even spread nets over the trees to prevent the marauders from getting at the fruit. The greatest animal pests in the area, however, are rats. These rodents are very numerous, and they harass native farmers by digging up and eating their tubers and by climbing their fruit trees to despoil the fruit. Continuous attempts are made to keep them under control by trapping them (see 312) and by surrounding the plants with rush mats to protect them. Sometimes, also, the trunks of fruit trees are wrapped with banana leaves to prevent rats from climbing them.

Most food crops are harvested at all seasons of the year as they ripen. Breadfruit, however, is particularly plentiful during the months of July and August. During this season the bulk of the crop is stored away for the future, as an insurance against famine and destructive typhoons. Pits are dug in a damp place, often under the eaves of the house, and are lined with banana leaves. The ripe breadfruit are quartered, placed in the pits, and covered with banana leaves and stones. After a month or so the fruit ferments into a sour mass of the consistency of gruyere cheese. Thus preserved, breadfruit mash will keep for three or four years. To ensure an adequate supply, native chiefs commonly declare a taboo on eating ripe breadfruit during the harvest season until the pits have been filled. Since breadfruit is damaged if it is permitted to fall from the tree, the natives employ a special picking device consisting of a long pole with a cross-piece lashed at an acute angle near one end; with this implement the stem is caught and the fruit lowered to the ground.

In the official Japanese census reports for 1937, 7,944 natives in the Truk district and 3,455 in the Ponape district are listed as farmers. These figures include all but a small fraction of the able-bodied adult population. Nearly all of them are engaged in a combination of subsistence agriculture and the raising of copra for export.

Commercial Farming. Except for copra production, commercial farming is conducted principally by Japanese. In 1937, 320 Japanese men and 149 women in the Ponape district and 28 Japanese men and 6 women in the Truk district were reported as engaged in farming as their chief occupation. A few are employed by the Nanyo Kohatsu Kaisha in its experimental attempts to raise sugar cane and manioc (see 327). Others are engaged in copra production (see 326). On Ponape, a few Japanese farmers raise rice on the swampy land near the coast, sometimes converting native taro plots into paddy fields for this purpose. A moderate number engage in truck gardening, raising maize, beans, eggplant, "asiatic turnips" (busei), "asiatic radishes" (daikon), onions, pineapples, coffee, and cotton in addition to the plants cultivated by the natives. In recent years the need of the military forces for fresh vegetables has led the Nanyo Kohatsu Kaisha to undertake truck gardening on an extensive scale in Kusaie (see 327).

Agricultural Statistics. In 1937, the South Seas Government reported that there were 11,849 hectares (a hectare is 2.47 acres) of land in the Eastern Carolines planted to coconuts, 7,610 in the Ponape district and 4,238 in the Truk district; 4,712 hectares planted to other crops, 1,367 in the Ponape district and 3,345 in the Truk district; and 2,095 hectares of potentially arable but uncultivated land, 1,415 in the Ponape district and 680 in the Truk district. The following table lists the number of hectares under cultivation to crops other than coconuts:

Crop	Ponape District	Truk District	Total
Vegetables			
Rice	26	-	26
Maize (corn)	3	-	3
Beans	-	1	1
Sweet potatoes	25	3	28
Yams	107	-	107
Taro (native)	85	241	326
Taro (Japanese)	3	3	6
Manioc tapioca	520	-	520
Watermelons	5	2	7
Cassava melons	1	2	3
Cantaloupe	1	1	2
Pumpkins and squash	3	1	4
Cucumbers	8	4	12
Eggplant	5	1	6
Asiatic radish (daikon)	6	2	8

Crop	Ponape District	Truk District	Total
Vegetables			
Asiatic turnip (busei)	3	-	3
Onions	1	1	2
Pickling vegetables	6	2	8
Miscellaneous vegetables	-	2	2
Fruit			
Mango	1	-	1
Pineapples	14	7	21
Bananas	85	7	92
Mandarin oranges	4	-	4
Papaya	18	-	18
Breadfruit	420	3,065	3,485
Miscellaneous			
Sugar cane	1	-	1
Cotton	13	-	13
Coffee	3	-	3
Total	1,367	3,345	4,712

The above table is probably not entirely accurate, since it does not list tobacco, ginger, kapok, and a few other crops which are known to be grown to a very limited extent.

The total value of agricultural production in the Eastern Carolines, as officially reported by the South Seas Government in 1937, was ¥ 2,747,063, of which coconuts accounted for ¥ 1,339,637 and other crops for ¥ 1,407,426. In the Ponape district, the coconut crop was valued at ¥ 716,899 and other agricultural products at ¥ 400,359. In the Truk district, ¥ 662,738 of coconuts and ¥ 1,007,067 of other crops were produced. The following table lists the value and quantity of agricultural products other than coconuts:

Crop	Quantity in Metric Tons			Total Value in Yen
	Ponape	Truk	Total	
Rice	36.4	-	36.4	¥ 7,280
Maize (corn)	2.7	-	2.7	275
Beans	-	8.5	8.5	1,357
Sweet potatoes	250.0	25.2	275.2	20,527
Yams	792.7	-	792.7	55,560
Taro (native)	519.8	823.1	1,342.9	57,560
Taro (Japanese)	5.7	9.4	15.1	2,077
Manioc (tapioca)	10,140.0	-	10,140.0	91,260
Watermelons	22.8	10.3	33.1	3,933
Cassava melons	4.8	14.4	19.2	2,116
Cantaloupe	1.0	10.1	11.1	1,847
Pumpkins	12.6	8.7	21.3	2,444
Cucumbers	32.0	27.2	59.2	6,788
Eggplant	11.2	7.4	18.6	2,716
Asiatic radish (daikon)	18.0	6.5	24.5	3,088
Asiatic turnip (busei)	3.7	-	3.7	413
Onions	0.5	2.8	3.3	1,317
Ginger	0.2	0.7	0.9	896
Pickling vegetables	15.0	16.2	31.2	4,899
Miscellaneous vegetables	-	12.5	12.5	1,248
Mango	0.2	-	0.2	19
Pineapples	8.5	34.1	42.6	6,529
Bananas	530.3	71.5	601.8	30,090
Mandarin oranges	1.4	-	1.4	65
Papaya	94.3	3.3	97.6	4,208
Breadfruit	4,303.6	13,908.0	18,211.6	1,096,646
Sugar cane	50.0	-	50.0	200
Cotton	12.0	-	12.0	2,640
Coffee	0.2	-	0.2	125

Government Encouragement. Both the German and the Japanese administrations have attempted to encourage agricultural development through experimentation. The Germans established an experimental farm on Ponape, where they tested various plants which they brought in from Rabaul, Hongkong, Japan, Germany, and California, and they gave cuttings and seeds to J. V. Melander to try out on Kusaie. Many of the introduced plants grew well on both islands, but were not developed commercially because of difficulties of marketing and transportation. This was particularly true of the rubber plants, *Ficus elastica*,

Hevea brasiliensis, *Manihot glaciivii*, and *Castilleja elastica*, all of which were reported to thrive on both islands. In 1908 nearly 1,000 *Ficus elastica* shrubs were growing in the area. Certain fiber plants, particularly Manila hemp and the textile banana (*Musa textilis*), were also found to grow well, and there were 16,000 Manila hemp plants growing in Ponape and Kusaie in 1908-09. Pineapples were successfully introduced from Hawaii, and the mango, the litchi, and the Mandarin orange from Hongkong. Figs, grapes, peaches, and apricots, imported from California, were reported to thrive but have apparently not become established.

Under the Japanese administration, the Tropical Industries Research Institute at Palau has carried on extensive agricultural and horticultural experiments, and its branch station at Ponape has carried on research on medicinal plants and rice cultivation. A number of medicinal plants, notably benzoin, cajuput, coca, ipecac, jaborandi, jalap, *Strophanthus*, white sandalwood, and both Tolu and Peruvian balsam, were reported to be thriving in 1932, but they had not yet matured at that time and no later information is available.

Experimentation with the cultivation of rice on Ponape yielded the following results. Varieties from India, Java, Formosa, and the Ryukyu Islands were found more resistant than Japanese varieties to the blast fungus which is a hazard in the rainy climate of Ponape. However, they required from 115 to 125 days to mature, as compared with only 47 to 65 days for the Japanese varieties. The best Japanese varieties were reported to be Nakamura, Yokichisen, Shinriki, Iyosenseki #2, and Kichibiko; the best non-Japanese varieties, Soro, Boku, and ADT3. It was recommended that rice be planted twice a year on Ponape, in January and in June; that approximately .08 quarts of seed rice be allowed per square yard in seed beds; that 20 seedlings per square yard be set out in the paddy; and that water be drained from seedling beds very soon after germination and not be turned back until the day before transplanting, which should be done from 10 to 15 days after germination.

The Japanese have also conducted considerable experimentation on the plant pests prevalent in the islands and on the insecticides by which they are best controlled. In some instances they have brought a pest under control by introducing a species which preys upon it. Thus a ladybug imported from Japan is said nearly to have exterminated a destructive beetle in Truk. The insects which are reported to attack some of the more important crops are listed below:

Banana -- no serious pests; some destruction by *Aspidiotus destructor* Signoret, *Coccus viridis* Green, and *Pentalonia nigronervosa* Coquillett; the weevil borer, *Cosmopolites sordidus*, has not been introduced.

Breadfruit -- no serious pests; fruit attacked by several fruit flies; a little damage from *Vinsonia stellifera* Westwood, *Aspidiotus destructor* Signoret, and *Xenaleyrodes artocarp* Takahashi.

Rice -- the common rice bug, *Leptocorisa varicornis* Fabricius, is especially destructive; some damage is also done by *Nezara viridula* Linné, *Sogata furcifera* Horvath, *Cnaphalocrocis medinalis* Guénéé, and several grasshoppers.

Sweet potato -- the prevalent pests are *Cyclas formicarius* Fabricius (a weevil), *Halticus tibialis* Reuter, several army worms, and the caterpillars of *Precis vellida* Fabricius (a butterfly) and *Herse convolvuli* Linné (a hawk moth).

Taro -- the principal pest is the leaf-hopper, *Megamelus proserpina* Kirkaldy.

A series of regulations for the control and extermination of plant pests was promulgated by the South Seas Government in 1923. The important provisions are as follows: (1) the injurious germs and insects to be controlled or exterminated shall be specified by the Governor, or in an emergency by the Branch Governor of a district; (2) an owner or tenant discovering such pests in his fields shall take immediate steps to exterminate them, and shall report his action at once to the Branch Governor; (3) when a Branch Governor is informed of the presence of pests in a field, he shall appoint a day upon which the owner or tenant shall apply measures of prevention or extermination; (4) when injurious insects or plant diseases appear to be spreading in an area, the Governor may direct the Branch Governor to take preventive or corrective steps, and the latter may requisition labor for this purpose; (5) persons so requisitioned must either provide the labor themselves or obtain or pay for a substitute; (6) when necessary, the Branch Governor may order the police to supervise and accelerate the work of prevention or extermination; (7) owners and tenants may not refuse permission to enter their land to officials charged with extermination or persons acting under their direction; (8) the Governor may direct the Branch Governor to dig ditches, to uproot and abandon, burn, or bury infested agricultural crops, trees, and weeds, or to prohibit the planting of crops within a specified area or their transportation to or from an area; (9) infringements of the above regulations shall be subject to punishment by detention or a minor fine. In addition to the above, all shipments of plants and seeds are subject to inspection (see 345).

The Japanese administration has likewise attempted to improve native agricultural methods through education. Although there are no agricultural colleges in the mandated islands, courses in improved agricultural methods are offered in the public schools (see 262). The Ponape branch station of the Tropical Industries Research Institute also operates model farms on both Truk and Ponape for demonstration purposes. A special attempt has been made to induce the natives to use fertilizers. The amounts (in kilograms) of various kinds of fertilizers used in the Eastern Carolines in 1937, doubtless largely by Japanese truck farmers, are listed in the following table:

Type of Fertilizer	Truk District	Ponape District
Commercial fertilizers		
Super-phosphate	2,813 kg.	2,200 kg.
Ammonium sulphate	2,109	300
Aluminum phosphate	-	100
Lime oxide	2,531	700
Potassium sulphate	750	2,000
Lime	1,200	40
Oil meal	1,125	2,800
Vegetable meal	5,625	200
Bone meal	-	200
Fish meal	160	30
Rice-hull meal	-	450
Other meals	-	40
Miscellaneous	3,700	200
Domestic fertilizers		
Compost	48,360	838,874
Animal manure	12,375	-
Human excrement	8,236	611,963
Wood ashes	10,761	3,894
Chorosa grass	-	208,815
Kurotararia grass	-	13,500
Kopi grass	-	2,000
Totals		
Commercial fertilizers	25,278	11,661
Domestic fertilizers	79,732	1,709,046
Grand total	105,010	1,720,707

The South Seas Government also attempts to promote agricultural improvement through the payment of subsidies. According to regulations issued in 1924 and revised in 1933, the Branch Governor of a district is authorized to grant subsidies, within the limits of budgetary appropriations, to persons who cultivate, or improve their cultivation of, certain specified crops, particularly pineapples, coffee, cocoa, fruit trees, and garden vegetables. The following subsidies are specifically authorized for the designated crops:

- Up to ¥ 24 per acre for reclaiming in one year more than one fourth of an acre of waste land.
- Up to ¥ 12 per acre for initiating cultivation of the designated crops on more than one fourth of an acre of land.
- Up to 60 per cent of the cost for constructing seedling beds larger than .027 of an acre
- Up to 60 per cent of the cost for improving land in order to cultivate the designated crops.
- Up to the entire cost for importing seeds or seedlings of superior quality.
- Up to 10 sen per 8.27 pounds of the product for cultivating more than five kinds of vegetables in quantities specified by the Branch Governor.

In 1937, such subsidies were paid in the amount of ¥ 1,211 in the Truk district. In the Ponape district in the same year, regular agricultural subsidies totaling ¥ 980 were paid, in addition to special subsidies of ¥ 110 for coffee and ¥ 1,440 for the construction of rice paddies.

312. Hunting and Animal Husbandry

Importance of Animals. Meat has always played a minor role in the native diet (see 152). The wild fauna, except for marine species, is scanty (see 125). The only

mammals native to the Eastern Carolines are the rat and the fruit bat or flying fox, but dogs, cats, and pigs have been widely introduced and have run wild in the bush. Cats and dogs are kept as pets by many of the natives; the former are prized because they help to keep the numerous rats under control, and the latter are used as watch dogs. Cats are never eaten, but the flesh of dogs was formerly relished on Ponape and in the Truk district. Domestic animals are of limited importance to the native economy, but they have become increasingly significant as a means of supporting the Japanese population.

Hunting. In the Eastern Carolines the only hunting is for the flying fox, the wild pig, and the rat. The flying fox was formerly secured with slings. Pigs were hunted with spears, and, on Ponape and Kussie, dogs were used to track the animals down in the bush. Rats are still trapped throughout the islands to rid the houses and gardens of them. The natives detest them as pests and make every effort to exterminate them. Their flesh is eaten only in times of famine. Under aboriginal conditions rats were caught in a spring noose, or crushed under a weighted deadfall baited with fermented breadfruit. Today, steel traps are extensively used and are much in demand by the natives.

Hunting with firearms is permitted under Japanese regulations only if permission has been obtained from the Branch Governor. Licenses are granted to qualified persons to hunt for sport, for commercial purposes, or as a means of collecting specimens in the interests of science. In 1937, six hunting licenses were issued or renewed in the Truk district, all of them for sport. Forty-five licenses were issued or renewed in the Ponape district, of which number 15 were issued to sportsmen, 6 to commercial hunters, and 24 to collectors of scientific specimens.

Fowling. Under the conditions of native life fowling was of some importance. Birds were caught primarily for their plumage, although pigeons were also used as food. On Truk, where cock-fighting was enjoyed, wild cocks were caught for this purpose. Birds were occasionally kept in cages for the amusement of children. Small birds were caught with a birdlime made of breadfruit sap, or with slip-noose snares. Of the birds utilized by the natives the most important were the fruit pigeon, jungle fowl, frigate bird, wild duck, and various sandpipers.

Poultry Farming. Domestic fowl were introduced to the Eastern Carolines at an early date, and in many instances were allowed to go wild. Each native household generally keeps chickens and ducks, and many have special henhouses. Turkeys and guinea hens were introduced from Saipan under the German administration. As was the case with chickens and ducks, these fowl thrived. The greatest threat to their survival is the omnipresent rats, which are extremely fond of their eggs. Chickens are said to be occasionally visited by a plague which, in some instances, kills off as many as 75 per cent of the stock.

From 1923 to 1931 the number of chickens was reported to average 4,500 in the Truk district and 9,000 in the Ponape district. The number of fowl in the Eastern Carolines as reported for 1937, together with the number of deaths and of birds hatched during the year, is given in the following table:

	Truk District			Ponape District		
	Number	Deaths	Hatched	Number	Deaths	Hatched
Chickens	7,710	1,300	3,972	8,862	805	5,718
Ducks	801	97	385	687	29	303
Turkeys	12	0	0	41	9	26

The quantity of poultry products reported in the same year is given in the following table:

	Truk District	Ponape District
Poultry meat	1,022 kilograms	3,054 kilograms
Hens' eggs	173,380 eggs	378,876 eggs
Ducks' eggs	17,080 eggs	11,325 eggs

Animal Husbandry. Under the German administration considerable effort was made to establish stock-farming in the islands, and many breeds of livestock were experimentally introduced. The attempts were relatively unsuccessful; by 1909 there were only 140 head of livestock in the Ponape district and less than 40 head in the Truk district. Australian sheep were found to be unsuited to the islands, and it was concluded that sheep bred for meat are in general better adapted to the local conditions than are those bred for wool. Goats thrived, but were not well liked because they took to eating young coconut trees. Pigs also did well, but Sidney boars imported to improve the breed did not survive. Attempts were made to introduce deer and horses on Ponape, but the experiments

failed completely. Cattle were afflicted with ticks, particularly on Fonape, and many of them died of "Texas fever," allegedly introduced from Manila. The missionaries introduced cattle of an American breed to Kusaie with greater success, and by 1920 there were reported to be 400 head on the island.

The Japanese administration has, by contrast with the German, been relatively successful in building up the livestock industry. Under regulations issued by the South Seas Government as early as 1922, bounties have been offered as a means of encouraging stock-farming. According to an ordinance promulgated in 1937, the bounties offered are as follows: up to ¥ 30 per head for cattle and ¥ 20 per head for pigs kept for breeding purposes; up to ¥ 120 per head for milch cows and ¥ 60 per head for service bulls; up to ¥ 10 per head for calves and ¥ 2 per head for suckling pigs when more than two calves or eight pigs are raised in one year; and up to ¥ 3 per head for suckling pigs bought to be reared. The conditions under which these bounties are granted include the following: stalls must be constructed of reinforced concrete and must exceed 27 square yards in area; a report must be submitted annually to the Branch Governor indicating the number of animals kept, the cost of upkeep, the place and date of purchase, the number of births and deaths of livestock, the number and size of the stalls, and the number of animals slaughtered. In 1937, the amount of such bounties paid in the Truk district was ¥ 173; in the Ponape district, ¥ 880. All recipients were Japanese.

The South Seas Government has also paid considerable attention to the control of animal diseases. The maladies reported to afflict livestock in the mandated islands most commonly are anthrax, hoof and mouth disease, sheep pox, swine erysipelas, swine plague, abortus fever, rabies, and cattle plague. All deaths of livestock must be reported immediately to the police or to the Branch Governor. Diseased animals must likewise be reported, and if they are afflicted with a contagious disease they must be destroyed immediately. If deemed necessary, the carcass may be dissected and examined. All places or structures polluted by an animal with a contagious disease must be fumigated or destroyed. The Branch Governor may, if he considers it necessary, prohibit or restrict the import and export of either animals or their products in order to control the spread of disease. Animals and property destroyed under government direction are appraised by no fewer than three appraisers, and the owner is reimbursed up to four-fifths of their value.

In 1937 it was reported that there were two Japanese in the Truk district and one native in the Ponape district whose major occupation was that of stock-raising. The number of livestock in the Eastern Carolines in 1925, 1931, and 1937 is given in the following table:

	Truk District			Ponape District		
	1925	1931	1937	1925	1931	1937
Cattle	12	68	79	146	284	613
Pigs	295	1,316	2,593	4,411	3,853	6,810
Goats	189	639	839	766	1,056	459
Water buffalo	-	-	0	-	-	26
Horses	-	-	0	-	-	1
Sheep	-	-	0	-	-	0
Total	496	2,123	3,511	5,323	5,193	7,909

The most important animal product in the Eastern Carolines is meat, milk being of secondary importance. In 1937 the Truk district yielded 17,867 kilograms of meat, and the Ponape district 42,933 kilograms. In the same year 6,695 liters of milk were produced in the Truk district and 6,159 liters in the Ponape district. A dairy has been established in each district. No raw or tanned hides are reported to be produced.

Slaughterhouses. In 1937 there was one slaughterhouse each in the Truk and the Ponape districts. Six persons were employed in the Truk slaughterhouse, and three in the one on Ponape. Detailed rules for the control of abattoirs were promulgated by the South Seas Government in 1934. They contain the following provisions: (1) a person desiring to establish an abattoir must apply to the Branch Governor for a license, and the application must state the permanent address, present residence, name, and date of birth of the applicant, the name and location of the proposed abattoir, together with a careful description, an estimate of the cost of construction, and the written consent of the owner of the land on which it is to be built; (2) the abattoir must be provided with an enclosure for tethering the animals, a pen for the inspection of living animals, a slaughter room, an inspection room, a cesspool, a dust bin, a disinfecting room, and an isolation room, each conforming to detailed and rigid specifications; (3) all animals to be slaughtered must be inspected for disease; (4) no abattoir shall be used for any other purpose than the slaughter of animals. In 1937 the South Seas Government granted a subsidy of ¥ 300 for the establishment of an abattoir in Truk.

Detailed regulations have also been promulgated for the control of butcher shops (see 257), of which there were seven in the Truk district in 1937 and a like number in the Ponape district.

313. Fishing

Importance of Fishing. Next to vegetal foods, fish constitutes the principal means of subsistence for the natives. Commercial fishing, which is treated under 325, has in recent years become the most important industry in the Eastern Carolines. The principal marine product is bonito. Other important fish and sea animals are flying fish, herring, horse mackerel, mackerel, mullet, octopus, shark, tunny, and turtle. The principal shellfish are clams, crabs, crawfish, lobsters, pearl oysters, and shrimp.

Superstitions Connected with Fishing. Relatively few superstitions surround fishing in the Eastern Carolines. No poisonous fish or beliefs respecting them are reported for the area. In former times fishermen were required to abstain from sexual intercourse for one or more nights prior to setting out on an extensive fishing expedition. Magical ritual accompanied the construction of the large dragnets manufactured on Ponape. For the most part, however, these observances have disappeared, and native fishing is a purely practical activity, divested of superstition.

Fishing Methods. The native fishing techniques include the use of hook and line, spears, clubs, basket traps, weirs, dams, nets, and narcotics. Although similar methods are used throughout the area, there is a certain amount of regional specialization in fishing methods. Angling is particularly well developed on the Polynesian atolls of Nukunono and Kapingamarangi. Here fishermen use mother-of-pearl fishhooks, variously shaped in adjustment to the requirements of each type of fish, and each fisherman has a fishing basket in which he keeps an assortment of hooks and lines neatly classified. On Kusaie, deep-sea fishing was never of great importance, and fishhooks were little used. The first iron hooks brought in by traders were used for decoration more often than for fishing. Net fishing, on the other hand, was highly developed both on Kusaie and Ponape. A favorite technique still in use today is that of surrounding schools of fish with large dragnets, which are then drawn together to encircle the fish. The most important method of fishing in the Truk district was that of spearing, a many-pronged fish spear being used. In Ponape and Kusaie, on the other hand, spears were used only by nobles, who fished primarily for sport.

Fishhooks were formerly made from shell, bone, and wood, but metal hooks have been introduced by traders. Hooks are baited with bits of the body of the octopus, crawfish tails, or small fish. Feather flies and mother-of-pearl lures are reported to be still in use. Lines are made of Hibiscus or Pipturus bast, and of twisted coconut fiber. Today bonito, tunny, mackerel, and sharks are caught from power boats with modern fishing gear. In fishing on the reefs the natives anoint the skin with coconut oil, don a peaked hat for protection from the sun, and wear heavy coconut-fiber galoshes to protect the feet from the sharp coral and to prevent slipping.

The narcotizing of fish is commonly practiced throughout the area. Derris roots and Barringtonia nuts are pounded and placed in the water, a favorite place being deep gaps in the reef. The fish become stupefied and float to the surface of the water, where they are easily captured with a spear or net. These poisons do not render the flesh of the fish inedible. The use of dynamite in fishing is forbidden and is not reported to occur.

Fishing Regulations. Although the Japanese have required licenses of commercial fishermen since 1916 (see 325), natives using their customary techniques were not required to obtain licenses until 1936. In this year a revision of the fishing regulations forbade the use of dynamite, poison, or electricity in fishing, and made licenses mandatory for all fishermen. For those not engaged in commercial fishing a permit good for three years is obtainable without a fee upon application to the Branch Governor and submission of a form containing the following information: name and address of fisherman, name, location, and area of fishing grounds (with two maps attached), kind of fish taken, and the fishing season.

314. Food Supplies

Food Supply. Native foodstuffs and their preparation are considered under 152, 312, 313, and 325.

Stocks of Food. Accumulated stores of food are probably very limited in the East-

ern Caroline Islands except for military supplies for the Japanese armed forces. Traders' stores (see 344) possibly contain small amounts of canned foods, although the importation of such goods has been greatly curtailed in recent years (see 345). Limited supplies of food may perhaps be found at some of the hotels and restaurants in Colony on Ponape, e.g., the Ponape Hoteru (Ponape Hotel), the Fuku-sumi (Happy Dwelling) owned by Horibatake Yonosuke, the Fu-getsu (Wind and Moon) on Colony Street, and the Yamato owned by Kuniyoshi Miwa.

32. INDUSTRY

321. Handicrafts

Native Crafts. The principal native handicrafts were canoe-building (see 294), house construction (see 323), mat and basket making (see 322), and the manufacture of utensils, tools, weapons, fishing gear, and ornaments. All work in wood, bone, shell, and stone was exclusively in the hands of the men, whereas nearly all textile manufacture was done by women (see 334).

The natives of the Eastern Carolines were skilled woodcarvers. Canoe carvings, dance paddles and clubs, beautiful wooden bowls, idols, and masks, all testify to their careful craftsmanship. Perhaps the most important of the native tools was a wooden adze with a shell blade, so constructed that the blade could be turned in its socket to form an axe. Other important native tools and implements were shell knives, wooden beaters and mallets, bone needles and awls, shell drills, rayskin files, and stone pestles. Utensils included wooden bowls, baskets, and coconut water-bottles. An ingenious receptacle for water was made by tying the ends of a large taro leaf to the stalk. A very useful device was the food-hanger, a wooden contraption with projecting spikes on which baskets of food could be hung; it was suspended from the rafters by a rope fitted with a broad wooden disc which prevented rats from reaching the food. The indigenous weapons were the spear, sword, club, and sling. Fishing gear included wooden and shell hooks, lines of twisted hibiscus fiber and sennit, fish nets, and basket traps. Most ornaments were made from shell, the favorites being necklaces made of round discs ground from the red lip of the spondylus shell, strings of pearls, and earrings of polished coconut or tortoise shell.

Modern Crafts. Except for canoe-building (see 294), house construction (see 233), and some of the textile arts (see 322), most of the native crafts have now disappeared. The old tools have for the most part been replaced by metal implements of modern manufacture. Hacksaws, steel axes and knives, hammers, and nails are in common use. In the main the natives now spend their time producing copra and other goods which can be exchanged for imported articles (see 345).

322. Textile and Clothing Manufacture

Cordage. The principal native cordage is made from the fibers of the coconut husk. Longitudinal pieces of the husk are steeped in water, pounded, and cleansed, and then the individual fibers are separated. These fibers are twined to form fine lines, or braided into heavy cords. The fibers of various basts, such as that of the hibiscus, also supply materials for twines and braids. Banana fibers are especially esteemed for their fineness and are extensively used in native weaving. The threads and cords prepared from these various fibers serve innumerable purposes; they were formerly used extensively in house construction, canoe-building, sailing, fishing, and in the manufacture of most textiles, and it is probable that they have not been completely replaced by the products of modern manufacture.

Basketry. A number of different kinds of baskets are made by both men and women. The most common type is a basket hastily constructed of coconut leaflets. The midrib of a young coconut leaf is split down the middle, and leaflets are so plaited together that the wooden borders form the rim of the utensil. More carefully made baskets are plaited from pandanus leaves. Dried leaves of the pandanus are bleached or dyed black, split into fine strips, and the two colors are interwoven to form geometrical designs on the finished product. Baskets serve a variety of purposes. They are used for carrying fish and vegetables, and for storing foods of all kinds. As a part of their educational policy, the Japanese have encouraged the natives to preserve their basketry art, and, as a result, beautifully made baskets are still produced, particularly on Kusaie and Ponape.

Nets. Fish nets formed an important part of the native fishing gear (see 313). Nets of considerable size were made of hibiscus fibers, fitted with floats of breadfruit wood and shell sinkers. Large nets were also made from various creepers and vines, and from certain types of seaweed. Small dip nets secured to a wooden frame were made of coconut fiber. Although many of the larger nets are imported today, the smaller fish nets of native materials are still being produced.

Mats. The most important native textile product is the mat. Mats are generally plaited of pandanus or of coconut leaflets, although some are made of hibiscus bast. Mats serve widely varied uses. They form the covering for the walls and floors of native huts;

sewn together they form the native sail; at night they are used as both mattresses and blankets; small sitting mats are carried by the natives everywhere, and are held over the head while walking to serve as protection from the sun and rain; and in former times mats were extensively used as the native clothing (see 151). On Ponape and Kusaie sleeping mats are sewn rather than plaited. Dried pandanus leaves are beaten to make them soft. They are then hung over a string of hibiscus fiber with their edges overlapping, and are sewn together with black dyed hibiscus twine threaded in a needle, formerly of pointed bone. A folded pandanus leaf is then placed horizontally between the leaves and sewn in position. This process is continued until the mat is of a sufficient width. Another section of identical size is made, and the two are sewn together along one edge to form a double mat. Sewn mats are considered by the natives to be far superior to the simple plaited ones. Mats are still made and used, and small decorated mats for use as table place-mats have even become a minor export, along with baskets, plaited mats, and woven belts.

Plaiting. A number of articles other than mats are plaited by the natives. Among them are pandanus-leaf hats, the technique for manufacturing which was introduced into the Eastern Carolines from the Marshall Islands. Other plaited products include slings of coconut fiber or hibiscus bast and reef shoes plaited of sennit. These last are said to be almost indispensable for reef fishing and are still made by the natives.

Weaving. Throughout the Eastern Carolines weaving was one of the important occupations of the native women. Belts and small mats were woven of banana fibers on a primitive hand loom. Great attention was paid to design, the fibers being dyed red, yellow, blue, and black. The dyes used were also the product of native industry. The red dye (really a reddish brown) was obtained from the pounded bark of a particular species of mangrove, the yellow from turmeric, the blue from young banana suckers, and the black from charred candlenuts. Weaving is still practiced in Kusaie, and to some extent on Ponape. Elsewhere, however, the craft is all but forgotten.

323. Housing and Construction

Native Houses. Formerly there was considerable local variation in kinds and styles of houses in the Eastern Carolines. In recent times, however, both styles and building techniques have been greatly influenced by European and Japanese patterns. Where the old style of construction has vanished, there has been also a decline in technical skill. In general, three kinds of native houses may be distinguished: dwellings, cook-houses, and canoe-houses.

The old style of dwelling house on Kusaie was one of the most distinguished of Micronesian architectural types. Especially characteristic was the high steep roof with its crescent or saddle-shaped ridge and its overhanging gables running out to high point at either end. The roof, which projected only at the ends and not along the sides, was thatched with mats made of the leaves of the nipa palm. The foundation of the house was square and consisted of rectangular basalt slabs or coral stones. Hewn posts six to seven feet high supported the roof and were rammed into the ground at the inner edge of the stone foundation. On the foundation itself rested a layer of beams wherein vertical wall-posts were inserted. The walls were low, and were covered with split hibiscus sticks, the rounded side outward, lashed horizontally to a lattice-like foundation. The rafters supporting the thatched roof ran from purlins resting on the wall-posts to a ridgepole upheld by central pillars. Apertures in the side walls served as windows, and a low rectangular opening in the front end formed a door. The flooring was generally of bamboo. Lashings throughout the house were of coconut-fiber string. Color ornamentation was profusely used.

The new style of dwelling in Kusaie is considerably simpler than the old. It is characterized by a straight ridge with a rather flat roof and a simplified supporting frame. The roof no longer projects at the gable ends. Ornamental coloring and lashings are missing. A veranda runs completely around the house. Features surviving from the old style of house include the stone foundation, the horizontal beams resting upon it, the general framework, the bamboo floor, and the outer walls of hibiscus strips.

Since the introduction of the sawmill (see 324) even this newer style of dwelling has been disappearing, and is being replaced by a square house built of planks and roofed with corrugated sheet-iron (not obtainable since 1940). This house rests on concrete or wooden pillars and is generally provided with a veranda.

The dwelling houses of Pingelap have a simple quadrangular structure with gable roofs projecting slightly at the ends. The walls are closed with leaves of the nipa palm, reeds, or wooden laths. Some houses are slightly raised on short wooden stumps. The roof is thatched with leaves of the nipa palm, and the ridge is covered with mats.

On Mokil, the native dwelling is quadrangular and rests on posts. About a foot and a half from the ground these posts support a floor, leaving a hollow space underneath. The walls are partly open and partly covered with mats. The roof is saddle-shaped with an overhanging gable in front. Nails and sawed planks are now frequently used in building.

The dwelling house of Ponape once had an architectural style as distinctive as that of Kusaie. It was rectangular in shape, with a horizontal ridge and perpendicular gables, and rested on a platform of basalt stones often eight to ten feet high. The frame was solid in construction, and the walls consisted of canes lashed together. The floor was also made of canes, and one or more small openings at the sides and in front served as both doors and windows.

On Ngatik the dwellings are wooden and whitewashed. They are erected on posts and usually resemble those of Ponape in style. Many have verandas, and some have two stories.

In Nukuoro the old Polynesian style of dwelling is now disappearing. It was rectangular in shape and of considerable size, averaging 50 by 27 feet. The frame of the roof rested on four purlins of palm wood upheld by four strong corner posts. The roof was thatched with pandanus leaves, coconut-leaf mats being laid over the ridge. On the long sides the roof reached down to within about a foot and one half from the ground. The low walls were always open. The floor was raised a little above the ground, the space beneath it being used for the storage of household utensils. The newer style of dwelling in Nukuoro rests on a broad platform, which protrudes in front, or sometimes around the entire building, to form a veranda. The house is neatly constructed of wooden boards, is closed, and is usually roofed with corrugated iron. Sometimes the old and new styles of roofing are combined by using palm-leaf thatch for the end veranda and corrugated iron for the main roof.

Kapingamarangi, which is also Polynesian in culture, has two different styles of dwelling, one of which is found only on the islet of Hale. The usual style is square, light, and open. The gabled roof rests on two longitudinal purlins, between which stretch cross-beams at either end and across the middle. The purlins are supported on four corner posts. The floor is of white coral gravel. The dwellings of Hale have rounded, barrel-like roofs, whose curved sides rest on strong footbeams lying on the ground. On the islet of Touhou there is a group of about 70 buildings with corrugated iron roofs.

In the remaining islands of the Truk district, house types and construction reflect the less highly organized society of this area (see 162 and 211). In general, the old style of dwelling throughout this region is little more than a sharply angled roof of mat work supported by four low posts or, not infrequently, resting directly on the ground. There is no foundation. A small rectangular aperture in the front serves as a door. The walls, if any, are covered with mats. In the westernmost islands the dwelling approaches that of Yap in type. The houses of Truk are very poorly built. Those of Nama, Losap, Namoluk, and the Nomoi Islands are of better construction, and sometimes have a foundation. Wooden houses erected on posts and provided with floors and verandas are not uncommon in this general area, particularly in Truk.

As in the Marshall Islands, the houses of native chiefs and kings are larger and better constructed than those of the commoners. The king of Kusaie, for example, has a two-story house on Lele. In the larger trading, administrative, and mission centers, such as Lele in Kusaie, Colony in Ponape, and Dublon in Truk, there are numerous dwellings today in European or Japanese style.

Cook-houses are found throughout the area. In Kusaie, where they are usually larger than the dwelling, they were formerly the exclusive realm of the men, but today they serve as a reception center. As a rule the cook-house is of simpler construction than the dwelling, near which it stands. It has open sides, and usually lacks a floor. There is generally a cook-house for each dwelling, but in Kapingamarangi several households often share one in common.

The canoe-house is omnipresent in the Eastern Carolines, although it seems to be relatively rare in Kusaie. It consists typically of a thatched roof resting on upright posts. In most cases the canoe-house has no external walls, although on Mokil the roof extends nearly to the ground and on Kapingamarangi there are often partial lattice walls. A raised platform or wooden posts keep the hull of the canoe from direct contact with the earth.

Furniture. Household equipment is simple, and consists today mainly of European and Japanese utensils. Native implements have practically disappeared in Ponape, but old wooden bowls, sometimes very large, are still used in Kusaie. Mats and baskets of native manufacture are still in common use. In Kusaie some dwellings have bedsteads of bamboo. Kerosene lamps and sewing machines have been widely adopted, especially in Kusaie.

Construction. Wood is the material most commonly used today in building construction. Most structures are wooden frame buildings of one or two stories, many of them with corrugated iron roofs. Cement floors are not uncommon, and some buildings are of concrete construction. Radio masts, signal towers, and observation towers are built of steel. Oil and water tanks are made of iron. Piers, moles, and military emplacements are commonly constructed of concrete. In recent years considerable quantities of cement, steel, wood, and other building materials have been imported (see 345). For the most part these appear to have been used to construct military fortifications, to build docks and repair facilities, and to develop military airfields. The South Seas Government offers subsidies for the construction of buildings which serve a public purpose.

Modern Structures. Buildings other than natives houses include warehouses (see 295), schools (see 262), hospitals (see 253), and public buildings of various kinds (see 285). There are numerous native churches, some built of brick or concrete, and in areas of Japanese settlement there are Shinto shrines. Trading stores and large sheds for storing copra are found on most islands.

324. Mine and Forest Production

Mining. Mining is a very minor industry in the Eastern Carolines. Development of bauxite deposits found in Ponape and Kusaie was being contemplated in 1937 by the Nanyo Aruminyumu Kogyo Kaisha (South Seas Aluminum Mining Company). Work was begun in the same year on the deposits in Ponape, which are reported to yield 50 to 60 per cent aluminum. They are located in laterite deposits near Mt. Tolocolme. A very little phosphate mining is done by the Nanyo Kohatsu Kaisha at Tafwensak in Kusaie, where the company has a small wooden shack. Other mineral resources (see 123) appear not to be developed.

Quarrying. Aside from the use of crushed coral rock in road building (see 291), there is no report of quarrying operations.

Forest Products. The high islands of Kusaie, Ponape, and Truk support a dense forest cover from the shore to the highest peaks (see 124). The German administration early recognized the value of the forests, especially the coastal mangrove forests which were relatively easily available. The first industrial enterprise on Ponape under the German Administration was a steam sawmill at Lot, which began to operate in 1902. It was owned by an Englishman named Bishop and promised to be a very interesting venture, but the manager died early in 1903. Since there was little market for the wood on the island, the Jaluit Company underwrote an experimental shipment of lumber to Hongkong in 1903. The shipment consisted of 24 woods of 11 different varieties, and was carried on the government mail-boat Oceana. When tested out at Hongkong, the timber was found to be useful but not sturdy enough to compete with lumber imported from Borneo.

The Japanese administration has also recognized the economic importance of the forests, particularly the mangrove trees on which Ponape and Truk depend mainly for their local supply of firewood and charcoal. The steady increase in the population of the islands in recent years has resulted in an expanding demand for timber and fuel, and this has led in places to considerable deforestation. Consequently, in 1936, the South Seas Government undertook a program of reforestation in Ponape. Inasmuch as the limited size of the area available for forests and the barren or rocky character of much of the soil scarcely warrant any hope for the production of fine timber in considerable quantities, the administration's program has been directed toward insuring an adequate supply of firewood for local use, conserving the land, and producing valuable tropical timber trees and special plants for industrial purposes. Since the existing mangrove forests are not only economically valuable but also serve as natural shelter-belts, the South Seas Government in 1936 expressed its intention to restore them to good shape and to protect them as much as possible.

In 1937 it was officially reported that 106 Japanese and 72 native males and 16 Japanese and two native females were engaged in forestry in the Ponape district, and that 30 Japanese and 21 native males were so engaged in the Truk district.

In Ponape the Nanyo Sangyo Kaisha (South Seas Industry Company) has a lumber reservoir into which trimmed logs on their way to the sawmill are floated. Timber cut in the hills is loaded on small cars which run on a narrow-gauge portable track. In Kusaie, a Japanese named Yamamoto owns and operates a sawmill on Ukat Island in Coquille Harbor. He is said to hire about five workers, Natives, Japanese, and foreigners on the island are reported to take their logs to him to be sawed into lumber, which they then transport to their homes to use in construction work. There is no report of the export of timber from this island except in 1938, when lumber for the Shinto shrine at Palau was obtained from Kusaie.

The statistics on forest production in the Eastern Carolines for 1937 are presented in the following table:

	Ponape District		Truk District	
	Quantity	Value	Quantity	Value
Lumber				
Mangrove	3,372 cu.m.	¥ 3,864	5 cu.m.	¥ 17
Breadfruit	37 "	142	205 "	728
Tamara	0 "	0	781 "	5,467
Red sandalwood	2 "	7	0 "	0
Miscellaneous	2,868 "	3,361	0 "	0
Total	6,279 "	7,274	991 "	6,212
Fuel				
Firewood	2,300 cu.m.	1,081	5,314 cu.m.	1,870
Charcoal	141,723 kg.	7,086	54,150 kg.	3,249

In addition to timber, the forests of the high islands yield small quantities of wild fruits, nuts, gums, fibers, and dyestuffs. In particular, the nuts of the ivory palm have been a minor article of export since very early days.

325. Food Industries

Starch Production. The production of starch in the form of tapioca has been developed by the Japanese since 1934 into an important industry. It is confined entirely to Ponape, where the Nanyo Kohatsu Kaisha (see 327) owns and operates a starch factory on the Chapalep River in Metalanim. At the factory there are concrete sluices used in the processing of the tuberous roots of the manioc plant, and on the river is a pier with two storage sheds from which bags of tapioca are loaded into boats for shipment. In conjunction with the factory the company runs a canteen for its employees. In 1937, 1,284 acres of manioc were under cultivation, 10,140 metric tons of roots valued at ¥ 91,260 were produced, and 1,978 metric tons of processed tapioca valued at ¥ 197,839 were exported to Japan.

Commercial Fishing. Commercial fishing has in recent years become the most important industry in the Eastern Carolines. The Japanese concluded many years ago that the economic possibilities of the islands were limited but that those of the sea were not. Consequently every effort was made to exploit the marine products of the adjacent waters. Bonito, tunny, horse mackerel, trepang, and other marine products have been produced in varying amounts, largely for export to Japan (see 345). The principal product is bonito, of which 16,498 metric tons, with a value of ¥ 1,276,745, were caught in 1937.

In contrast to subsistence fishing (see 313), commercial fishing is carried on almost exclusively by Japanese. In 1937 only four natives, all in the Truk district, were reported as engaged primarily in fishing, as opposed to 1,916 Japanese, 1,510 in the Truk district and 406 in the Ponape district. Commercial fishing is largely done offshore with modern gear and modern craft, especially power boats (see 294). The total catch in 1937 is shown in the following table:

Product	Ponape District		Truk District		Total Value
	Met. Tons	Value	Met. Tons	Value	
Bonito	4,064.0	¥ 406,396	12,433.6	¥ 870,349	¥ 1,276,745
Tunny	56.4	11,277	342.2	25,274	36,551
Mackerel	-	-	1.7	675	675
Horse mackerel	24.5	5,451	38.8	14,743	20,194
Cybius nipponium	1.0	219	-	-	219
Gray mullet	9.1	2,011	-	-	2,011
Shark	-	-	9.7	778	778
Other fishes	23.5	4,289	102.7	38,647	42,936
Shellfish	*	257	-	-	257
Trepang	8.9	444	22.2	222	666
Turtles	*.1	1,116	*	90	1,206
Miscellaneous	-	250	-	-	250
Total	-	431,710	-	950,778	1,382,488

* Reported in units rather than by weight.

The South Seas Government has encouraged the development of commercial fishing through the granting of subsidies. An ordinance issued in 1935 authorized the Governor

to grant subsidies to individuals, guilds, or corporations to defray the cost, in whole or in part, of the following:

- Construction or improvement of fishing vessels.
- Manufacture or purchase of new and improved fishing implements.
- Institution of improved methods of fishing or of disposing of the catch.
- Construction or equipment of hatcheries.
- Purchase or collection of desirable fish eggs or aquatic seedlings and propagation of young fish or marine plant.
- Construction or equipment of processing plants.
- Research or experimentation on the manufacture, marketing, or sale of marine products.
- Construction or equipment of ice-manufacturing plants, refrigerator ships, or cold storage facilities.
- Divers services performed by marine products guilds in connection with research, conservation, relief, marketing, and the provision of public facilities.
- Other activities recognized as deserving assistance.

Applications for subsidies must be accompanied by written statements outlining the enterprise, furnishing plans and specifications, detailing the costs, estimating probable income and expenditures, and giving other pertinent information. Provision is made for the control and supervision of recipients and for the making of regular reports.

In 1937, subsidies totaling ¥ 2,100 in the Truk district and ¥ 3,600 in the Ponape district were granted for fishing equipment expected to reduce the cost of operations. Additional subsidies totaling ¥ 9,688 were granted in the Truk district for the following purposes: ¥ 4,000 for the construction of fishing boats, ¥ 3,928 for building landing platforms, and ¥ 1,760 for constructing an ice-making plant.

Commercial fishing has been regulated by the South Seas Government since 1916 by a series of ordinances last amended in 1936. All fishermen must secure licenses from the Governor. For natives using their traditional fishing techniques the procedure is simplified (see 313). A special procedure is prescribed for all others, and particularly for the following categories of fishing activities: the breeding and culture of fish and shellfish, fishing with stationary appliances, fishing for pearl oysters and nilotic-top and Hirose shellfish, the catching of hawk's bill turtles, sponge fishing, coral fishing, whaling, pelagic fishing from a base in the mandated islands, fishing with poles or ropes, using a screw-driven power boat of more than five tons, and transporting or disposing of marine products caught.

An application for a license must be made in writing to the Governor, and must be accompanied by a plan of the enterprise and duplicate copies of maps showing the location and area of the fishing grounds. The application must contain the following information: the full name, date of birth, address, and domicile of the applicant (and in the case of a juridical person or guild also a copy of the articles of incorporation or by-laws and a certified copy of the registration), the type of fishing to be undertaken, a description and enumeration of the appliances to be used, the location and area of the fishing grounds, the kinds of marine animals to be caught or bred, the size, type, number, and crew of the fishing vessels to be used, the fishing season, and the base of operations.

Fishing permits must be carried on the person when fishing, may not be bought, sold, transferred, or lent, and must be returned immediately when invalidated or when fishing has been abandoned. When a permit is lost or damaged, or when any entry requires change, application must be made immediately for reissue, with a specification of the circumstances in writing. In case of death, a license may be transferred to the heir of the deceased if the latter's permit is returned within six months accompanied by written proof that the new applicant is the heir.

The following schedule of fees is prescribed: application for a permit under the special categories of fishing activities enumerated above, ¥ 10; application for renewal of such a permit, ¥ 5; application for a permit for other kinds of commercial fishing, ¥ 2; application for a change of entry, ¥ 1; reissue or revision of a permit, ¥ 1; permission to peruse the fishing register, 10 sen; application for a transcript from the fishing register, ¥ 2; application for such a transcript without maps, ¥ 1; application for a copy of maps of fishing grounds, ¥ 1; application for an extract from the fishing register without maps, 50 sen.

The ordinance of 1936 also expressly forbids the use of poison, explosives, or electricity in the catching or collecting of marine animals and plants unless special permission is secured from the Governor at Koror. Closed seasons were declared for specified marine animals as follows: nilotic-top and Hirose shellfish, from July 1 to April 30; pearl oysters, from August 1 to December 31; hawk's bill turtles, from June 1 to August 31 and from December 1 to January 31. The taking of the following marine animals

was forbidden at all seasons of the year: nilotic-top shellfish of less than eight centimeters in diameter at the base; Hirose shellfish of less than five centimeters in diameter at the base; hawk's bill turtles and sea turtle of less than 60 centimeters in length and their eggs, as well as any such turtles found on shore.

The following penalties are prescribed for violations of the fishing regulations described above:

Penal labor for not more than six months, or a fine of not more than ¥ 200, for using poison, explosives, or electricity in fishing, or for violating the provisions respecting the specifically enumerated categories of commercial fishing activities.

A fine of not more than ¥ 100, or a minor fine, for violating the provisions respecting other than the specifically enumerated categories of fishing activities, for failure to carry one's permit when fishing, for buying, selling, transferring, or lending a permit, for failure to respect closed seasons, for taking forbidden marine animals, for taking turtles or nilotic-top or Hirose shellfish when not engaged in fishing, for making false statements, and for evading, obstructing, or refusing to answer government inspectors. In all such cases, the catch and fishing appliances of the offender are confiscated, or a sum equal to their value is collected.

Minor fines for other violations.

Processing of Sea Foods. Since most of the products of commercial fishing are exported, it is first necessary to process them. This is not ordinarily accomplished by canning, although one cannery has been reported in the Eastern Carolines--at Nanko on the southwestern side of Dublon Island in Truk. The usual process is drying, much of which is done at factories operated by the Nanyo Kohatsu Kaisha on Ponape and Truk. The principal product is dried bonito. The fish is cleaned and the flesh is exposed in a dry place. As it dries, mildew forms. This is removed again and again until it ceases to form, when the product, a hard, dark red, and highly nourishing substance, is packed for shipment. Dried bonito is mainly exported to Japan, where it is greatly prized as a condiment and as an ingredient of soups.

The statistics for manufactured marine products in the Eastern Carolines for 1937 are presented in the following table:

Product	Ponape District		Truk District		Total Value
	Met. Tons	Value	Met. Tons	Value	
Dried bonito	660.6	¥ 540,927	2,148.6	¥ 1,506,218	¥ 2,047,145
Dried tunny	7.4	6,361	57.3	46,610	52,971
Dried trepang	1.4	897	.6	594	1,491
Others	41.7	4,766	*	1,557	6,323
Total	-	552,951	-	1,554,979	2,107,930

* Reported in units rather than by weight.

The South Seas Government encourages the development of marine industries through experimentation, which is carried on at the Marine Products Experiment Station at Koror in Palau. This institution received ¥ 57,871 for operating expenses in 1937.

326. Miscellaneous Industries

Copra Industry. With the decline of the whaling industry in the 1860's the natives of the Eastern Carolines found that coconuts were their most marketable commodity, and they soon began to plant trees in excess of their subsistence needs. Copra was produced from the nuts and was sold to traders and trading companies in exchange for goods imported from Europe and America. Copra production was encouraged by the German trading companies, which dominated the trade of the islands in the late nineteenth century, and later by the German administration, and during these years copra constituted nearly 90 per cent of the exports of the area (see 133 and 345). Under Japanese rule, the copra industry has undergone still further expansion. Other industries, however, have developed even more rapidly, with the result that within the past decade copra production has yielded first place to commercial fishing in the Eastern Carolines as a whole, although it still retains its leading position in the Ponape district.

Copra production is largely in the hands of natives. The bulk of the crop is produced on small groves owned and maintained by individual families. In 1937, 11,399

natives of the Eastern Carolines were listed as farmers, as compared with only 946 in all other gainful occupations combined, and nearly all native farmers have at least a few coconut trees in excess of their subsistence requirements. These trees represent their principal source of money income, the copra produced from the nuts being sold to traders in exchange for imported commodities.

Some copra is also produced on large plantations. The Etscheit family (see 145) has extensive holdings in Ponape, Truk, and Namonuito. Mr. Arthur Herrman owns a large plantation on Kusaie. Several wealthy native chiefs, notably Oliver Nampai on Ponape and King John Sigra on Kusaie, hold extensive coconut-producing lands. In addition, the South Seas Government leases some of its land holdings to private persons and corporations, especially the Nanyo Boeki Kaisha (see 327), for the cultivation of coconuts. Such leases were reported in 1937 to include 40 acres in the Truk district and 8,133 acres in the Ponape district. These larger plantations are cultivated either by natives or by Okinawa immigrants, who work for wages.

In 1937, 29,265 acres were reported under cultivation to coconuts, 18,797 in the Ponape district and 10,468 in the Truk district. In the entire area there were 1,808,697 coconut trees, of which 1,117,613 were producing; during the year these yielded 45,987,922 nuts with an estimated value of ¥ 1,379,637. The distribution by district was as follows:

Ponape district: 1,095,972 trees, of which 685,376 were in production, yielding 23,986,645 nuts valued at ¥ 716,899.

Truk district: 712,725 trees, of which 432,237 were in production, yielding 22,091,277 nuts valued at ¥ 662,738.

The techniques of coconut cultivation are simple, and have been described elsewhere (see 311). For the production of copra, the nuts are allowed to ripen on the trees until they fall to the ground, when they are gathered up. The ripe nuts are opened, and the meat is removed and placed on drying racks under sheds with open sides and corrugated iron roofs. The roofs protect the drying copra from the rain, and at the same time transmit the heat of the sun. Sun-drying produces the best copra, and is used throughout the Truk district and wherever possible in the Ponape district. In certain parts of the latter district, however, the cloudiness and humidity (see 112) are too great to permit adequate drying through the heat of the sun alone, and fires are built under the copra racks to accelerate the drying.

The South Seas Government has attempted to increase the quantity and improve the quality of copra production by offering subsidies. The following subsidies have been offered to copra producers, the first two since 1922 and the third since 1931:

Up to ¥ 20 for planting from 100 to 200 palms on plots of land larger than one hectare (2.47 acres) in size.

Up to ¥ 10 for thinning, complementary planting, and weeding on groves of more than one hectare containing from 100 to 200 palms.

Up to one fourth of the expense for erecting a new drying shed.

In 1937, subsidies amounting to ¥ 340 were granted to Japanese for erecting 15 fire-drying sheds in the Ponape district, and subsidies totaling ¥ 5,672 were granted to native producers. Of the grants to natives, ¥ 4,362 was paid in the Ponape district for improving 1,267 acres of land and erecting 62 fire-drying sheds, and ¥ 1,310 was paid in the Truk district for improving 87 acres of land and erecting 50 sun-drying and 50 fire-drying sheds.

Manufacturing Industries. The manufacturing plants in the Eastern Carolines include a starch factory on Ponape (see 325), fish processing factories in Truk and Ponape (see 325), and ice-manufacturing plants operated in connection with the electric power plants in Truk and Ponape (see 284). In 1937, the South Seas Government granted a subsidy of ¥ 300 for the establishment of a cotton mill on Ponape and a subsidy of ¥ 200 for unspecified manufacturing industries in the Truk district. In the same year three liquor-manufacturing plants were reported, one in the Truk district and two in the Ponape district. On the whole, however, industrial development in the islands has been very slight.

327. Business and Industrial Organizations

Nanyo Boeki Kaisha. The dominant business organization in the Eastern Carolines is the Nanyo Boeki Kaisha (South Seas Trading Company). Formed in 1906 by the amalgamation of two earlier Japanese firms (see 133), it became active in the area even during the

German period, and with Japan's seizure of the islands in 1914 it fell heir to the extensive interests of the Jaluit Company. In 1933 it had a paid-up capital of two million yen, with 40,000 shares of stock and 482 stockholders. Of this amount, 15,132 shares, or enough to assure effective control, were held by the Kawasaki family, one of the leading banking and industrial families of Japan. The principal activities of the company are shipping, commerce, copra production, and fishing. It operates the major shipping line which connects the outlying islands with Ponape and Truk (see 294). It purchases copra and sells imported products at a series of trading stations, which, in 1938, it maintained at the following places: Kusaie (main store at Iele with branches at Malem and Tafwensak), Losap, Lukunor, Mokil, Nemonuito (on Ulul islet), Ngatik, Oroluk (reported in 1925), Pingelap, Ponape (main store at Colony with two branch stations), and Truk (main store on Dublon with branches on Fefan, Moen, Tol, and Udot). The company also engages directly in the production of copra; in 1934 it leased 2,781 acres of land on Pekin and Ponape, of which 1,762 acres were planted to coconuts. Finally, it has a very limited interest in fisheries, especially in bonito fishing and the preparation of dried bonito in Ponape.

Nanyo Kohatsu Kaisha. In 1921, two pre-existing Japanese firms, the Nishimura Exploitation Company and the South Sea Industrial Company, were amalgamated to form the South Seas Development Company or Nanyo Kohatsu Kabushiki Kaisha. Its initial capitalization was ¥ 3,000,000, but this had increased to ¥ 20,000,000 by 1933 and to ¥ 40,000,000 by 1938. The powerful Oriental Exploitation Company, which was instrumental in organizing the new firm, took more than 50 per cent of the original shares and has continued to hold a controlling interest. The Nanyo Kohatsu Kaisha was established to develop the sugar industry in Saipan, and sugar, with by-products such as alcohol, has remained its principal enterprise. However, it has phosphate interests in the Western Carolines and has engaged in a number of subsidiary activities such as ice manufacture, shipbuilding, fishing, and agricultural enterprises. In the Eastern Carolines it operates fish processing factories in Truk and Ponape (see 325), and has initiated a series of experimental agricultural projects, mainly unsuccessful. In 1934 it undertook to develop starch production on Ponape, building a starch factory at Metelanim and purchasing 2,592 acres for growing raw materials, especially manioc for manufacture into tapioca. This venture proved successful (see 325), but an attempt to raise sugar on Kusaie in 1938 failed completely. The heavy requirements of the troops in the Marshall Islands for fresh vegetables led the company, in 1939, to attempt truck gardening on a large scale in Kusaie. The first year's yield was good, but insect pests ruined the next crop. However, another trial was made in 1941, with unreported results. The company maintains its head office in Saipan and a branch office in Tokyo, and in 1938 it was reported to have nearly 40,000 employees.

Nippon Yusen Kaisha. A third large Japanese company active in the Eastern Carolines is the Nippon Yusen Kaisha. This important shipping firm operates the steamship lines which connect Ponape and Truk with the other districts of the mandated islands and with Japan (see 294). It receives a subsidy from the South Seas Government but is not engaged in local business enterprises.

Other Japanese Companies. The Nanyo Aruminyumu Kogyo Kaisha (South Seas Aluminum Mining Company) operates bauxite mines on Ponape (see 324). The Nanyo Sangyo Kaisha (South Seas Industry Company) engages in lumbering operations on Ponape. The important Nanyo Takushoku Kaisha (South Seas Exploitation Company), which engages in phosphate mining in the Western Carolines, is not reported to have any interests in the Eastern Carolines.

Non-Japanese Companies. The Burns Philp Company of Australia and a few British and American companies attempted for a time to continue trading in the islands after the Japanese occupation. All had withdrawn, however, by 1922, when the Nanyo Boeki Kaisha initiated a regular shipping service and was confirmed in its monopolistic position. Since then, foreign commercial interests in the area have been confined to a handful of individual planters and traders.

Small Entrepreneurs. There are a considerable number of independent Japanese traders and copra brokers, especially in the islands and districts where the Nanyo Boeki Kaisha does not maintain trading stations. In addition, there are many small shopkeepers who cater primarily to the Japanese population. In 1931 there were said to be 70 small merchants in the Truk district and 81 in the Ponape district, and the number has certainly increased in more recent years. In addition to stores selling general merchandise, there are specialized shops in the larger towns. Thus Colony, Ponape, had a butcher shop, a fish market, a curio shop, and a cane store in 1941. Catering to amusement interests there are said to be no saloons, although there are numerous liquor dealers and liquor is sold at hotels and restaurants.

Service enterprises are fairly numerous in the larger settlements. Thus Colony,

on Ponape, has tailors, dressmakers, barber shops, restaurants, hotels, a photographer, a bakery, a laundry, a shoe repair shop, an ice plant manufacturing ice cream, and a garage with three taxicabs for hire. Truk, too, is well equipped with service establishments, but Kusaie has only a barber shop. An ordinance promulgated by the South Seas Government in 1922 offers subsidies up to the total cost of equipment and estimated business expenses for the first year to persons engaging in selected service enterprises, such as laundering, shoemaking, hairdressing, tailoring, and hotelkeeping. However, informants who have returned from the islands as recently as 1941 report that they know of no case where such a subsidy has actually been granted, and no instances are mentioned in the official tabulation for 1937.

Small entrepreneurs, who are almost exclusively Japanese, usually operate as individuals, but in a few instances they are incorporated. Thus, in 1937, fifteen commercial companies were registered in the Eastern Carolines, four in the Truk district and eleven in the Ponape district. The organization and activities of partnerships and joint-stock corporations are regulated by Japanese law. The fees prevailing for various corporate acts are enumerated under 227.

Some indication of the number and distribution of small businesses is given by the official enumeration of those which were subject to police supervision in 1937, as listed in the following table:

Type of Business	Ponape District	Truk District	Total
Hotels	1	2	3
Restaurants (upper-class)	7	4	11
Restaurants (lower-class)	38	8	46
Commercial entertainment	0	1	1
Liquor dealers	46	30	76
Second-hand stores	6	3	9
Barber shops	9	5	14
Drug stores	2	1	3
Drug dealers	24	12	36
Butcher shops	7	7	14
Abattoirs	1	1	2
Dairies	1	1	2
Boat renters	2	0	2
Ferry operators	8	0	8
Crematories	1	1	2
Total	153	76	229

33. LABOR

331. Labor Supply and Employment

Supply of Native Labor. The total supply of native labor can be estimated from the number of natives in the islands, which was reported to be 24,450 in 1938 (see 143). The supply of able-bodied adults available for wage labor, however, is severely curtailed by the fact that the great majority of the population are engaged in subsistence agriculture and fishing. It is probably significant that the Japanese, in constructing airfields and fortifications, are reported to have imported Okinawa and Korean workers instead of depending upon native labor.

Supply of Immigrant Labor. The Japanese inhabitants of the Eastern Carolines, officially reported to number 4,481 in 1937, are employed for the most part in minor industry, in petty commerce, and in administration. By 1941 the total number of Japanese had swelled to 9,820, and it is doubtless still greater today. The newcomers have been brought in the main from the Okinawa prefecture (Ryukyu Islands) to work as day laborers on roads, airfields, and military installations. Such persons, if they remain, would constitute a potential labor supply. The number of non-Japanese immigrants in the islands is negligible (see 143), although there are unconfirmed reports of very recent importations of Korean laborers.

Employment of Natives. Of the natives who were gainfully employed in 1937, 11,399 or more than 90 per cent were engaged in agriculture, mainly in subsistence farming and copra production. Of the remainder, 215 were government employees, 141 were employed in food processing industries, 95 were engaged in forestry (possibly including laborers on coconut plantations), 68 held religious positions, 68 were engaged in commerce and 51 in transportation, 17 were domestic servants, 17 held educational positions, and the others were scattered (see 334). The character of the employment of natives does not indicate the availability of any large number as a labor reserve.

Labor Recruiting. In the early days of the Japanese mandate, a moderate number of natives from the Eastern Carolines were recruited and sent to the Saipan district to work in the sugar industry there between the months of December and June each year. The following table presents all the available data on the numbers recruited:

	1922		1923		1924		1925	
	June Dec.		June Dec.		June Dec.		June Dec.	
Truk district								
Male	163	208	203	184	165	205	230	233
Female	60	60	68	73	73	97	97	114
Total	223	268	271	257	238	302	327	347
Ponape district								
Male	111	111	117	129	130	145	165	271
Female	38	38	29	56	58	73	72	86
Total	149	149	146	185	188	218	237	357
Grand total	372	417	417	442	426	520	564	604

Although the Saipan sugar industry has increased greatly since 1925, immigrants brought from the Okinawa prefecture in the Ryukyu Islands have largely replaced native labor, and it is probable that few, if any, recruits have been taken from the Eastern Carolines since 1930. There is no record of natives from the Eastern Carolines having been recruited to work in the Angaur phosphate mines.

Forced Labor. According to the terms of the mandate from the League of Nations, "no forced labor is permitted, except for essential public works and services, and then only for adequate remuneration." In their official reports the Japanese maintain that they have never exacted forced labor from the natives, but they add that if a native community requests some improvement, such as a betterment of roads or harbors or the establishment of a school, the labor of its inhabitants is accepted as a voluntary contribution. Under the German administration the natives of Ponape were required to work for fifteen days a year without compensation (see 132), but there is no record that the Japanese have continued this policy. In Angaur in the Palau district, when the quota of labor required for the phosphate mines is not filled on a voluntary basis, a system of forced labor is resorted to, and it is possible that compulsory labor may sometimes be demanded, perhaps through a subterfuge, in the Eastern Carolines as well.

Penal labor constitutes a special exception. Any sentence involving detention may be, and usually is, converted into a sentence of hard labor without detention for the

same period. Fines which a native cannot pay are also worked out in labor on the basis of one yen per day (see 228). Japanese convicts may possibly have been imported to work on military fortifications, as has been reported in the Marshall Islands.

According to aboriginal custom, particularly in the Ponape district, chiefs had the power to exact labor as well as tribute from their feudal subjects, although this prerogative appears to have been exercised with moderation. The Japanese are reported to have been relatively successful in securing the assistance of chiefs in the recruiting of native labor.

332. Working Conditions

Hours of Work. The customary working day for natives in the Eastern Carolines is eight hours--from 8 A.M. to 5 P.M., with one hour off at noon. As a result of missionary activity Sunday observance is the rule. The working week consequently consists of six full days. The practice with Japanese employees is presumably the same, although it is not specifically reported.

Labor Legislation. Although the South Seas Government has issued detailed labor regulations for the mines at Angaur and the sugar industry in the Saipan district, no comparable legislation is reported for the Eastern Carolines. Government employees, however, are protected against sickness and accident by insurance benefits and against old age by a pension system (see 245). Legislation enacted during both the German and the Japanese administrations has protected natives against onerous labor contracts. The Japanese ordinance forbids any person to make a contract with a native for more than one year without recording the transaction with the Branch Governor. Japanese officials are also forbidden by law to accept gifts, including food, from native except at general feasts; gifts received on other occasions must be paid for.

333. Wages and Other Incentives to Labor

Attitude toward Work. Both the Germans and the Japanese report that the natives of the Eastern Carolines, particularly those of the Truk district, are lazy and unwilling to work. This judgment is doubtless based upon European and Oriental standards. The diligence of the natives in producing copra and their dexterity in performing the tasks demanded of them under their own economic system would appear to demonstrate that they are capable of hard work and are able to learn complicate motor habits if they are motivated to do so.

Wage Scale. A report from the German period mentions twenty-five cents a day as the normal wage, with stevedores demanding fifty cents (one Chinese dollar). In 1937, under Japanese rule, the prevailing daily wage rates for specific types of labor were officially reported as follows:

	Truk District		Ponape District	
	Japanese	Natives	Japanese	Natives
Carpenters	¥ 3.20	¥ 1.00	¥ 3.50	¥ 1.80
Shipwrights	4.00		3.80	
Cabinetmakers	3.20			
Masons	3.20		3.80	
Blacksmiths	3.20		4.00	
Day laborers (male)	2.00	0.80	1.60	0.80
Day laborers (female)	1.00	0.50	0.90	0.40
Servants (male)	16.00*		18.00*	10.00*
Servants (female)	11.00*		13.00*	5.00*

* Per month, with board and lodging.

The standard wage for native laborers on Kusaie was reported to be one yen per day in 1941, although Mr. Herrman was said to be paying two yen and board. Lodging and board (consisting of rice, bread, corned beef, and tinned salmon or sardines) are sometimes given in lieu of part of the wage.

The prevailing salary scales are low, judged by American standards. The salaries of Japanese officials of Hannin rank range from a maximum of ¥ 2,160 to a minimum of ¥ 480 per year. Clerical and service employees, of course, receive still less. The salary levels for natives are lower than for Japanese. Village chiefs are paid not more than ¥ 35 per month, and village headmen not more than ¥ 20. Native teachers in the Mission

Training School on Kusaie receive an annual salary of ¥ 250 and their board. Native pastors receive about ¥ 500 per year, and native policemen and school teachers are paid approximately ¥ 250. Native boys employed by the hospitals are reported to receive about ¥ 15 per month.

Cooperative Labor. According to native custom, work demanding the cooperation of a considerable number of people, such as house-building, is motivated by accompanying festivities and a concluding feast. Experience in the Pacific indicates that similar incentives are often useful in employing native labor in gangs.

Prestige Incentives. Prestige motives have not operated as an effective incentive to labor among the natives of the Eastern Carolines (see 157). Although the Japanese have instituted a system of awarding badges and honors for exemplary behavior (see 263), very few natives have received such awards, and it is doubtful whether they have operated as an economic incentive.

334. Specialization

Division of Labor by Sex. According to native custom, specific economic tasks were regarded as the province of one sex or the other, with little overlapping. The activities generally assigned to adult males included the cultivation and harvesting of agricultural products, fishing, the construction of houses and boats, warfare, work in shell, bone, and stone, cooking, and the exercise of magical, medicinal, and ceremonial skills. The women wove, made baskets, plaited mats, sails, and clothing, prepared the thatch for roof construction, did some fishing on the reef, tended the children, assisted in childbirth, and performed all laundry work and other household tasks. On the Polynesian atolls of Nukunono and Kapingamarangi the women, instead of the men, tilled the fields and did the cooking. In the Truk district the women participated in agriculture to a limited extent, especially in the cultivation of root crops.

With the impact of European and Oriental culture, the division of labor between the sexes, which was strictly adhered to under aboriginal conditions, has become less rigid. Today, for example, women do much of the cooking, which previously was in the hands of the men alone, and they also assist the men in gardening.

Aboriginal Specialization. In former times, there was considerable occupational specialization among the natives. There were specialists in boat-building, house construction (especially of the men's houses), and fishing. In addition, certain special skills were accorded recognition as professions, the most important being tattooing, medical skill (see 252), and divination (see 154).

Occupational Distribution. The principal occupation of the natives today is subsistence farming and coconut production, approximately 92 per cent of all natives who are gainfully employed being officially classed as agriculturists. Most of the rest are employed in forestry, transportation, and the food processing industries, principally as laborers, or are engaged in petty commerce. Few have received training in specialized trades, although in 1938 fourteen natives from the Eastern Carolines had graduated in carpentry from the Apprentice Woodworkers' Training School in Palau, where courses are given in mechanical drawing, cartography, building materials, tools and workmanship, and designing. The principal professions open to natives are those of schoolteacher (see 262), village chief or headman (see 215), and evangelist (see 134).

The Japanese follow a much wider range of occupations. The largest number following any single occupation are fishermen, who constitute 42 per cent of all Japanese who are gainfully employed. Agriculture and commerce rank next in order of importance. The distribution of occupations, classified by district, race, and sex, as officially reported in 1937, is shown in the following table:

Occupation	Ponape District				Truk District				Total
	Natives		Japanese		Natives		Japanese		
	Male	Female	Male	Female	Male	Female	Male	Female	
Agriculture	2,761	694	320	148	3,882	4,062	28	6	11,901
Stock-raising	1	-	-	-	-	-	2	-	3
Forestry	72	2	109	16	21	-	30	-	250
Fishing	-	-	336	70	4	-	1,390	120	1,920
Food, tobacco, and li- quor manufacture	-	-	86	14	141	-	128	-	369
Wickerwork and basket making	3	-	86	-	15	-	50	-	154
Textile manufacturing	-	-	-	1	-	-	2	-	3

Occupation	Ponape District				Truk District				Total
	Natives		Japanese		Natives		Japanese		
	Male	Female	Male	Female	Male	Female	Male	Female	
Tailoring and clothing manufacturing	-	-	16	16	-	-	5	-	37
Paper manufacture and printing	-	-	3	-	-	-	3	-	6
Leather, bone, and feather work	1	-	3	-	-	-	-	-	4
Metal work	-	-	12	-	-	-	9	-	21
Pottery making	-	-	2	-	-	-	-	-	2
Chemical industries	3	-	-	-	-	-	-	-	3
Other industries	1	-	7	-	-	-	2	-	10
Civil engineering	6	-	100	-	3	-	189	-	298
Water, gas, and elec- tricity	3	-	28	-	-	-	4	-	35
Transportation	9	-	46	-	42	-	73	-	170
Communications	-	-	22	-	-	-	16	-	38
Commerce	8	1	123	22	51	8	184	49	446
Banking and insurance	-	-	1	-	-	-	-	-	-
Independent business	-	-	13	-	-	-	7	-	20
Receptionists	2	1	46	62	-	-	32	50	193
Stenography	-	-	-	-	-	-	3	-	3
Government employees	37	-	47	1	178	-	45	-	308
Law	-	-	1	-	-	-	-	-	1
Medicine	-	-	14	8	-	-	6	4	32
Education	8	3	17	6	6	-	13	-	53
Religion	6	-	4	-	62	-	3	1	76
Domestic servants	5	4	5	15	8	-	2	2	41
Other occupations	57	-	200	5	174	-	20	23	479
No occupation	2,046	3,635	589	1,038	2,805	3,468	288	823	14,692
Total	5,029	4,340	2,236	1,422	7,392	7,538	2,534	1,078	31,569

335. Labor Organizations

Labor Unions. No labor unions or other labor organizations are reported for the Eastern Carolines. Industrial guilds are considered elsewhere (see 166 and 353).

34. PROPERTY AND EXCHANGE

34.1. Land Tenure

Native Land System. The natives did not recognize private property in land. On the Polynesian atolls of Kapingamarangi and Nukunono the title to land and property always belonged to a family, never to an individual. Elsewhere in the Eastern Carolines all land was considered to be the collective property of clans, and was administered by clan chiefs. Fishing rights on the reefs belonged in all cases to the owners of the adjacent lands.

In the Truk district, a clan commonly owned land on several islands, and the land of each settlement was administered by the chief of the sub-clan residing there (see 211). This chief divided the arable land of the community into individual plots, and distributed these among his clansmen. Any native could increase his holdings, with the consent of the local chief, by clearing the bush and cultivating any of the land belonging to the sub-clan.

In the Ponape district, except in Kapingamarangi and Nukunono, the title to all land was held by the paramount chiefs. Instead of distributing individual plots of land directly to the commoners, however, the paramount chiefs assigned large holdings of land to local feudal lords, who managed these estates and distributed the plots into which they were divided to the commoners who tilled them. In return for the use of the land, the commoners paid tribute to the feudal lords, who in turn rendered tribute to the paramount chiefs. Feudal nobles and clan chiefs constituted an aristocracy, while paramount chiefs and their relatives enjoyed royal status (see 164). Although commoners could be dispossessed of their holdings at the whim of the overlord, in practice each commoner regarded the land he tilled as his own, and it was rarely taken from him unless he offended his lord by committing a serious crime. Tribute was apparently not excessive, and both commoners and nobles seem to have been satisfied with the prevailing land system.

Changes under German Administration. The German administrators regarded the feudal system of land tenure as unsound and undertook to change it. They abolished tribute to chiefs and gave commoners title to the plots which they cultivated. It was their policy, however, to indemnify the former owners for the tribute which they lost. On Ponape, for example, the new owners or former tenants were required to work 15 days each year for the German government, and half of the value of their labor, reckoned on the basis of a daily wage of one mark, was paid to the feudal lords and paramount chiefs as a compensation. Throughout the islands, all land within 99 feet of the shore was made available for private ownership, and title deeds were issued for individual plots. The right of disposing of private property in land was vested in the owner with the permission of the chief of his district and of the German administration. However, such transactions were officially discouraged, and none are recorded for the period. Land which was not converted into private property was allocated to the village or district having jurisdiction over it, and the right of disposing of it was vested in the local chief under the supervision of the government. Thus it was made possible for a commercial concern such as the Jaluit Company to secure title to uncultivated lands by purchase from local chiefs.

Japanese Land Policy. When the Japanese occupied the islands they accorded provisional recognition to all land rights previously acquired in accordance either with traditional native customs or with German laws, irrespective of whether or not the owners were natives. The title deeds issued by the German administration were duly endorsed by the district offices. The requirement of government consent in disposing of land not converted to private property was abolished, except when the transaction involved a foreign national. Otherwise local chiefs were given unrestricted power to alienate unallocated lands under their jurisdiction. As a consequence, much more land in the Eastern Carolines has passed out of native ownership during the Japanese administration than during the German regime, although exact information on this subject is not available.

The Japanese officially classify land holdings into the state domain and private lands. The former category includes the parcels of land transferred to the Japanese Government under Article 257, paragraph 2, of the Treaty of Versailles and lands subsequently acquired by the Government. All land not privately or communally owned is considered to be part of the state domain, and private appropriation of such land is forbidden. The public domain is classified as follows: (1) domain for public use; (2) domain for government use, e.g., for government enterprises and the residences of public officials; (3) domain for forests; (4) domain for miscellaneous use. Only land in the fourth category may be leased or sold to private persons.

Private lands are classified as follows: (1) property of natives, subdivided into private property and communal property; (2) property of persons other than natives, in-

cluding both Japanese and foreigners. Private lands may be freely bought, sold, leased, exchanged, or otherwise transferred, and natives have unrestricted freedom to buy or lease land from Japanese, foreigners, or one another. However, according to an ordinance of the South Seas Government issued in 1916 and slightly amended in 1931, no non-native person, with the exception of government agents, may contract with a native for the purchase, sale, assignment, lease, or mortgage of land except with the express sanction of the Governor, followed within thirty days by registration of the contract with the Branch Government of the district within which the land is situated.

All transactions relative to real property must be registered. The schedule of registration fees is presented elsewhere (see 227).

The state domain has almost certainly been increased in recent years, for the construction of airfields and bases if not otherwise. Official reports, however, are silent on this matter. Nor is there information as to the legal procedures involved, although presumably the forms of government purchase have been at least nominally adhered to.

Parts of the state domain are leased to private individuals and corporations for exploitation. In 1937 it was officially reported that 12,412 acres in the Ponape district and 79 acres in the Truk district were thus under lease, bringing in a total rental of ¥ 13,755.54. Separate leases totaled 456 in the Ponape district and 130 in the Truk district. Of these, 41 in the Ponape district and 7 in the Truk district, mainly of newly colonized land, were free of rent. The statistics on the government lands leased with rental in 1937 are presented in the following table:

Type of Land	Truk District		Ponape District	
	Acres	Rent	Acres	Rent
Arable land	23.5	¥ 187.95	4,143.7	¥ 1,164.53
Land with buildings	10.5	1,712.75	31.9	8,538.36
Coconut plantations	39.7	300.00	4,521.7	1,411.13
New plantations	-	-	3,611.3	291.31
Pasture land	-	-	22.8	51.05
Miscellaneous	3.3	73.66	0.2	24.80
Total	77.0	2,274.36	12,331.6	11,481.18

Land Survey. In 1923 the South Seas Government initiated an investigation of lands owned by the Government and by private individuals other than natives, for purposes of demarcation and classification. This survey was completed for the entire mandated area in 1932. By an ordinance promulgated on October 6, 1933, the investigation was extended to lands owned by natives. The expressed purpose was to make definite all existing land titles and to settle disputes over boundaries. A land commission was created with the Governor as chairman, and it was provided that persons desiring to obtain a decision from the commission concerning a title or a boundary submit a written declaration describing the plot of land in question and stating the reasons for the request. Both the earlier and the later surveys began in the Marianas, proceeded through the Western and the Eastern Carolines, and ended with the Marshall Islands.

The land survey appears to have been conducted, on the whole, with fairness. In the earlier years both natives and American missionaries were apprehensive that they might lose their lands, but their fears seem not to have been realized as late as 1941.

342. Movable and Incorporeal Property

Property in Movables. Among the natives of the Truk district all movable property belonged to individual persons. Personal property included such things as weapons, utensils, textiles, ornaments, turmeric, and canoes. In the Ponape district private property was in general more restricted. Only utensils, yams, kava, and dogs were universally owned by individuals. Fruit trees were the common property of the entire community. On Kusaie, all coconuts belonged to the king. Canoes were theoretically the property of chiefs, and they could be taken away from their individual possessors at any time. Today private property has become more widespread, and the property laws of Japan are presumably operative.

With one exception, native customs in regard to gift giving reveal nothing of special interest. This exception was a sort of potlatch or gift-giving competition which took place between friends in aboriginal Kusaie, and which often assumed an exaggerated form among nobles. The native conception of a friend was that of a person whom one feasts frequently and on whom one bestows liberal gifts. A contest began when one person, as an expression of appreciation for his friend, sent the latter a basket of assorted fruits and, in addition, a fish and a chicken. The recipient would respond with a more abundant

basket of food. Reciprocal donations succeeded one another, each more generous than the last. Gifts of mats, clothing, and money were added to those of food, and eventually valuable property such as canoes and even real estate were exchanged. When the required amount of the gifts surpassed the ability of one of the participants to reciprocate, his relatives and friends stepped in to assist him, until finally the entire resources of one party were exhausted. These gift-contests were motivated very largely by a craving for reputation and prestige. It is probable that they are no longer customary.

Incorporeal Property. No information is available on native concepts of incorporeal property, and the German and Japanese legislation contains nothing of interest except in relation to debts and credits [see 353].

343. Inheritance

Native Rules of Inheritance. On Kapingamarangi and Nukuoro property was inherited by the oldest child regardless of sex. However, if a man died suddenly before his children were grown, his brother took possession of the land and assumed the care of the children until they were grown. In case of division of an inheritance, the taro fields went to the women of the family while the men got the coconut palms and waste land. Elsewhere in the Eastern Carolines inheritance was regularly matrilineal under aboriginal conditions. Such movable possessions and rights to real estate as an individual possessed were transmitted exclusively through females. Male heirs took precedence, although women could also inherit. The younger brothers of the deceased were the preferred heirs. In default of brothers, a woman's personal possessions generally went to her children; a man's property descended to his sisters' children, not to his own.

Modifications in Inheritance Rules. The German administration attempted to introduce patrilineal inheritance and officially prescribed the following order of heirs: eldest surviving son, eldest surviving grandson, eldest surviving brother, eldest surviving nephew. A man might nominate a non-relative as his heir, but such nominations had to be approved by the chief and the German administrator. This order of inheritance was revoked by the Japanese government, and the matrilineal system was accepted as legal. The introduction of private property in land and the disintegration of clan organization, however, have tended to moderate the native insistence on matrilineal inheritance. It is probable that, as is the case with parallel native institutions, practice has now altered greatly in the direction of conformity with Japanese and European custom.

Probate Procedure. The procedure followed in the transfer of property by inheritance or testamentary disposition is that prescribed by Japanese law. The schedule of fees is given under 227.

344. Domestic Commerce

Internal Trade. Under aboriginal conditions a considerable amount of trade was carried on between different districts and island groups within the Eastern Carolines (see 133). With the introduction of modern shipping services, however, long canoe voyages for trading purposes have ceased, and the natives have come to depend upon the trading stations established by private entrepreneurs and by large companies, especially the Nanyo Boeki Kaisha (see 327). At these stations copra, dried fish, and other exportable native products are exchanged for food and manufactured goods imported from Japan. In the larger towns, general and specialized shops and service establishments cater to the economic needs of the Japanese population (see 327). No figures are available as to the extent of local and interisland trade today, but it appears to be relatively insignificant.

Prices. Japanese official sources list the prices prevailing in the Eastern Carolines for a number of important commodities, mainly imported from Japan (see 345). These commodities are enumerated in the following table, with their prices in yen for 1932 and 1937 and also, for comparative purposes, the prices prevailing in Tokyo in 1932:

Commodity	Price in 1932			Price in 1937	
	Tokyo	Truk	Ponape	Truk	Ponape
Rice, high-grade Japanese, per kg.	22	24	25	32	30
Rice, 2nd-grade Japanese, per kg.	21	21	23	26*	29
Rice, 3rd-grade Japanese, per kg.	20	--	22	28	--
Rice, glutinous, per kg.	23	30	32	30	41
Barley, improved Ashimujii, per kg.	9	14	20	30	22

Commodity	Price in 1932			Price in 1937	
	Tokyo	Truk	Ponape	Truk	Ponape
Flour, Takeshimishi, per kg.	16	--	32	35	36
Starca, potato, per kg.	--	--	33	40*	22*
Soy beans, 3rd-grade Hokkaido, per kg.	27	--	21	26	28
Peas, per kg.	14	--	21	23	30
Peas, green, per kg.	--	--	24	--	21*
Bean curds, per unit	4	10	8	10	10
Sweet potatoes, per kg.	--	--	8	15*	--
Potatoes, per kg.	7	20	10	15	16
Radishes, per kg.	--	30	--	25	35
Radishes, pickled, per kg.	16	25	35	32	32
Carrots, per kg.	--	20	31	25	40
Onions, per kg.	9	20	22	22	26
Onions, green, per kg.	--	--	--	--	40
Tapioca, per kg.	--	--	--	26	40
Beef, per 100 gr.	--	--	34	13*	--
Pork, per 100 gr.	11	14	--	20	13
Poultry, per 100 gr.	24	21	--	40*	--
Milk, condensed, per can	45	40	45	50	50
Eggs, per kg.	40	--	--	100	--
Soy sauce, per liter	33	40	45	40	40
Bean paste, per kg.	20	30	27	30	27
Vinegar, per liter	--	30	35	40*	48*
Bonito, dried, per 100 gr.	29	20	--	15	12
Salt, 3rd-grade, per kg.	10	18	22	15	16
Sugar, refined, per kg.	35	50	44	50	53
Molasses, per kg.	--	--	27	30*	32
Wine, clear, per bottle	111	85	110	123	113
Beer, per bottle	34	43	45	43	44
Cider, per bottle	--	25	20	20	20
Charcoal, per 10 kg.	77	50	65	54	40
Soap, toilet, per cake	10	12	15	10	12
Matches, per package of 10 boxes	6	8	10	8	8

*1936 price.

345. Foreign Trade

Exports. During the German period, exports from the Eastern Carolines showed no tendency to increase and, as a matter of fact, declined somewhat, as the following table reveals:

1902	Mk. 166,000	1906	Mk. 136,000
1903	181,000	1907	111,000
1904	200,000	1908	98,000
1905	102,000	1909	146,000

Copra constituted approximately 90 per cent of the exports, most of which went to Germany. Our fullest information as to the classification and destination of exports during this period is for the year 1902, summarized as follows:

Exported Article	To Germany	To Oceania	To China	Total Exports
Copra	Mk. 143,961	Mk. 8,499	Mk. -	Mk. 152,460
Ivory nuts	4,449	159	-	4,608
Curios and miscellaneous	-	4,438	-	4,438
Tortoise shell	3,064	-	-	3,064
Livestock	-	1,200	-	1,200
Shells, including mother-of-pearl	378	418	-	796
Lumber	-	710	-	710
Shark fins	-	-	82	82
Total	151,852	14,224	82	166,158

During 1902, no products were exported to Great Britain, Japan, or the United States. By 1909, however, nearly 15 per cent of the trade of the islands was with Japan.

Under Japanese administration, the islands have shown a steadily increasing export trade. The trend for the years 1934-37 is revealed in the following table, classified according to the three ports of the Eastern Carolines:

Year	Truk	Ponape	Kusaie	Total Exports
1934	¥ 626,753	¥ 554,577	¥ 32,632	¥ 1,213,962
1935	1,172,473	796,725	54,948	2,024,146
1936	1,421,147	1,146,770	70,805	2,638,722
1937	3,049,025	1,538,492	125,223	4,712,740

Although copra is still important, first place as an export commodity has been usurped by dried bonito. The value in yen of exports in the year 1937, classified according to article, port, and destination, is presented in the following table:

Exported Article	Truk	To Japan from Ponape	Kusaie	To Other Countries	Total Exports
Live plants and animals	¥ 500	-	-	-	¥ 500
Tapioca	-	¥ 197,839	-	-	197,839
Other starches, grains, and seeds	-	18,386	-	-	18,386
Sugar	-	300	-	-	300
Coffee	-	311	-	-	311
Trepang	400	-	-	-	400
Dried bonito	2,194,994	452,831	-	¥ 67,895	2,715,720
Other food products and tobacco	27,563	4,713	-	-	32,276
Copra	666,558	662,900	¥ 121,578	7,632	1,458,668
Oils, fats, and waxes	8,540	990	-	1,804	11,334
Bone, horn, shell, and hides	1,640	50	-	-	1,690
Drugs and chemicals	18	400	-	2,236	2,654
Paints, dyes, and cosmetics	-	-	-	2,530	2,530
Ropes, cordage, and thread	104,286	24,927	1,300	240	130,753
Cloth	3,540	500	-	11,013	15,053
Clothing and ornaments	151	-	-	937	1,088
Pulp, paper, and books	-	-	-	505	505
Minerals and cement	-	-	-	6,110	6,110
Pottery and glass	-	-	-	392	392
Ores and metals	3,550	2,170	-	1,942	7,662
Metal products	6,127	2,432	400	3,916	12,875
Machinery, boats, and vehicles	21,148	3,840	500	9,944	35,432
Miscellaneous products	10,010	48,797	1,445	-	60,252
Total	3,049,025	1,421,386	125,223	117,096	4,712,730

In the above table, the exports to other countries than Japan were exclusively from Ponape. In the column listing such exports, the item "Dried bonito" probably includes some "Other food products," and the item "Copra" includes some "Miscellaneous products."

Imports. During the German period, imports to the Eastern Carolines greatly exceeded exports in value, and remained relatively constant, as the following table reveals:

1902	Mk. 321,000	1906	Mk. 391,000
1903	339,000	1907	330,000
1904	381,000	1908	226,000
1905	315,000	1909	382,000

Ponape was much more active than Truk as a center of trade. The largest proportion of imports came from Germany, although Australia, Great Britain, the United States, China, and later Japan shared significantly in the trade. Full data on imports, classified according to character and source, are available for the year 1902, summarized, with values in marks, as follows:

Imported Article	From Germany	From Oceania	From Gt. Brit.	From U.S.	From China	Total Imports
Hardware and lumber	Mk. 51,305	Mk. 23,640	Mk. 19,336	Mk. 2,901	Mk. 575	Mk. 97,757
Foodstuffs	15,675	19,809	922	7,366	18,130	61,902
Textiles and clothing	19,367	2,081	32,544	2,698	2,106	58,796
Tobacco	2,142	479	-	24,412	668	27,701
Alcoholic beverages	20,075	-	54	-	506	20,635
Miscellaneous	28,797	16,983	391	4,328	3,928	54,427
Total	137,361	62,992	53,247	41,705	25,913	321,218

Under Japanese administration imports have increased, especially in recent years, but the rise has been much less spectacular than in the case of exports. The trend for the years 1934-37 is revealed in the following table, classified according to ports of entry:

Year	Truk	Ponape	Kusaie	Total Imports
1934	¥ 728,495	¥ 895,351	¥ 32,632	¥ 1,656,478
1935	1,222,169	1,041,009	54,948	2,318,126
1936	1,620,760	1,447,700	70,805	3,139,175
1937	2,037,152	2,039,506	87,130	4,163,798

In 1937, foodstuffs constituted approximately one third of all imports, with metals and metal products taking second place. The following table analyses the imports of that year according to class of article, source, and port of entry, the figures in columns representing values in yen and those in parentheses representing quantities:

Imported Article	From Japan to			From Other Countries to		Total Imports
	Truk	Ponape	Kusaie	Truk	Ponape	
Live animals and plants	¥ 1,200	¥ 700	¥ 30	-	¥ 72	¥ 2,002
Rice (3,828,781 lbs.)	222,210	188,001	10,136	-*	-*	420,347
Flour (206,931 lbs.)	9,604	15,359	2,033	-	-	26,996
Other grains and starches	6,533	10,687	168	¥ 60,618*	67,851*	145,857
Sugar (98,560 lbs.)	6,598	10,538	2,726	-	-	19,862
Pastry (185,605 lbs.)	59,170	60,032	9,729	-	-	128,931
Soy bean paste (199,374 lbs.)	11,438	9,558	128	-	-	21,124
Soy sauce (76,603 liters)	10,301	13,966	236	-	-	24,503
Raw vegetables (102,995 lbs.)	10,347	10,624	526	-	-	21,497
Canned goods (155,530 lbs.)	97,031	135,080	8,749	-	-	240,860
Other food products and tobacco	150,840	178,368	4,152	91	658	334,109
Cider and lemonade (39,966 liters)	11,084	6,961	401	-	-	18,446
Sake and wine (53,861 liters)	24,739	31,162	631	-	-	56,532
Beer (266,564 liters)	61,610	62,629	341	-	-	124,580
Bone, horn, shell, and hides	3,745	6,104	297	-	12,974	23,100
Kerosene (298,286 liters)	30,809	27,273	1,738	-	-	59,820
Crude oil (1,231,999 liters)	69,609	48,527	-	-	-	118,136
Soap (27,940 lbs.)	14,201	15,564	1,553	-	-	31,318
Other fats, oils, and waxes	74,470	44,187	2,517	8,991	8	130,173
Chemicals and drugs	39,710	34,445	1,779	1	367	76,302
Paints, dyes, and cosmetics	8,648	14,129	763	-	-	23,540
Ropes, cordage, and thread	11,894	11,595	738	-	-	24,227
Cotton goods (77,105 lbs.)	125,922	116,815	3,732	-	-	246,469
Sacks (61,440 lbs.)	12,770	29,430	2,852	-	-	45,052
Other textiles	51,010	39,575	875	4	17	91,481
Clothing and ornaments	61,476	55,780	2,858	10	64	120,188
Pulp, paper, and books	15,659	26,785	1,273	5	6	43,728
Coal (1,249,340 lbs.)	13,395	179	-	-	-	13,574
Other minerals, incl. cement	23,599	28,825	1,320	-	-	53,744
Pottery and glass	22,222	25,100	560	-	69	47,951
Steel (2,802,763 lbs.)	79,140	207,095	3,372	-	-	289,607
Other metals and ores	30,840	7,534	98	-	2,320	40,792
Metal products	113,573	97,625	10,622	-	104	221,924
Automobiles and accessories	12,204	9,716	-	-	-	21,920
Bicycles	4,809	16,807	111	-	-	21,727
Other machines and vehicles	167,194	159,603	4,000	-	231	331,028
Lumber	153,370	55,469	2,077	-	-	210,916
Miscellaneous	144,478	100,255	4,009	-	42,693	291,435
Total	1,967,432	1,912,082	87,130	69,720	27,434	4,163,798

* The "Other grains and starches" imported to Truk and Ponape from other countries than Japan consisted in the main of rice.

Balance of Trade. During the German period the value of imports to the Eastern Carolines was, on the average, double or treble that of exports. Under Japanese administration this unfavorable balance of trade was rectified in large measure, and in 1937 exports actually exceeded imports by more than half a million yen. The change was due primarily to the development of commercial fishing as an important export industry (see 325).

Regulation. The regulations in force respecting foreign trade include the collection of customs duties and port clearance dues (see 356), the inspection of copra for ex-

port, and the supervision of transported plants. According to an ordinance promulgated in 1932, copra shipments must be examined at a Branch Government office, or in special cases at other places, by special copra inspectors with certificates. Copra is packed in gunny sacks containing 50 kilograms each. If it meets the standards set by the Governor, the inspector passes it for export by affixing a seal to each sack. The penalty for an infraction of these regulations is a fine not exceeding ¥ 100. By an ordinance which went into effect in 1933, all plants and seeds imported into the islands or exported therefrom must be similarly examined and passed by an inspector of plants. Before any plants can be shipped, permission must be obtained from the Governor through an application in writing to the Branch Government. The plant inspector destroys or bans the shipment of all plants found to be infested with injurious insects or micro-organisms. Infractions of this ordinance incur penalties up to a fine of ¥ 200.

35. FINANCE

351. Currency

Native Money. Before the coming of Europeans, trade was conducted mainly by barter. Various products, however, had wide currency in exchange, and in some islands they approached the status of true money. Such, for example, were the cakes of turmeric produced at Truk. Shell money was current on Kusaie, and mother-of-pearl fishhooks imported from the Marshall Islands also served as currency on the same island. Ponape had no native money. During the whaling period twist tobacco became a generally accepted standard of value.

Foreign Money. With the development of trading stations the natives became habituated to various foreign currencies, especially the Chilean dollar. After 1899, German currency was established as the exclusive legal tender. Although the natives used little cash, they valued coins of gold and silver, and after the Japanese arrived it was some time before they came to accept copper coins as genuine.

Japanese Currency. Under Japanese rule, barter has declined and the use of money has increased. Currency is required, for example, to pay the poll tax. The monetary system of Japan is standard throughout the area. The basic unit is the yen, which is worth approximately fifty American cents at par but which had declined in value to about 23 cents prior to the outbreak of war in 1941. Since the occupation of the Gilbert Islands by the American armed forces in December, 1943, the ratio established for the conversion of Japanese into American currency, in both the Gilbert and the Marshall Islands, has been 20 yen for 1 American dollar (Hawaii overprint). There are two lesser units in the Japanese monetary system: the sen, representing one one-hundredth of a yen, and the rin, worth one-tenth of a sen. The coins and bills in use are those of Japanese central issue. Paper money is current in denominations of 50 sen, 1 yen, 5 yen, 10 yen, 20 yen, and upward. Subsidiary coins in use represent 1 sen, 5 sen, 10 sen, and 50 sen, but the last has recently been largely superseded by the paper issue.

352. Foreign Exchange

Settlement of Trade Balances. Since all but an infinitesimal fraction of the external trade of the Eastern Carolines in recent years has been carried on with other parts of the Japanese Empire, the question of foreign exchange rarely arises. Such balances as have arisen from the insignificant direct trade with foreign countries have ordinarily been settled through Tokyo by the usual routine of foreign exchange in terms of current quotations for yen in the world market. In the years just prior to the outbreak of war the exportation of funds was severely restricted by the Japanese Government. Some merchants maintained accounts in banks in the United States and elsewhere, and were glad to pay yen for foreign checks, which they could then mail out of the country for deposit. Those with business connections in China are said to have been especially eager to convert yen into American money.

353. Banking and Credit

Banks. There are no banks in the Eastern Caroline Islands. Savings accounts are handled by the post offices, and certain banking functions are assumed by credit associations (see below).

Savings. The natives own little valuable property other than land, and they are not accustomed to saving money. However the Post Office Savings Bank offers facilities for saving, and in 1936 there were reported to be approximately 6,000 native postal savings accounts in the entire mandated territory. Deposits to these accounts during the year totaled ¥ 127,108, and withdrawals amounted to ¥ 109,741. By comparison, during the same year, deposits of ¥ 3,134,399 were made to 61,922 Japanese savings accounts, and ¥ 2,458,756 was withdrawn from 29,262 Japanese accounts. The natives thus made comparatively little use of the postal savings system. In 1938, however, it was made mandatory for natives on Kusaie, and presumably elsewhere in the Eastern Carolines, to maintain postal savings accounts; deposits were encouraged and withdrawals were made extremely difficult. The following table presents statistics on the savings accounts handled by the post offices at Truk and Ponape in 1937:

	Truk Post Office Number	Amount	Ponape Post Office Number	Amount	Total Amount
Deposits	6,378	¥ 770,595	8,080	¥ 784,234	¥ 1,454,829
Withdrawals	2,908	703,432	3,007	722,985	1,426,417
New accounts	772		697		
Accounts transferred:					
To the post office	6,695	415,753	5,836	380,045	795,798
From the post office	828	575,863	497	416,592	992,455

Money Orders. In 1936, natives in the mandated area sent money orders totaling ¥ 27,110 and received orders totaling ¥ 19,990, whereas Japanese in the same year sent more than ¥ 8,000,000 in money orders and received nearly as much. The total number and amount of money orders sent and received at the Truk and Ponape post offices in 1937 are given in the following table:

	Truk Post Office Number	Amount	Ponape Post Office Number	Amount	Total Amount
Domestic					
Sent	12,745	¥ 910,417	9,671	¥ 785,806	¥ 1,696,223
Received	1,757	862,822	1,970	875,561	1,738,383
Foreign					
Sent	0	0	14	2,112	2,112
Received	46	1,109	4	53	1,162

It is unlikely that any considerable proportion of the money orders listed above were sent or received by natives. Nevertheless, it is reported that natives make considerable use of money orders in purchasing goods from mail-order firms in Japan.

Credit. The German administration prohibited the extension of credit to natives except to native traders associated with merchant firms and in cases of urgent necessity, such as for repairing or provisioning a ship operating on a fixed schedule. The Japanese administration has abandoned this legal restriction, and storekeepers and copra brokers advance credit freely to natives, usually in goods rather than in cash, in expectation of payment from future crops. Reports indicate that this practice is sometimes carried to excess and that some natives are so heavily in debt that they are completely under the thumb of the Japanese.

Many of the Japanese inhabitants are able to obtain credit through membership in credit associations (*mujiinko*) and industrial guilds (*kumiai*). With capital accumulated from membership dues and from profits these associations make loans and extend credit to members for the development of private business. Credit associations accept members from all occupations, whereas industrial guilds generally restrict their membership to specific occupational groups. The credit associations engage only in direct credit activities--lending money or financing purchases. Many of the guilds, however, also function as marketing and purchasing agents and as cooperatives. Through membership in a guild, small entrepreneurs and businessmen are able to obtain merchandise at good prices, even though they order in small lots, and to make a fair profit as a result of guild standardization of prices. In 1937, one industrial guild was reported for the Ponape district and one for the Truk district. The former had 103 members and a capital of ¥ 56,450 distributed among 1,129 shares. The Truk guild had 147 members and a capital of ¥ 49,150 distributed among 983 shares. The data on the credit associations operating in the Eastern Carolines in the same year are given below:

	Number	Members	Capital	Paid-up Capital	Amount Loaned
Ponape district	18	368	¥ 162,405	¥ 72,700	¥ 61,621
Truk district	1	27	7,776	7,776	7,632
Total	19	395	170,181	80,476	69,253

Bankruptcy. The Bankruptcy Law of Japan applies in the mandated islands. For fees for bankruptcy proceedings, see 227.

354. Investments

Business and Industrial Investments. Of the large business organizations operating in the Eastern Carolines those with the heaviest investments are the Nanyo Boeki Kaisha and the Nanyo Kohatsu Kaisha. The organization and activities of these and other companies are described elsewhere (see 327). Aside from land (see 341), the principal investments of individuals are in homes, shops, equipment, and improvements. The South Seas

Government has extensive investments in land, forests, buildings, power plants, and communications facilities.

Mission Holdings. The American Protestant mission, the Japanese Protestant mission, and the Spanish Catholic mission (see 134) have modest investments in the islands, consisting mainly of churches, parish houses, schools, and other buildings. Their lands are commonly held on indeterminate leases which are free of rent.

355. Stock and Commodity Exchanges

Exchanges. There are no stock or commodity exchanges in the Eastern Caroline Islands.

356. Public Finance

Government Expenditures. The budget estimates of the South Seas Government must be sanctioned, annually, by the Imperial Diet. In addition to the Fiscal Law of Japan, a special Fiscal Law for the South Seas Government applies to the expenditures of the mandate administration. Under this law the Governor is appointed as paymaster and is authorized to draw checks in payment of expenditures on the special accounts of the South Seas Government. The Governor is permitted to entrust part of his duty as paymaster to competent officials under his administration. Estimates of expenditures for the following year and actual accounts of expenditures during the preceding year are sent annually by the Governor to the Minister of Finance in Japan.

The official reports do not segregate the government expenditures for the separate Branch Governments from those for the South Seas Government as a whole. The following table lists the expenditures in full for the last available year, the fiscal year running from April 1, 1937, to March 31, 1938:

Item	Amount	Totals
Ordinary expenses		
Salaries, wages, allowances, and bonuses		¥ 2,111,428
Salaries of Chokunin officials	¥ 10,165	
Salaries of Sonin officials	186,736	
Salaries of Hannin officials	782,969	
Bonuses to higher officials	133,177	
Police salaries	144,705	
Extra allowances to police	220,727	
Wages of clerical employees	464,479	
Wages of service employees	152,667	
Uniform allowances	15,803	
Office expenses		767,827
Rent	36,918	
Office equipment	160,630	
Supplies	61,869	
Repairs	99,973	
Library and printing	36,278	
Communication and transportation	57,454	
Travel	302,951	
Entertainment	5,159	
Miscellaneous	6,595	
Government enterprises		590,085
Hospitals	65,877	
Meteorological Observatory	59,082	
Tropical Industries Experiment Station	103,764	
Marine Products Experiment Station	57,871	
Products Museum	931	
Communications	193,797	
Operation of ships	33,873	
Aids to navigation	5,553	
Electric-power and ice-making plants	65,988	
Manufacturing expenses	3,349	
Social services		110,299
Education	84,099	
Relief benefits for death, injury, illness, etc.	4,725	
Quarantine	9,116	

Item	Amount	Totals
Social services (cont'd)		
Public health	5,395	
Control of insect pests	6,964	
Administrative expenses		109,881
Enforcement of regulations	307	
Collection of delinquent taxes	43	
Police allowances and rewards	158	
Court trials and registration expenses	540	
Prisons	14,086	
Transportation of prisoners	965	
Secret service fund	10,000	
Payments of claims for damages, etc.	8,006	
Debt service and sinking fund	4,506	
Pensions	71,270	
Extraordinary expenses		
Public works		150,101
Salaries of officials of Hannin rank	3,818	
Office expenses, wages, and bonuses	22,045	
Research and investigation	3,839	
Roads	113,809	
Harbors	6,590	
Construction and repairs		540,768
Salaries of Sonin and Hannin officials	16,870	
Office expenses, wages, and bonuses	29,743	
Office buildings and offices	127,264	
Official residences	194,659	
Schools	147,625	
Hospitals	8,015	
Electric power plants	1,722	
Purchase of vessels	14,870	
Land survey		43,719
Salaries of officials of Hannin rank	9,588	
Office expenses, wages, and bonuses	27,209	
Operating expenses	6,922	
Investigation of taxation system, etc.		24,069
Salaries of Sonin and Hannin officials	5,349	
Office expenses, wages, and bonuses	10,956	
Research and investigation	7,764	
Subsidies and grants-in-aid		1,123,479
Construction of South Seas Imperial Shrine	30,000	
Missions (Buddhist ¥ 3,100, Catholic ¥ 6,500, Protestant ¥ 22,000)	31,600	
Imperial Bounty Foundation (charity ¥ 4,000, education ¥ 2,000)	6,000	
Domestic Science School for Girls	3,000	
Kindergartens	3,400	
Educational associations	600	
Tours to Japan by natives	1,500	
Improvement of native manners and customs	8,547	
Assistance to Japanese settlements (local representatives ¥ 7,620, sanitary equipment ¥ 9,771, and construction ¥ 9,525)	26,916	
Community halls	10,000	
Subsidies to physicians	3,961	
Shipping subsidies	785,585	
Subsidies for commerce and manufacturing	37,037	
Agricultural subsidies	62,096	
Forest production subsidies	10,172	
Subsidies for marine products	72,983	
Subsidies for fishing equipment	30,082	
Road between Koror and Malakal Islands		35,882
Salaries of officials of Hannin rank	1,695	
Office expenses, wages, and bonuses	4,126	
Construction costs	30,061	
Palau waterworks		71,815
Salaries of officials of Hannin rank	1,094	
Office expenses, wages, and bonuses	2,722	
Construction costs	67,999	

Item	Amount	Totals
Palau harbor repair works		¥ 892,340
Salaries of Sonin and Hannin officials	¥ 6,716	
Office expenses, wages, and bonuses	22,497	
Construction costs	221,134	
Ships and machinery	601,993	
Aids to navigation		210,080
Salaries to officials of Hannin rank	1,468	
Office expenses, wages, and bonuses	12,630	
Construction costs	195,982	
Radio communications		202,712
Salaries of officials of Hannin rank	6,871	
Office expenses, wages, and bonuses	25,529	
Construction and repair of official residences	34,237	
Operating expenses	11,093	
Construction costs	124,982	
Aviation lines		382,206
Salaries of Sonin and Hannin officials	19,634	
Construction and repair of official residences	56,302	
Bonuses	4,867	
Operating expenses	292,488	
Construction costs	8,915	
Forest administration		56,076
Salaries of officials of Hannin rank	7,599	
Office expenses, wages, and bonuses	17,624	
Operating expenses	30,853	
Developmental expenses		149,199
Salaries of officials of Hannin rank	11,942	
Office expenses, wages, and bonuses	66,118	
Plant inspection	2,697	
Copra inspection	4,488	
Exhibitions and competitive shows	9,830	
Investigation of mineral resources	13,283	
Research in land utilization	8,096	
Establishment of colonies	9,125	
Economic institutions (including a secret fund of ¥ 10,000)	23,620	
Total of ordinary expenses		¥ 3,689,520
Total of extraordinary expenses		3,882,446
Grand total of all expenditures		7,571,966
Unexpended balance of budget		1,100,000
Total budgetary expenditures for the year		8,671,966

Government Revenues. Unlike expenditures, the revenues of the South Seas Government are segregated according to administrative districts. The last fiscal year for which statistics are available is that running from April 1, 1937, to March 31, 1938. The following table presents these figures for the Eastern Carolines (the Truk and Ponape districts) and for the mandated area as a whole:

Item	Eastern Carolines		Mandated Islands	
Revenue from taxation		¥ 50,732		¥ 5,512,785
Poll tax	¥ 32,381		¥ 131,152	
Natives (Truk ¥ 11,559, Ponape ¥ 10,999)	¥ 22,558		¥ 85,760	
Non-natives (Truk ¥ 4,582, Ponape ¥ 5,241)	9,823		45,392	
Port clearance dues		39		5,256,261
Sugar (Ponape ¥ 28)	28		5,107,301	
Molasses	-		13,706	
Alcohol	-		44,871	
Alcoholic liquors	-		90,331	
Miscellaneous (Ponape ¥ 11)	11		52	
Customs duties (Truk ¥ 11,135, Ponape ¥ 7,177)		18,312		101,786
Mining tax		-		23,586
Revenue from government enterprises and property		155,672		1,493,185
Post, telegraph, and telephone	69,745		414,608	

Item	Eastern Carolines	Mandated Islands
Postage stamps (Truk ¥ 30, 377, Ponape ¥ 16,738)	47,115	281,366
Other postal revenue	-	28,737
Telegraph (Truk ¥ 11,110, Ponape ¥ 11,520)	22,630	74,034
Telephone	-	30,471
Hospitals (Truk ¥ 19,932, Ponape ¥ 18,618)	38,550	163,169
Forests	9,015	19,675
Copra (Truk ¥ 1,616)	1,616	2,371
Miscellaneous (Truk ¥ 2, 091, Ponape ¥ 5,308)	7,399	17,304
Electric power and light (Truk ¥ 7, 842, Ponape ¥ 14,593)	22,435	141,912
Rents from government properties	15,927	121,061
Land (Truk ¥ 1,773, Ponape ¥ 12,197)	13,970	110,966
Buildings (Truk ¥ 31, Ponape ¥ 226)	257	1,042
Movables (Truk ¥ 635, Ponape ¥ 1,065)	1,700	9,053
Dividends from the Nanyo Takushoku Kaisha	-	632,760
Revenue from other sources	12,051	182,832
Revenue stamps (Truk ¥ 2,348, Ponape ¥ 3,309)	5,657	58,340
Licenses (Truk ¥ 180, Ponape ¥ 480)	660	2,000
Fees (Truk ¥ 210, Ponape ¥ 1,014)	1,224	6,170
Fines and confiscations of property	-	1,884
Obligatory contributions to pension funds	-	10,083
Sonin and Hannin officials	-	9,349
Police and penitentiary officials	-	734
Grant from Imperial Finance Ministry	-	10,000
Sale of government property (Truk ¥ 1,303, Ponape ¥ 1,639)	2,942	15,438
Miscellaneous (Truk ¥ 67, Ponape ¥ 1,501)	1,568	78,917
Total revenues	218,455	7,188,802
Balance carried forward from previous year		3,551,203
Total budgetary income for the year		10,740,005

Of the above, "Sale of government property" and "Balance carried forward from previous year" are classed as "Extraordinary Revenues," totaling ¥ 3,566,641. The rest of the items, totaling ¥ 7,173,364, are classed as "Ordinary Revenues."

Taxation System. Four kinds of taxes are levied in the Japanese mandated islands, namely, poll taxes, port clearance dues, customs duties, and a mining tax. Of these, the mining tax is important only in the Palau district, and port clearance dues only in the Saipan district. In the Eastern Carolines, tax revenue is derived almost entirely from poll taxes and customs duties, which in 1937 yielded ¥ 32,381 and ¥ 18,312 respectively. The mining tax brought in no revenue in that year, and port clearance dues only ¥ 39.

A poll tax is levied on all adult male residents 16 years of age or older. For persons other than natives the poll tax is graded according to eleven classes, ranging in amount from a maximum of ¥ 50 to a minimum of ¥ 2 per year. Natives also pay varying amounts, ranging from ¥ 40 to ¥ 1 per year. The following table breaks down the revenue from poll taxes by class for the Truk and Ponape districts in 1937:

Class	Truk District	Ponape District
Non-native		
Class 1 -- ¥ 50	-	¥ 200.00
Class 2 -- ¥ 40	-	180.00
Class 3 -- ¥ 30	¥ 180.00	210.00
Class 4 -- ¥ 20	130.00	180.00
Class 5 -- ¥ 15	240.00	540.00
Class 6 -- ¥ 10	460.00	840.00
Class 7 -- ¥ 7	325.50	710.50
Class 8 -- ¥ 5	285.00	710.00
Class 9 -- ¥ 4	354.00	448.00
Class 10 -- ¥ 3	2,463.00	580.00
Class 11 -- ¥ 2	145.00	642.00
Total	4,582.50	5,241.00
Native		
¥ 40	-	40.00
¥ 25	25.00	-
¥ 20	40.00	60.00
¥ 15	15.00	45.00
¥ 10	50.00	110.00
¥ 8	-	-
¥ 7	-	-
¥ 6	-	7,968.00
¥ 5	-	-
¥ 4	-	-
¥ 3.60	-	2,775.00
¥ 3	10,962.00	-
¥ 2	136.00	-
¥ 1	331.00	-

Poll taxes were paid, in 1937, by 4,062 natives and 1,040 non-natives in the Truk district, and by 2,117 natives and 903 non-natives in the Ponape district.

Persons are assigned a poll-tax class by the Branch Governor on the basis of income, living conditions, and amount of property owned. Exemptions are granted to persons who have lived less than six months in the islands, to those who are poor and cannot afford to pay any tax, to those who are staying in the islands on temporary business, and to those who are engaged in the propagation of religion. The poll tax for natives is restricted to ¥ 10 per year, except that the Branch Governor may impose a tax of up to ¥ 40 on particularly wealthy persons after having obtained the approval of the Governor. In determining the amount of tax to be levied against natives the Branch Governor is expected to consult with the village chiefs under his jurisdiction. No poll tax is imposed upon natives who are supporting five or more children less than sixteen years of age, or upon persons who are decrepit or unable to work on account of bodily deformity or incurable disease. Assessments against natives may be reduced or excused by the Branch Governor in localities where disasters have occurred or where conditions are such that he deems taxation to be undesirable. After the typhoon of 1935, for instance, poll taxes were appreciably reduced in the Truk district, as is reflected in the preceding table showing the yield for 1937.

The customs laws of Japan apply today, with only minor modifications, to the mandated islands, but this has not always been true. In 1915 the islands were made an independent customs district, and customs duties were collected on trade between the islands and Japan, as they were on trade between the islands and foreign countries. For a period in 1916 import duties were not collected on imports from Japan, but later in the year they were restored with modifications in rates and changes in the commodities taxed. Saipan, Yap, Palau, Ponape, and Jaluit were declared open ports, and Kusaie was added in 1919. In 1922 the existing import and export duties between the islands and Japan were abolished, and Saipan, Palau, Angaur, and Truk were designated as open ports, to which others, including Ponape and Kusaie, were later added. In lieu of export duties a system of port clearance dues was instituted for sugar and derivative products, such as molasses, alcohol, and alcoholic liquors, shipped from the islands to Japan, Korea, Taiwan, and Kurefuto. Since 1922, customs duties have been levied only on imports from foreign countries, exports being duty free.

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