HANDBOOKS PREPARED UNDER THE DIRECTION OF THE HISTORICAL SECTION OF THE FOREIGN OFFICE.—No. 87

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DUTCH NEW GUINEA AND THE MOLUCCA ISLANDS

LONDON:
PUBLISHED BY H.M. STATIONERY OFFICE.

1920

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Editorial Note.

In the spring of 1917 the Foreign Office, in connection with the preparation which they were making for the work of the Peace Conference, established a special section whose duty it should be to provide the British Delegates to the Peace Conference with information in the most convenient form—geographical, economic, historical, social, religious and political—respecting the different countries, districts, islands, &c., with which they might have to deal. In addition, volumes were prepared on certain general subjects, mostly of an historical nature, concerning which it appeared that a special study would be useful.

The historical information was compiled by trained writers on historical subjects, who (in most cases) gave their services without any remuneration. For the geographical sections valuable assistance was given by the Intelligence Division (Naval Staff) of the Admiralty; and for the economic sections, by the War Trade Intelligence Department, which had been established by the Foreign Office. Of the maps accompanying the series, some were prepared by the above-mentioned department of the Admiralty, but the bulk of them were the work of the Geographical Section of the General Staff (Military Intelligence Division) of the War Office.

Now that the Conference has nearly completed its task, the Foreign Office, in response to numerous enquiries and requests, has decided to issue the books for public use, believing that they will be useful to students of history, politics, economics and foreign affairs, to publicists generally and to business men and travellers. It is hardly necessary to say that some of the subjects dealt with in the series have not in fact come under discussion at the Peace Conference; but, as the books treating of them contain valuable information, it has been thought advisable to include them.

It must be understood that, although the series of volumes was prepared under the authority, and is now issued with the sanction, of the Foreign Office, that Office is not to be regarded as guaranteeing the accuracy of every statement which they contain or as identifying itself with all the opinions expressed in the several volumes; the books were not prepared in the Foreign Office itself, but are in the nature of information provided for the Foreign Office and the British Delegation.

The books are now published, with a few exceptions, substantially as they were issued for the use of the Delegates. No attempt has been made to bring them up to date, for, in the first place, such a process would have entailed a great loss of time and a prohibitive expense; and, in the second, the political and other conditions of a great part of Europe and of the Nearer and Middle East are still unsettled and in such a state of flux that any attempt to describe them would have been incorrect or misleading. The books are therefore to be taken as describing, in general, *ante-bellum* conditions, though in a few cases, where it seemed specially desirable, the account has been brought down to a later date.

G. W. PROTHERO,
General Editor and formerly
Director of the Historical Section.

January 1920.

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I. GEOGRAPHY PHYSICAL AND POLITICAL

DUTCH NEW GUINEA

(1) Position and Frontiers

The island of New Guinea has an area of 312,329 square miles, its greatest length being 1,490 miles and its greatest breadth 410 miles, and the Dutch possessions occupy an area of 151,789 square miles, or nearly one half of the island. The area of the islands adjacent to Dutch New Guinea is 6,760 square miles. The only land boundary is on the east side, where the Dutch territory is conterminous with the British and German possessions. Here the boundary starts in the south from the middle of the mouth of the Bensbach River, in about 141° 1′ 48″ east longitude, and runs due north as far as the Fly River, the course of which it ascends till it cuts for the second time the meridian 141° east: this meridian then forms the boundary as far as the north coast. Dutch New Guinea lies between 0° 20′ and 9° 10′ south latitude, and extends to about longitude 130° 50′ east.

Until the beginning of this century the interior of these possessions had hardly been explored at all, only the north-west portion being known; even now only the lower courses of most of the rivers are known.

Dutch New Guinea is divided into North, West, and South (Dutch) New Guinea.

(2) Surface, Coasts, Islands, and Rivers

Surface

The shape of the island is irregular, the compact mass of the centre being extended both to the north west and south-east by long promontories. The north-

west peninsula, made by the deep inlet of Geelvink Bay, is itself divided by McCluer Gulf, which is separated from Geelvink Bay by an isthmus less than 10 miles wide at its narrowest point.

From Geelvink Bay the main chain of mountains, under various names, trends north-west and south-east across the island. Its greatest heights exceed 15,000 ft., and rise above the level of perpetual snow, which seems in these parts to be about 14,500 ft. The chief heights are Carstensz Peak, Mount Idenburg, and Mount Leonard Darwin, whose southern face has the sheerest precipice known in the world, with an almost perpendicular fall of 10,000 ft. Between the main chain and the sea are many lower ranges, which are succeeded by savannas of grassland, and then by about 50 miles of forest-covered swamp.

The country to the north of the great chain has been even less explored than that to the south of it, and there are parallel ranges of hills between it and the Pacific Ocean, such as the Van Rees Mountains (about 3,300 ft.), the Gautier Mountains (7,875 ft.), and Mount Cyclops (6,580 ft.).

Most of Dutch New Guinea is covered by dense forest up to about 8,000 ft. The lowland is alluvial; great alluvial tracts spread not only in the south of the island, but along the course of the Momberamo and both north and south of the Van Rees Mountains. The soil is of extraordinary fertility. Much of the lowland is swamp, covered with mangroves, full of slime and stagnant water, and very unhealthy.

The chief lakes as yet discovered are near the north coast. Lake Rombebai, east of the Momberamo River, is 10 miles long and 5 miles wide, and is surrounded by swamp. Lake Sentani, near Humboldt Bay, 10 miles long and 4 miles wide, has many villages about it.

Coasts

The coasts of Dutch New Guinea, which are as yet very imperfectly charted, are much indented, especially

in the western part. There are a large number of natural harbours; and, even where there is a deficiency of them, the presence of islands off the coast affords good anchorage. Unfortunately, several of the places that have the best natural facilities, e.g., Manokwari and Dubus, have proved very unhealthy, so that little can be done to develop them.

The nature of the coast varies considerably. The north coast, starting from Cape Sorong, is generally high as far as the Cape of Good Hope. After that the Arfak Mountains approach the sea, but to the east of Little Geelvink Bay there is a strip of lowland by the coast. The great indentation made by Geelvink Bay is about 230 miles wide and 170 long, and has a chain of islands across its entrance. The western shore of the bay is high, steep, and mountainous; the eastern is low, flat, and alluvial; and these last characteristics extend along the coast as far as Cape d'Urville. East of this, as far as Sarmi Point, the coast continues low; but then, as far as Humboldt Bay, it is, as a rule, high, rocky, and rugged, and much broken by bays and creeks, though some parts are low and swampy, with thick forests of mangroves.

On the west and south-west coast of the island, the shores from Cape Sele to McCluer Gulf are flat and densely wooded. The rugged coast between Cape Kokrauf and Cape Sapei is fringed with a coral reef, only broken before the mouths of rivers. From Nautilus Strait to Kamrau Bay the coast is flat and covered with vegetation, but thence to the eastern side of Etna Bay the Charles Louis Mountains approach the coast. From Mount Buru (4,564 ft.), the mountains turn inland; and then begins the great alluvial tract formed by the lower courses of the rivers that rise in the Central Range.

Islands

The shores of New Guinea are fringed by many islands. At the north-western extremity the most

important are Waigiu, Batanta, Salawati (Salwatti), and Misol. Waigiu is nearly 80 miles long, with a greatest width of 28 miles. It is very rugged and hilly, and is covered with dense forest. Offak, on its northern coast, is a good harbour. Batanta, 40 miles long, with a width of from 4 to 8 miles, is densely wooded and mountainous, and almost uninhabited. Salawati, south of Batanta, is about 30 miles across. The east of the island is low and swampy, with extensive forests of sago and coconut palms. Misol is 50 miles long and 23 broad. The coast is generally rocky, but on the south-east is swampy and covered with mangroves.

North of Waigiu are the Aiu (or Yowl) Islands, an archipelago of about twenty small islands, wooded with coconut trees. Beyond the Equator to the north-east are the Mapia (St. David or Freewill) Islands, assigned by a recent award to Holland, as against Spain. Pegun, the chief island, is the residence of a "king."

The entrance to Great Geelvink Bay is blocked by several islands. Of these the northernmost are the Willem Schouten (or Misore) group, of which Suk or Supiori is 17 miles long; Biak or Wiak, about 45 miles long and 23 wide. Within the bay the most important island is Jobi or Japen, 100 miles long and from 10 to 15 wide. The southern coast, indented by deep creeks and fronted by a number of wooded islets and reefs, affords numerous anchorages. On it is the chief settlement, Ansus.

On the west coast may be mentioned Karas Kuni (or Gudin), and Adi, which is an island of coral formation, 32 miles long, containing several villages.

Near the eastern end of the Dutch possessions is Prince Frederick Henry Island, with an area of about 2,820 square miles. It is flat, marshy, and covered with dense forest, and is of little or no value.

Rivers

Dutch New Guinea has many rivers of considerable size, but they have been only partially explored.

On the north coast most of the rivers are of no great length, but the Momberamo (Mamberamo, Ambernoh or Rochussen) is of considerable importance. Its basin has been estimated at about 23,300 square miles, and it drains the whole of the north side of New Guinea from Mount Leonard Darwin in the west to Juliana Peak in the east. Its chief confluents are the Rouffaer and the Idenburg.

Along the western coast are several rivers that can be navigated for a short distance from their mouths, but none of these is fordable till the mountains are reached. Their upper reaches have many rapids and waterfalls which might be used for water-power, and their courses constantly change owing to dams of timber falling across the rivers.

The rivers south of the Eilanden river, opposite the Aru Islands, are less important, but the Odammon has many big tributaries, one of which, the Mapi, has been ascended for some distance. The Digul is the most considerable river on the south coast of Dutch New Guinea, and its basin occupies an area of about 7,700 square miles. The Fly, the longest river in New Guinea, forms, for a small part of its course, the boundary of Dutch and British territory. The volume of water in this river is immense.

(3) Climate

The climate of New Guinea is very hot, damp, and unhealthy, especially during the wet season and in the low-lying parts. Since the island lies just south of the Equator, the north coast comes under the equatorial rain-belt. Although certain months (July, August, and September) have less rain than others, there is no definite dry season, and rain is excessive and constant throughout the year. The southern part of the island is much drier, at any rate in the eastern extremity, which has a definite dry and wet season.

In the western part of the island the south-east monsoon blows from April to October; the north-west

monsoon from October to April. In the early part of the year storms and squalls are experienced, and the best season for navigation on the north coast is said to be July and August. On the south-west coast storms are especially dangerous from January to March and from June to October.

Near Manokwari, according to observations made from 1879 to 1901, the total annual rainfall averaged 89·71 in. (227·9 cm.); the average monthly rainfall was 7·44 in. (18·9 cm.). The wettest months were from December to April, the driest September and October. More recent figures are available from Hollandia Bivouac, on Humboldt Bay. There the total rainfall from February 1909 to January 1910 was 112·83 in. (286·6 cm.). The wettest months were December and April, the driest July and October. The average maximum temperature for this period was 86° F. (30° C.), the average minimum 75° F. (24° C.), the highest average for any month being in October, 88° F. (31° C.), the lowest in May, 73° F. (23° C.). South of the Central Range the temperature varies from 70° F. (21° C.) to 91° F. (33° C.).

(4) Sanitary Conditions

The country is not at all suited for the residence of Europeans. The coast is one of the most unhealthy in the world, and the natives suffer a great deal from various diseases, especially skin diseases. The only place along the coast in Dutch New Guinea which is described as healthy is Fakfak; and that is due to the fact that the sea-breezes sweep away the insect pests that make life almost unbearable elsewhere in the island. Etna Bay and Dorei Harbour, which would, for geographical reasons, be the places most capable of development, have both proved unhealthy; at the latter place ague, fever, and dysentery are said to be prevalent. In a country so full of mosquito-ridden swamps malaria is naturally common, and is frequently found up to the level of 2,000 ft. Other diseases that

appear among the population are beri-beri, syphilis, elephantiasis, leprosy, and pneumonia.

(5) Race and Language

Race

So much of Dutch New Guinea remains unexplored that it is impossible to enumerate or classify the many tribes that inhabit it. The inhabitants are all generally described as Papuans, from a Malay word which means "woolly-haired." The name covers people of very different characteristics, each with its own tribal name, differing in speech and customs, and often at war with one another. The inhabitants of the coast, however, sometimes reserve the name for themselves, and call the tribes of the interior Alfurs. There are few traces of anterior stocks, although the Karons of the north-west may be Negrito. The Tapiro pygmies found in the Kapare Valley have an average height of only 4 ft. 8¾ in.

It would be hazardous to assert that the Papuans of the coast belong to a different race from those of the interior, but they certainly show more of the effects of external influence. Naturally where trade is most vigorous the population is most mixed.

The Papuan has gained little by contact with more civilized peoples. In some parts of the country the natives are still cannibals, and head-hunting is rife; they have a propensity for stealing and for murder, if it can be done by stealth. Some of them are very friendly, but others have shown themselves treacherous to strangers.

There are no Dutch settlements of any size in the island.

Language

Languages and dialects are innumerable, and differ widely. On the coasts of North-West New Guinea and

on some of the adjacent islands the speech of the Nufur Papuans, or a patois of it, is used as a *lingua franca*, and takes the place of Malay.

(6) Population

Distribution

So much of the island is unexplored that figures for the population of Dutch New Guinea must be entirely conjectural. The inhabitants have been thought to number between 200,000 and 260,000, and to be rather less than one-third of the population of the whole island. This amounts to less than two per square mile. In the explored part of North New Guinea, where a rough census has been taken, the people of 111 villages numbered about 9,200. In the region of the North-West River it was calculated that there was a population of 4,800 in an area of 4,600 square miles.

Towns and Villages

Strictly speaking, there are no towns in the Dutch possessions; but Fakfak, Manokwari, and Merauke are the abodes of handfuls of Dutch, and the seats of administration of the three residencies into which Dutch New Guinea is divided. The population of Fakfak in 1905 was 693, including 16 Europeans, 48 Chinese, and 26 Arabs. That of Manokwari was only 119, including 8 Europeans and 7 Chinese. (For further details of settlements see below, p. 24.)

MOLUCCA ISLANDS

(1) Position

The Moluccas (Spice Islands) was a name given originally to the volcanic islands which fringe the western shore of Halmaheira; it is now generally applied to the two groups of important islands to the

north-west of the Dutch possessions in New Guinea: Halmaheira, Morotai, Bachian, and Obi to the north; Ceram, Buru, Amboina, and the Bandas to the south. With these are included here the other islands of the Amboina residency, the Kei Islands, the Aru Islands, the Timor Laut Islands, and the South-Western Islands. The area thus included extends, roughly speaking, east of Celebes, to 135° east longitude, and between 5° north latitude and 8° south latitude, and comprises a number of considerable archipelagos of very different features and characteristics. The islands are divided politically into the residencies of Ternate and Amboina.[1]

(2) Climate

The number of places in the Moluccas where scientific observations are made is limited, and the individual characteristics of the different islands are very marked. Generally it may be said that north of the Equator north-east winds prevail from December to March with fine weather, the winds blowing strong and steadily; south-west winds prevail from May to September with a rainy season, the winds being variable in force and direction, and bringing bad weather; October and November are unsettled months. South of the Equator west and north-west winds shifting to north-east prevail from November to March; the coasts that look north have land- and sea-breezes with unsettled weather and rain; south-east and east winds, which are generally fresh and steady, prevail from May to September, with fine weather on the coasts that look north and bad weather on the coasts that are exposed to the south. Amboina has an average annual temperature of 79° F. (26° C.); from November to March the average temperature is 81° F. (27° C.); in July and August 77° F. (25° C.), and it then rarely sinks below 72° F. (22° C.). In Banda the mean

[1] The principal islands are described individually below p. 38 *et seq.*

temperature is 81° F. (27° C.); in August it sometimes falls to 68° F. (20° C.) at night. The rainfall varies greatly in different parts of the archipelago, as may be seen from the following table:—

—	Annual rainfall.		Monthly Maximum.			Monthly Minimum.		
	in.	cm.		in.	cm.		in.	cm.
Amboina	142·5	362	June	24·9	63	Nov.	4·7	12
Ternate [1].. ..	84·1	213	Jan. and Apr.	8·9	23	Sept.	4·0	10
Kayeli (Buru) ..	73	185	Jan.	9·4	24	Oct.	2·0	5
Wahai (Ceram) ..	85·9	218	Feb.	17·2	43	Aug.	3·1	8
Amahai (Ceram) ..	110·2	278	July	18·5	47	Feb.	4·1	10
Saparua (Uliassers)	137·1	348	June	25·4	64	Nov.	3·5	9
Banda	111	283	May	16·9	43	Aug.	4·3	11
Tual (Kei Islands)..	93	237	Jan.	13·2	33	Aug.	1·5	4

In Ternate the climate is good, the air bright and pure, and the temperature, owing to the influence of sea and wind, is seldom above 86° F. (30° C.). The Kei Islands also have an excellent climate.

Considerable droughts occur in the Aru Islands, Kissa, and Letti. The date of the commencement of the monsoons seems to differ considerably even in islands that are not far from one another.

(3) Sanitary Conditions

The general account given of the islands is that they are healthy, but some exceptions have to be made. Buru is certainly unhealthy, especially at Kayeli and along the swampy north coast, and the inhabitants suffer from malarial and rheumatic fevers. Bachian is also unhealthy. The Aru Islands are unhealthy during the months of the south-east monsoon, when beri-beri and fevers are not uncommon. There have been severe epidemics of small-pox here, in the Kei Islands, and

[1] Owing to the position of the land the monsoons are here deflected to north and south.

also in Ceram. Timor Laut is very unhealthy; fevers are rife, partly as the result of bad water; and other complaints are rheumatism, scrofula, and the skin diseases common among Papuans. In Kissa fevers are prevalent from September to March. Head diseases are rife in the Babar Islands, and beri-beri is prevalent in Morotai.

Amboina, however, is particularly healthy, and despite the usually high temperature is not as trying to Europeans as might be expected.

(4) Race and Language

In the larger islands we may usually make a division between the inhabitants of the interior, who are called by the general name of Alfurs, the name applied to them by the Mohammedans as pagans and pig-eaters, and the races of the coast, who are usually extraordinarily mixed, and who, as a rule, are Christian or Mohammedan. A typical example of this distinction of race would be found in the island of Buru. Here the Alfurs keep to the interior—a tradition says that they are ill if they hear the sound of the sea-surf—and on the coast is a mixed race drawn from the inhabitants of Buton, the Sula Islands, Gilolo, Amboina, and Buru itself, with a mixture of Chinese and Arabs. About Masarete the people are mostly Christian; about Kayeli mostly Mohammedan. The indigenous population of the Moluccas is described as something between the Malayo-Polynesian and the Papuan, the latter type being more characteristic of the south and east.

Certain islands, like Amboina and Ternate, have had a longer and more important history than others, and the inhabitants have reached a more recognized status if not a higher degree of civilization. The people of Ternate have a language of their own, written in Arabic characters, which serves as a *lingua franca* even outside their own island. In Amboina the inhabitants are mostly Christian, descendants in many cases of Portuguese and natives; and have adopted something

of European ideas and costume. The Portuguese have left a lasting impression on language and customs in many parts of the archipelago.

There has been much migration from island to island, which has contributed very largely to the complication of the ethnological problems of these islands.

One group of inhabitants should be specially mentioned, i.e., the 300 "Dutch heathen," as they are called, who live on Kissa. They are the descendants of eight Dutch soldiers, who were sent there in 1665, accompanied by their wives, to form a garrison, and were afterwards forgotten. These people are differentiated from the rest of the inhabitants by their fair skins, blue eyes, and European names.

There are Chinese traders in many places, and in some islands, e.g., the Bandas, Arabs are predominant.

(5) Population

Distribution

The total figure given for Ternate residency in 1912 was 160,135, including 158,465 natives, 477 Europeans, 801 Chinese, 376 Arabs, 16 foreign Orientals; in Amboina residency the total was 325,934, including 319,754 natives, 3,181 Europeans, 1,656 Chinese, 1,343 Arabs.

The following table gives a rough idea of the population of the principal islands, but the figures are in many cases quite conjectural, and some are by no means recent:—

Halmaheira ...	30,000	Amboina ...	40,000
Morotai ...	4,200	Uliassers ...	20,000
Ternate ...	9,060	Ceram Laut ...	6,000
Tidore	9,624	Goram	6,000
Makyan ...	8,000	Kei Islands	23,000 to 26,000
Bachian ...	6,166	Aru Islands	10,000 to 13,000
Obi	1,044	Timor Laut (1889)	19,000
Buru ...	13,000 to 20,000	South-Western Islands	60,000
Ceram ...	60,000 to 63,000	Babar Islands ...	10,000
Banda Islands ...	6,000		

The birth-rate is low, and this is chiefly due to the early age of union between the sexes and the frequent absence of the men from their homes when engaged in collecting forest produce. Head-hunting has also exercised its usual disastrous effect on numbers. The regulations of the Dutch Government, however, have greatly ameliorated conditions.

Towns and Villages

There are but few places in all this wide area that can be dignified by the name of town, and most of the settlements are merely native villages. The chief exceptions are :—

Amboina (pop. 8,328); Banda Neira (pop. 4,130) Ternate (pop. 3,616); Saparua (pop. 2,354), the principal town of the Uliassers; Labuha (pop. 2,666) in the island of Bachian; Wahai (pop. 2,850), the chief town in Ceram; Tual (pop. 802), in the Kei Islands.

II. POLITICAL HISTORY

Chronological Summary.

1600 The Dutch capture Amboina.
1602 Trade with the Banda Islands.
1609 The Portuguese and Spaniards ousted, except from Tidore and Ternate.
1616 The Dutch land on New Guinea.
1619 Treaty with England to share the Moluccas trade.
1621 Coen's expedition to the Banda Islands.
1623 Legal murder of Englishmen at Amboina.
1650 Destruction of Molucca plantations by the Dutch.
1660 All the Moluccas in Dutch hands.
1678 The Dutch contract with the Rajah of Onin (New Guinea).
1796-1802 Amboina under English rule.
1810-1817 Resumption of English rule over Amboina.
1824 Van der Capellen introduces milder government in the Moluccas.
1828 The Dutch take possession of all New Guinea west of 141° E.
1895 Treaty with Great Britain to fix the boundary of Dutch New Guinea.

DUTCH NEW GUINEA

The first landing of the Dutch on New Guinea, made by Le Maire and Schouten in 1616, was no more than accidental; and, although their trading relations with the Molucca Islands commenced very early in the seventeenth century, the Dutch did nothing further in New Guinea until 1678, when a contract was made with the Rajah of Onin. Even so, it was not till 150 years later that the Dutch took formal possession of that portion of the island west of 141° E. longitude, and colonization began.

Rulers of various islands in the Moluccas had formerly exercised jurisdiction over the western portion

of New Guinea; and, accordingly, when the island came under Dutch governmental control, portions of it became sub-divisions of residencies already established in the Moluccas

The northern half of the boundary line marking the eastern frontier of Dutch New Guinea was fixed as between Great Britain and Germany, April 25-29, 1885, but was never the subject of a treaty between the Netherlands and Germany. The southern half of the boundary was determined by a treaty between Great Britain and the Netherlands, dated May 16, 1895.

MOLUCCA ISLANDS

When, early in the sixteenth century, the Portuguese took possession of the Moluccas for the sake of the spices, the most powerful native rulers were those of Ternate, Tidore, Bachian, and Gilolo. In 1600 the Dutch captured Amboina and the monopoly in cloves; the acquisition of the Banda Islands in 1602 gave them the trade in nutmegs and mace. By 1609 they had ousted the Portuguese and Spaniards from all the spice islands except Tidore and Ternate. A commercial treaty made with England in 1619 for sharing the trade was not long respected.

The vigorous rule of Coen and De Carpentier combated English enterprise, and after the "massacre of Amboina" in 1623, when ten Englishmen were put to death, after torture, for an alleged plot to seize the fort, the English were kept away entirely for a time. About the middle of the seventeenth century Holland secured the right (deemed necessary for the maintenance of the monopoly in spices) to destroy all the clove plantations in Ternate, Bachian, and other islands. This measure gave rise to acute distress among the natives; and when, in 1660, the Dutch East India Company concluded permanent treaties with the rulers of Ternate, Tidore, and Bachian, the Spaniards quitted Ternate and Tidore, where they had till then kept up establishments.

During the Napoleonic period there were two English occupations of Amboina—one from 1796 to 1802, another from 1810 to 1817. It was during these that a milder rule with regard to the spice trade was introduced; the return to harsh measures on the resumption of control by the Dutch led to much unrest, and a rising at Saparua had to be put down by punitive expeditions.

When, however, Van der Capellen, Governor-General of the Dutch East Indies, visited the Moluccas in 1824, the islanders were relieved from the abuses under which they had so long suffered. He placed a higher purchase-price upon the spices and abolished compulsory destruction, leaving cultivation optional.

III. SOCIAL AND POLITICAL CONDITIONS

DUTCH NEW GUINEA

THE bulk of Dutch New Guinea is entirely unexplored. The natives are divided into numerous tribes constantly warring against each other, and Dutch authority has only been established on portions of the coast. In some districts, notably in Humboldt Bay, which is on the north coast near the boundary between Dutch and German territory, and to the north of McCluer Gulf, *kampongs* of twenty houses are found, each house containing at least five families, which would give a total population for such a *kampong* of not less than 1,000. In the interior the villages are, as a rule, much smaller. Concerning the pygmies in the highlands, there is very little information available.

The northern portion of Dutch New Guinea is included for administrative purposes in the Residency of Ternate. The southern portion of the Dutch territory is included in the Residency of Amboina. Christian missionaries, both Catholic and Protestant, have helped to introduce civilization in Humboldt Bay and in the neighbourhood of the principal settlements. Traders from Ceram have introduced Mohammedanism, accompanied by a veneer of civilization, in the territory of Onin south of McCluer Gulf. With the adoption of Christianity or Mohammedanism the natives in limited areas have assumed to some extent the habit of wearing clothes.

MOLUCCA ISLANDS

The Northern Moluccas, comprised in the Residency of Ternate, which also includes a small portion of Celebes and the northern portion of Dutch New Guinea,

are of less importance in modern times than Amboina, which also includes Southern and Western New Guinea. It has even been proposed to remove the seat of the Residency of Ternate from that island to a centre with greater commercial prospects. The prosperity of the Moluccas will depend very largely upon the copra trade. The wealth brought to the spice islands in the past is still evident in the handsome houses occupied even by Chinese and natives in Ternate, Amboina, and Banda, and in the garments and trinkets of gold and silver worn by the more prosperous classes.

The ancient Sultanates of Ternate and Tidore left permanent divisions among the natives, who are, in consequence, divided into *pata-lima* and *pata-siwa* in some of the islands, as in Ceram and the Aru Islands, or *uri-lima* and *uri-siwa* in the Banda Islands. There are further sub-divisions based on social status and marked by special forms of tattooing or of costume.

It has been contended that in the tropics Europeans degenerate in the course of three or four generations. The history of the Dutch village on Kissa Island (see above, p. 12) is at variance with this theory. The island of Kissa suffers severely from drought, and it is necessary to work hard to maintain existence. The original sixteen settlers built a church, and handed down their Protestantism to their descendants, and the vitality and vigour of this little colony is ascribed mainly to the conditions of life on this small island, which provided almost the same hardening environment as that of their ancestors in North-West Europe.

Life is so easy on most of the islands of the Moluccas that there is little incentive to work hard, and tribes decay from sheer lack of energy. The suppression of piracy by the Dutch, and the consequent assurance of safety to the natives, appears to have increased the physical indolence naturally induced by the climate.

IV. ECONOMIC CONDITIONS

DUTCH NEW GUINEA

(A) MEANS OF COMMUNICATION

THE natural features of Dutch New Guinea make inter-communication very difficult. The solid barrier of the central range divides the north from the south, while communication between east and west is largely hindered by the rapid rivers and the deep ravines through which they flow. The dense jungle, the savagery and untrustworthiness of many of the natives, and the intense humidity all add to the difficulties of travelling.

(1) *Roads and Rivers*

Except in the vicinity of the principal settlements, there are no gravelled roads in Dutch New Guinea, but only native tracks. Where a village or settlement has become important enough to make wheeled traffic necessary, the local paths are improved and gravelled for distances of a few kilometres. This has been the case, for example, at Manokwari and Merauke, where small sums have been expended on road-making and upkeep in recent years.

With the following exceptions, the rivers are only navigable, even close to their mouths, by native boats. The *Fly River*, the longest in New Guinea, is navigable by fairly large vessels for over 500 miles, and for another 100 miles by smaller craft; but its mouth is in British territory, and it only touches Dutch territory for a portion of its course, some distance from the sea. On the north coast the *Momberamo* is the largest river in Dutch New Guinea; it is navigable for about 70 miles from its mouth. Of the other rivers, the *Sebjar*, and the *Ketero*, flowing into McCluer Gulf, have been

navigated respectively for 34 and 23 miles by vessels of 8 ft. draught. The *Utakwa* has been ascended by a sea-going ship for 17 miles, beyond that for two days by a launch and for another day by a canoe. The *North-West River* can be navigated at high-water for about 28 miles or 8 hours[1] by a vessel of 12 ft. draught. The *Utumbuwe* has been ascended by a similar vessel for 55 miles and by a launch for 28 more. The *Digul*, the most considerable river on the south coast, and 6 miles wide at its mouth, has been navigated for nearly 400 miles by a steamer of 6 ft. draught. The *Kasteel*, the *Lorentz*, and the *Odammon* have also been ascended for some distance from their mouths. Many of the rivers along the west coast are linked by connecting passages (*antassans*), by means of which it has been possible for a vessel of 6 ft. draught and about 80 ft. long to pass all the way from the River Eilanden to the Utakwa.

(2) *Ports and Anchorages*

Among the harbours on the north coast is *Little Geelvink Bay*, which affords shelter from easterly winds in a depth of 20 fathoms. Further east is *Dorei Harbour*, about a mile long and half a mile broad, with a depth of 20 fathoms. Further up in Geelvink Bay is *Wandammon Bay*, extending southwards for about twenty-eight miles, with alluvial flats round its southern end. East of Geelvink Bay are *Walckenaer Bay*, *Tanah Mera Bay*, and *Humboldt Bay*. The first is too open to make a good harbour, but the abundance of coconut trees in the neighbourhood has created a trade in copra; the second has a depth of 35 to 40 fathoms in the centre of the bay, but reefs and rocks make it dangerous; the third is exposed to the north-east, but furnishes good protection on its north-east side, where there are two deep inlets.

On the west and south-west coast the harbours are more numerous and penetrate further into the land.

[1] The Dutch *uur* (hour) is a measure of 5,653 metres or just over 3½ statute miles.

McCluer Gulf, which extends to within ten miles of the north coast, is over 100 miles long and more than 20 miles wide at its mouth, narrowing to 10 miles at the entrance to its inner part, called Bintuni Gulf. *Fakfak* is not situated on a harbour, but an anchorage is afforded by the screen created for it by Panjong Island, and the sea is deep up to the coast. *Kaimana*, the commercial centre of the Etna Bay region, is a safe harbour, being protected by a strip of land and a small island in front; ships can anchor close to the shore. *Merauke*, the principal port on the south coast, is situated about four miles up the Merauke River, the mouth of which has a depth of about two fathoms, and affords the only good anchorage along the shallow coast. Vessels anchor opposite a primitive landing pier for native boats (see below, p. 25).

All the principal ports in Dutch New Guinea are visited by one or other of the three contract services of the Koninklijke Paketvaart Maatschappij from Amboina (see below, p. 30).

(B) AGRICULTURE AND NATURAL RESOURCES

(1) *Products of Commercial Value*

The vegetation of New Guinea, though Malayan, has a decided Australian element in it, especially in the south, where there are many varieties of eucalyptus, acacia, &c. Dutch New Guinea is almost entirely covered with dense forest. Tall forest trees are found even at altitudes of 8,000 ft., and at altitudes of 10,500 ft. has been found a pine-like tree called *Podocarpus papuanus*. There are over 120 useful varieties of timber, including the heavy close-grained ulabo, which resists the attacks of white ants. Sandalwood trees are found in small numbers in the drier ground, but the supply is diminishing. The low-lying country is covered with a dense jungle of nipa and pandanus palms and occasional larger trees, tangled with rattans and other creepers. Rattans are not found at altitudes

above 4,000 ft. The coast vegetation consists mainly of mangroves, casuarinas, and sago and nipa palms; it is from the nipa palm, not from the sago palm, that the natives obtain their *sagoweer* (*saqueir*). Damar trees grow in various parts of the island, but not so profusely as in Borneo. The soil is extraordinarily fertile, and it is certain that when transport difficulties have been overcome Dutch New Guinea will be an important timber and rubber-producing area.

Sugar-cane is grown in many areas, and rubber, nutmeg, bananas, yams, bread-fruit, ginger, vanilla and tobacco are also widely found. The tobacco, which is probably indigenous, is of excellent quality. There are many coconut, sago, and areca palms, and bamboo, rattan, mangroves, and casuarinas all grow profusely. An edible forest fruit called *matowa* is much commended. Rice, however, is hardly grown at all, and there are no systematic cultures on scientific lines.

The main food of the natives in many parts of the island, especially south of the central mountain range, is sweet potatoes. In the west the chief food is sago.

There are no carnivora; hence forest cassowaries, wild pigs, and brush turkeys abound. But, generally speaking, there is a lack of game in the forests. The natives eat kangaroos, wallabies, opossums, serpents, crocodiles, dogs. rats, and. in fact, every kind of animal food procurable, but they breed no animals except pigs. Hornbills are a favourite article of food, and kingfishers, pigeons, and parrots abound.

(2) *Fisheries*

On the north coast of Dutch New Guinea there are pearl fisheries, and trepang (*bêche-de-mer*) is collected on many parts of its coast and the adjacent islands. As a general rule, the natives avoid deep water, and confine their sea-fishing to the near neighbourhood of the shore. Fish is abundant in all the rivers. Crayfish, mussels, and other shell-fish are popular articles of diet. Fresh-water tortoises are common.

(3) *Minerals*

It is known that gold, silver, lead, zinc, cinnabar, osmiridium, manganese, and graphite exist in New Guinea, but the investigation of the mineral wealth of the Dutch territory has scarcely begun. The regions in the centre, which contain the older rocks, have hardly been explored at all.

Coal has been found in many districts. It is most abundant in Lakahia, south of Etna Bay. It exists also a few miles from Tuwasai, on Bintuni Gulf (the inner part of McCluer Gulf), where the ground is dry and hard. Near Tipua Camp, in the basin of the Iwaka River, several seams of soft and crumbling coal have been discovered, varying in thickness from 4 in. to 8 in., but it forms poor fuel. Coal has also been found near the North-West and Blumen rivers, and one of the tributaries of the former was for this reason named Coal (Steenkool) River. Brown coal is found on the east side of the island of Salawati. Black coal has been found north of the Van Rees Mountains, on the Momberamo River, and in its neighbourhood there is argillaceous iron ore.

Copper is reported from the neighbourhood of the Biri River in the north-east.

No alluvial goldfields of importance have been discovered, and the only veins known are in the British territory. *Gold* has, however, been found in small quantities in the beds and banks of many rivers flowing north or south from the main ridge of mountains, indicating possible wide distribution in the mountains.

There is certainly a great deal of *mineral oil* in the subsoil. Close to the coal found at Tipua were many patches of dead forest, which had perished through oil oozing from the soil. Petroleum springs have been found between the Rivers Sara and Kaitro in the area between Bintuni and Arguni Bays, and also in the neighbourhood of Etna Bay. Hot springs, which are regarded with great awe by the natives, are found in various districts, notably in the bed of the Miso River.

There are two salt springs near the mouth of the Tami River, in the same region, and south of the Sirami is a warm mud spring.

(4) *Miscellaneous Industries*

On the mainland and in the islands off the coast of New Guinea industrial activity is confined almost entirely to boat building, the manufacture of rough pottery, and plaiting. The natives make great use of a wood called *gofasa* for boat-building. This is chiefly obtained from the island of Misol, off the north-western coast. The inhabitants of Salawati Island are exceptional in being bold seamen, and they construct good sea-going praus, which they manage with great skill. Most of the native tribes still use stone axes. Bows and arrows are used for hunting the cassowary, which supplies not only food but feather ornaments, hair-combs, bone daggers, and arrow-points made from bone-splinters and claws.

(C) COMMERCE

(1) Domestic

Towns and Settlements

The principal settlements are all ports, and the trade of Dutch New Guinea is confined to a small number of places more or less regularly visited by ocean-going steamers.

Fakfak is on the Onin Peninsula. An Assistant Resident lives there, and there are a few Chinese officials and a score of native policemen under a Dutch officer. The administrative building and the other houses are on the slopes of a hill rising to a height of 345 ft. This port lies opposite the island of Ceram, and is much visited by traders from the Moluccas. Nutmegs are cultivated for export on a small scale.

Humboldt Bay is divided into an inner and an outer bay by a small tongue of land covered with coconut and

other trees. The settlement is called Hollandia Bivouac. The chief food of the local natives is sago, which is stored in baskets. Fish is largely consumed, and pork on special occasions. The natives also eat coconuts, bananas, and sugar-cane. Their chief beverage is coconut milk, but they are intemperate consumers of tobacco. In the early part of the war German missionaries and traders used to ship produce and birds-of-paradise *via* Humboldt Bay, until the traffic was stopped by the British occupation of German New Guinea.

At *Kaimana*, on the south-west coast, the Netherlands New Guinea Trading Company has a *toko*, and there are two belonging to Arab traders. The Rajah of Onin has a large house on the shore, his subjects residing in huts adjoining.

Kokas, on the north side of the Onin Peninsula, and *Sorong*, on the north-west coast of Arfak, are ports used for the export of bird-of-paradise skins and damar.

Manokwari, on Dorei Harbour, lies at the extreme north-western corner of Geelvink Bay. The Papuans here have come much more under the influence of foreigners, who frequently visit Geelvink Bay to trade. The construction of the houses is different from that customary elsewhere in the island, the dwellings being built on piles, with a middle section which forms a kind of boathouse. The whole structure is covered by an oblong pointed roof. The boats are often large enough to take fifty people, and are used for plundering raids. Manokwari is the seat of an Assistant Resident, although the site is very unhealthy.

Merauke is a fairly busy settlement, with two European shops, about a dozen Chinese establishments, and a Roman Catholic mission. It is the seat of an Assistant Resident, and a director of the Merauke Company resides there to manage wholesale trade, both import and export. The native demand for iron and steel goods, particularly axes, is rapidly increasing. The exports are chiefly copra and bird-of-paradise

skins (see below, p. 27). The natives are too lazy to attempt to develop the copra trade, and foreigners are not welcomed by them. The normal export of copra, however, is about 600 bags per vessel. Merauke is on flat ground, surrounded by dense woods, with clearings here and there, in which the natives have made plantations of bananas, sugar-cane, and coco-nut palms. The settlement is surrounded by swamps, but the Dutch have ditched and dyked the site and made it fairly secure from floods. The food of the natives consists of pork, sago, sugar-cane, tree fruits such as coco-nuts, bananas, and berries, tubers such as *taro* and *œbis* (resembling potatoes), other root vegetables, and mushrooms.

Other settlements on the coast are *Patipi* and *Segaar*, near the entrance to McCluer Gulf. Patipi consists of about forty houses, with 500 inhabitants. It lies in a sheltered position, and is built partly in the water and partly on the shore. Segaar, on the bay of that name, is built wholly in the water, with a mosque on the shore. The site having proved unsuitable for trade, a customs-house and small landing-places were made some distance to the east.

(2) Foreign

(*a*) *Exports*

Resins such as gum damar, which is valuable as the raw material of varnish, bird-of-paradise skins, and copra are almost the sole exports of Dutch New Guinea. It is the male bird-of-paradise that provides the feathers which are in such great demand in Europe; there is a large variety, forty species of this bird being found in New Guinea, and the fashion in feathers is continually changing. Now that the natives have realized what prices are obtainable in Europe, they have increased their demands, and 8,000 birds bought in 1913 at Fakfak and Kokas were sold for £40,000. Chinese traders visit these two ports and others in Dutch New

Guinea, and purchase the birds from Chinese storekeepers at the coast towns, who buy them from the native chiefs. The Chinese storekeepers pay for the birds in kind, and fix their own prices. They have been engaged in the trade in Geelvink Bay for more than two centuries, supplying the demand for bird-of-paradise plumes in China. The coastal natives try their utmost to keep the bird-hunters of the inland forests in ignorance of the value which bird-of-paradise plumes have attained in European markets.

According to a report of the Dutch Colonial Office the price of bird-of-paradise skins at Merauke was in 1918 about 30 to 35 florins apiece, or about £3. The same authority gives the exports from Merauke for the years 1913 to 1916 as follows:—

Commodities.	Destination.	Value in florins.
1913—		
Copra	Holland	153,430
Bird skins	Holland, Germany and France	36,108
Other goods	Holland and Singapore ..	3,780
	Total	193,318
1914—		
Copra	Holland	105,259
Fish	Singapore	806
Bird skins and feathers..	Holland and Germany ..	58,894
Other goods	Holland and United States	954
	Total	165,907
1915—		
Copra	Holland	84,420
Bird skins and feathers..	Holland	36,820
Other goods	Holland and Singapore ..	870
	Total	122,110
1916—		
Copra	Unknown	5,682
Cowhides	Unknown	224
	Total	5,906

(*b*) *Imports*

Steel implements, especially axes and knives, are greatly sought after by the natives, and large quantities of beads are used by traders as a medium of exchange. Cotton goods do not yet appeal to the natives in general, but textile imports are slowly increasing. Sago is imported, though there are always superabundant supplies to be obtained locally with a minimum of effort.

The imports of Merauke, which come mainly from Holland and Singapore, include tobacco, alcoholic beverages, preserved foods, haberdashery, textiles, matches, and iron and steel goods. The Dutch Colonial Office supplies the following figures:—

— —	Total Imports.	Tobacco.
	Florins.	*Florins.*
1913	65,733	20,970
1915	85,654	27,170
1916	58,489	22,586

(D) FINANCE

The public finance of the Dutch East Indies as a whole is dealt with in *Java*, No. 82 of this series.

As already indicated, trade is carried on almost entirely by barter. On parts of the coast beads form a sort of currency. There are no banks.

(E) GENERAL REMARKS

Idleness and drunkenness are common throughout New Guinea among the male population. The women are treated as inferiors, and are forced to work on the land. Now that head-hunting has been checked on the coast, and in some districts perhaps abolished, the men

appear to have no stimulus to energy of any description. They can obtain all the food they need without effort, or by the exertions of the women; and by cutting the flower-stem of the nipa, sugar, or coconut palm, and hanging a bamboo cup under the gash, they can obtain unlimited *sagoweer* (*sagueir*). Each man has thus his own supply of intoxicating fluid ready whenever required, and many spend a large part of their time in a state of torpor beneath their favourite trees. The sale of birds-of-paradise has brought wealth to the natives, and in some districts they are even becoming too lazy to catch the fish which abound in all the seas, or to make sago, which they are now importing from the Moluccas.

The indolence of the natives is the chief obstacle to the agricultural development of Dutch New Guinea. The marshy south-west coast has hitherto produced little else but sago, but the south coast, and parts of the northern and western coasts, are already important sources of copra supplies. The export of copra could be enormously increased if the natives could be induced to cultivate the coconut palm scientifically. Horses and cattle imported at Merauke have thriven. The soil inland from Merauke is exceedingly fertile, and there is no reason why a very large export trade should not be developed after the forests have been cleared. At present pioneers have to choose between importing labour, which is necessarily very costly, and trying to train the natives to habits of industry.

MOLUCCA ISLANDS[1]

(A) MEANS OF COMMUNICATION

(1) *Roads, Rivers, Posts, and Telegraphs*

There are very few roads in the islands other than native paths, and statute labour can only be employed

[1] The principal islands are dealt with below, pp. 38-51.

in some areas which are under direct Government control. In Ternate there were 5·3 kilometres of gravelled road in 1913. In Amboina road-maintenance is costly, owing to the bad quality of the gravel and river-stone available; about 25,000 florins were expended in 1913 on the upkeep of the road from Amboina town to Latuhalat and on the construction of a road from the latter place to the new wireless station at Oud Nusa Nive.

There are no rivers of commercial importance.

Post offices are established in the principal towns, and in 1914 there were four kilometres of telegraph line on Ternate and eighteen on Amboina.

(2) *Shipping Lines*

The Koninklijke Paketvaart Maatschappij maintains a number of contract services calling, amongst other places, at various ports in the Moluccas. The three chief services are as follows:—

Service No. 28.—Every four weeks from Amboina for Saparua Island, Banda Neira Island, Geser Island, Amahai, Wahai and Piru in Ceram, and Kaimana, Fakfak, and Kokas in New Guinea.

Service No. 29.—Every four weeks from Amboina, calling at Banda Neira Island, Tual in the Kei Islands, Dobo in the Aru Islands, Lelingluan in the Larat Islands, Saumlakki in Yamdena Island, Tepa in the Babar Islands, and Merauke in New Guinea.

Service No. 30.—From Amboina every four weeks for Namlea and Laiwui in the Obi Islands, Bachian Island, Ternate Island, Tobelo, Buli, and Weda in Halmaheira Island, Sorong, Manokwari, and Hollandia Bivouac in New Guinea, Roön Island, Wakde Island, and Bosnik Island.

By the new contract which came into operation on January 1, 1916, the Koninklijke Paketvaart Maatschappij has to maintain these and 27 other services. The contract is for ten years, and 1,500,000 Dutch nautical miles must be covered, including the voyages

of certain vessels to Singapore, Penang and Portuguese Timor, not on regular contract services. The company must carry all mails required, and receives from the Government 25 cents per nautical mile traversed, up to a maximum of Fls. 500,000.

Amboina and Ternate are also in constant steamer communication with Java and Celebes, by a fortnightly contract service of the Koninklijke Paketvaart Maatschappij.

(3) *Cable and Wireless Communication*

Ternate has been connected with Kema, near Menado (Celebes), by a Dutch cable since 1913. The Dutch Government originally intended to lay a number of cables to connect the principal islands east of Celebes, but this idea was abandoned in favour of a plan to be carried out after the war for the erection of a number of wireless stations.

The erection of wireless stations at Amboina and Banda Neira has brought those islands into direct communication with Java.

(B) INDUSTRY

(1) *Agriculture*

Except some of the more southern islands and a few volcanic cones, the Moluccas are thickly covered with forest, and are suited for agriculture. In the Timor Laut Islands maize is the staple food, and it is much cultivated in Sermata, Roma, and the Kei Islands. Generally speaking, rice is only of secondary importance. In most of the islands sago is very important, especially in Halmaheira and Ceram; in the last-named island and Obi it grows wild.

The soil and climate are remarkably well adapted for the growth of spices, particularly cloves and nutmegs, with mace. Formerly the Dutch, by destroying the

plants elsewhere, created a monopoly for the production of cloves in Amboina and of nutmegs in Banda, but the restriction does not operate now; cloves are grown on Ternate, and nutmegs in Ceram, Amboina, Ternate, Tidore, Bachian, and Obi, in the last of which islands they are found wild. Pepper grows on Ternate and Amboina.

Coffee is grown by the Dutch on Ternate, where in 1914 there was a plantation of 238 acres, and also on Tidore, Bachian, and Ceram. Cocoa is cultivated on Bachian and Ceram. Tobacco is grown especially in Tidore, Bachian, and Buru, and cotton on Tidore, Buru, and Amboina. In Ternate in 1914 there was a rubber estate of 90 acres, planted with *Hevea*.

Forest produce is collected by the inhabitants in many of the islands. Gum damar is procured especially from Halmaheira, Ternate, Bachian, Obi, and Ceram. Coco-nuts are found throughout the Moluccas, and the trade in copra is becoming more important than that of cloves. Cajuput oil comes chiefly from Buru and Ceram. The nipa palm, from which sagoweer is derived, grows in Halmaheira, the Kei Islands, and elsewhere. Sugar-cane grows in Amboina, the Aru Islands, and Ceram Laut. The seedless bread-fruit appears in Amboina, and bananas, yams, papaws, mangoes, and other fruits and vegetables are found on many of the islands.

The thick forests that clothe most of the islands produce excellent timber of many varieties, the best coming from the Kei Islands (where much ship-building is carried on), Ceram, Ceram Laut, the Goram Islands, Banda, Ternate (which is especially noted for ebony), and the South-Western Islands.

(2) Manufactures

The main occupations of the native populations throughout the islands are agriculture and the collection of forest produce. The most industrious natives are those inhabiting the less fertile islands. Thus, in

Makyan, where neither sago nor coco-nuts grow, the natives are hard-working and succeed in tobacco cultivation, while their neighbours in Ternate and Tidore are conspicuously lazy. The pearl fisheries of the Aru Islands are famous, and attract Japanese and Filipinos. The Celebes Trading Company is actively engaged in these fisheries. Smiths' work is done by the inhabitants of Tidore, the Kei Islands, and Timor Laut. The best boats are built on the Kei Islands and Ceram Laut. Weaving and plaiting are practised on many islands.

There is an ice and mineral-water factory at Amboina, and also a sawmill. At Ternate there is an ice factory. In the residency of Amboina the factories and workshops employing five or more persons on June 1, 1914, were thus officially classified: sawmills, 4; shoe factories, 3; bookbinding works, 1; printing works, 1; vegetable oils manufactory, 1; smithies, 1; ice factory, 1.

(3) *Minerals*

Inferior coal and lignite are found in Bachian and Ceram. Gold and copper have been found in Bachian, and naphtha in the eastern part of Ceram. Hot springs are common in many of the islands. The larger islands are only partly explored, but at present no important mineral deposits have been proved to exist anywhere in the Moluccas, though it is asserted that Ceram is rich in petroleum.

(C) COMMERCE

Statistics of the foreign trade of the Moluccas are difficult to obtain, for there is much confusion in the Dutch official publications between exports to Java and other parts of the Outer Possessions, and to foreign countries. The same remark applies to imports. As a result of the large trans-shipment trade at Macassar

and Java, items are often included in the returns both of the ports in the Moluccas and the ports of transshipment.

Retail trade is almost entirely in the hands of the Chinese, though the Arabs have relatively a large share, and in Banda Neira Island are predominant.

(1) *Exports*

The exports of the Moluccas consist mainly of copra, spices, hardwoods, gums, and pearls. Fish, trepang, tortoiseshell, and swallows' nests are also largely exported.

Dutch official records state that the total value of the foreign exports from Ternate and Amboina Residencies in 1915 was Fls. 991,000 and Fls. 1,556,000 respectively, while the *Encyclopaedie van Nederlandsch-Indië* gives the value of the total exports to all destinations from Amboina Residency in the same year as Fls. 2,910,000. The cajuput oil exported from Amboina Residency amounts in value to about Fls. 200,000 annually; it comes chiefly from Buru, and goes mainly to Macassar and Singapore.

The following figures for the years 1914 and 1915 taken from official publications of the Encyclopædisch Bureau, show the quantities of the principal exports from Ternate and Amboina:—

—		1914.	1915.
		Tons.	Tons.
Cajuput oil	Ternate ..	—	—
	Amboina ..	37	14
Cloves	Ternate ..	—	—
	Amboina ..	250	189
Coffee	Ternate ..	14	20
	Amboina ..	18	13
Copal	Ternate ..	3,233	2,300
	Amboina ..	477	1,245
Copra	Ternate ..	3,437	1,963
	Amboina ..	4,184	4,267
Damar	Ternate ..	111	7
	Amboina ..	1,073	1,114

—		1914.	1915.
		Tons.	Tons.
Dye woods .. .	Ternate ..	—	5
	Amboina ..	78	208
Ebony	Ternate ..	1,027	521
	Amboina ..	103	356
Mace	Ternate ..	16	20
	Amboina ..	247	197
Nutmegs	Ternate ..	116	142
	Amboina ..	1,195	1,239
Rattans .. .	Ternate ..	48	67
	Amboina ..	652	536
Scented wood ..	Ternate ..	—	—
	Amboina ..	22	6

These figures appear to include exports to all destinations, including Java and other parts of the Dutch East Indies. It may be noted that two thousand litres of coco-nut oil were exported from Amboina in 1914 and 1915, and in 1915 four thousand rattan canes were exported from Ternate.

For individual ports the following figures are recorded :—

—	1913.	1914.
	Tons.	Tons.
Cloves (Saparua)	4	1
Copal (Labuha)	604	612
Copal (Ternate)	2,165	1,714
Mace (Banda Neira)	225	173
Nutmegs (Banda Neira)	803	680

(2) *Imports*

The value of the foreign imports into Ternate and Amboina Residencies in 1915 was recorded as Fls. 684,000 and Fls. 1,162,000 respectively, while the *Encyclopaedie van Nederlandsch-Indië* states that the

imports from all sources to Amboina Residency in the same year amounted to Fls. 3,100,000.

The following figures for the years 1914 and 1915, taken from official publications of the Encyclopædisch Bureau, show the quantities of some of the principal imports to Ternate and Amboina Residencies:—

—		1914.	1915.
		Tons.	Tons.
Biscuits	Ternate ..	30	9
	Amboina ..	34	17
Condensed milk ..	Ternate ..	27	23
	Amboina ..	35	44
Husked rice ..	Ternate ..	4,722	4,472
	Amboina ..	8,496	8,151
Meal (mainly wheat) ..	Ternate ..	51	51
	Amboina ..	143	42
Roofing iron ..	Ternate ..	48	16
	Amboina ..	35	—
Tea	Ternate ..	12	11
	Amboina ..	5	6
Tobacco	Ternate ..	85	34
	Amboina ..	55	35

The value of miscellaneous iron and steel goods imported into Ternate and Amboina Residencies in 1914 was Fls. 26,000 and Fls. 20,000 respectively, but in 1915 sank to Fls. 7,000 in each case.

(D) FINANCE

The Crediet- en Handelsvereeniging Banda has branches at Banda Neira, Amboina, and Ternate. The Nederlandsch-Indische Escompto Maatschappij, the Asiatic Petroleum Company, the Standard Oil Company of New York, and the Obi Gom Compagnie have agencies at Ternate. The Moluksche Handelsvennootschap is established at Ternate and Amboina.

The public finance of the Dutch East Indies as a whole is dealt with in *Java*, No. 82 of this series.

(E) GENERAL REMARKS

The production of copra is becoming the most important industry in the Moluccas, but the islands will always continue to be noted for spices, for the cultivation of which their soil and climate are peculiarly adapted. There are many areas suitable for rubber cultivation. Coffee, cocoa, tobacco, and cotton are already successfully cultivated on several of the islands. The indolence of the natives is the chief obstacle to industrial development: it is said that the native Christians are the laziest of all.

V. NOTES ON THE PRINCIPAL MOLUCCA ISLANDS

HALMAHEIRA (GILOLO)

HALMAHEIRA (= mainland) is about 200 miles long, and has an area of about 6,500 square miles (including the islets close to the shore), but its whole population amounts to only 30,000, most thickly distributed in the northern peninsula. It resembles Celebes in shape, having four peninsulas that meet at a central point, a long western coast, and three deep gulfs on the east. It is very mountainous. The northern peninsula mainly consists of two mountain ranges, between which lies a well-cultivated, undulating plain. The mountains along the western coast are volcanic, and at least one, Gem Kemora (4,922 ft.), is active. The other three peninsulas are traversed by mountain chains, from which spurs extend to the coast; there are summits from 3,000 to 4,000 ft. high. The mountains are thickly wooded. There are several lakes and numerous rivers, but none of much importance. At Buli and Weda there are anchorages.

The chief means of livelihood of the inhabitants are agriculture, hunting, and fishing. The main products are rice, sago, coconuts, mother-of-pearl, trepang, and damar. There are pearl fisheries in Kayu Bay, on the east of the island, but the yield is not great. The forests contain a great variety of trees, but the timber trade is small, owing to the absence of satisfactory waterways. The inhabitants are Alfurs in the north and Mohammedans along the coast.

MOROTAI (MORTI)

Morotai lies 14 miles north-east of Halmaheira. It is more than 50 miles long, and from 13 to 26 miles wide. It is well wooded and hilly, the highest point

being about 3,000 ft. There are numerous rivers, navigable by small boats for some distance inland. On the river banks and in the flat south-western part of the island are forests of sago palm, and inland there are many damar trees. There is a small resident population living in the villages along the coast, but strangers come from Halmaheira and elsewhere to collect gum damar and to fish among the islands off the west coast. Wajabula is the chief *kampong* (village). Near it are cliffs with birds'-nests, and a score of men are permanently retained there by the Sultan of Ternate to collect the nests.

TERNATE

Ternate, the northernmost of the line of islands off the west coast of Halmaheira, has an area of about 25 square miles and is 6 miles across. It is the seat of an ancient sultanate, and now contains the chief town of the Residency of the same name. The island is composed almost entirely of a conical volcano (5,184 ft.) with four peaks, which is constantly active. It is densely wooded, and on the south and south-east is cultivated. Between the lava ribs are pieces of flat ground planted with rice and maize, and the island also produces sago, coffee, pepper, nutmegs, and cloves. Between Ternate and Tidore is a fine harbour. There is no bar, and vessels anchor in 15 to 20 fathoms on a good holding bottom of stones and sand. They can load and discharge at the Government landing quay. The town of Ternate (pop. 9,000) contains a third of the population of the island, and is an "open" port. Many of the inhabitants are "burgers," and are exempt from statute labour wherever they reside. The great majority of the population of the island are Mohammedans.

TIDORE, &c.

Tidore, situated rather more than a mile south of Ternate and of about the same size, was also the seat of a historic sultanate. It is a small mountainous

island, of which the southern part is entirely occupied by a volcanic peak (5,808 ft.), no longer active. The northern half of the island is a rugged mass of hills, descending steeply to the sea, with a few level spots near the beach. Below the 1,000 ft. level fruit, cotton, nutmegs, rice, maize, tobacco, and coffee are grown, especially on the eastern side; the soil is remarkably fertile, but the inhabitants have no great reputation for industry. They fish and cultivate gardens. Many travel through the islands with portable smithies, making axes and knives. The chief town, Soasia, is on the east coast.

The other islands off the west coast of Halmaheira are Maré, Motier, Makyan, and Kayoa. *Maré* is called Potbakkers Island, because in its south-western portion there is excellent clay, from which the inhabitants make earthenware vessels for the whole of Ternate Residency. Women and children do all the hard work of the clay industry, while the men fish. Formerly the men used to make salt, but this now comes from Celebes and elsewhere, as the Moluccas are not included in the Government monopoly. *Motier* serves as a temporary habitation for the dwellers in other islands, who come here to cultivate plantations and gardens in its fertile volcanic soil; forests grow up to the summits of the mountains (over 2,750 ft.). *Makyan*, whose highest point reaches 4,166 ft., suffered from eruptions in 1861 and 1890; its uneven surface is covered with vegetation. The inhabitants (8,000) are engaged in growing maize, fruit, vegetables, and tobacco, and in fishing and weaving. Sago has to be imported, but some sugar and rice are grown. *Kayoa* is nearly 10 miles long; it has a range of hills, rising to 1,181 ft., along almost its entire length.

BACHIAN (BATJAN) GROUP

To the south of this chain lies the Bachian group, the chief of which is the island of *Bachian*, 52 miles long with a mean width of 23 miles. Bachian is very mountainous, the northern part being volcanic;

the central part, where there is an isthmus, is much lower than the land to north and south, and the greatest heights are at the southern extremity. There are no active volcanoes, but there are sulphurous springs at the foot of Mount Sibela (7,215 ft.), and Bachian is liable to earthquakes. The mineral resources include gold and copper in small quantities, and coal, which is worked intermittently at small profit. The interior of the island is densely wooded, and has few inhabitants. There are numerous streams, but only a few can be entered by small boats. Good timber is found; sago is grown in the swamps, and coconuts on the coast. The Dutch have coffee and cocoa plantations. Nutmegs, tobacco, copal, and gum damar are also exported. The chief town, on the west coast, comprises the Christian village of Labuha and the Mohammedan village of Amassing.

The Batjan Archipel Maatschappij, a Rotterdam company with a capital of Fls. 500,000, fully paid, has lately been negotiating in Geneva for the disposal of its concession, including all the agricultural, mining, timber, and pearl-fishing rights of the islands, valued at £150,000.

OBI (OMBI, OMBIRA) ISLANDS

The group consists of Great Obi, five smaller islands, and many mountainous islets. It lies to the south of the Bachian group. *Great Obi* is more than 50 miles long and 20 miles wide. It is very lofty, rising to nearly 5,000 ft., but is not volcanic. The mountains decrease towards the east, where for 10 miles the ground is low and marshy in places. The whole island is densely wooded. There are numerous rivers, which descend steeply from the hills, but have low banks on their lower course; they can be entered by small craft only, for their mouths are barred. Coal and lignite are found, and there is believed to be gold, but Great Obi is for the most part unexplored. The island has almost no resident population, as it is supposed to be haunted, a reputation which may have been manu-

factured for it when it was a favourite resort of pirates.

The other islands in the group are hilly and have steep coasts. The group is visited by many people from Tidore, Makyan, and Bachian, who tap sago, collect wild nutmegs, gum damar, and rattans in the forests, and go fishing and diving for pearls in the neighbouring waters. After a stay of some months they proceed to Labuha to sell their store.

BURU

Buru is an oval island, about 90 miles long and 50 miles wide, with an area of nearly 3,400 square miles. It has many lofty mountains, especially in the north-west, where are Mount Tomahu (8,524 ft.) and Kaku Siel, not much lower. In the east the mountains are comparatively low. Surrounding Kayeli Bay is a wide, circular, level plain, constituting almost one-quarter of the island. Most of Buru is covered with forest, but the north is somewhat bare and overgrown with coarse *kussu* grass. The island has many rivers, the chief being the Wai Apu, which flows through swamps full of fern. The river-mouths, which are obstructed by bars, offer anchorage to native craft; the only anchorage for bigger vessels is afforded by Kayeli Bay. Waikolo Lake, near the centre of the island, 1,900 ft. above the sea, lies at the foot of Kaku Siel, and is some miles across. In the swampy parts, especially Kayeli, Lisela, and Waesama, many sago palms grow. Other products are tobacco, maize, sweet potatoes, cotton, and a great deal of cajuput oil, which is exported from Kayeli. Not much rice is grown in the interior. There is good timber, especially teak, ebony, and kanari.

The Alfurs of the interior, a timid and peaceful folk, who dislike coming near the coast, are engaged in collecting forest produce, obtaining timber, hunting, or practising very primitive agriculture. The Mohammedan and Christian inhabitants of the coast are engaged in trade, hunting, fishing, and gardening.

Many native Christians live at Masarete, on the west coast; Kayeli, on the east coast, is an unhealthy settlement of about 70 houses.

CERAM

The island of *Ceram* lies east of Buru, and is divided from it by the Buru Straits, in which are several islands. It is 216 miles long, and its area, including the adjacent islands, is estimated at 6,621 square miles. It is traversed from east to west, near the north coast, by a lofty range of mountains, the highest of which is Nusaheli (9,612 ft.), while at least four other peaks exceed 6,000 ft. In many parts the mountain chain extends to the coast; in others it gradually gives place to lowland, while in some parts the sea is fringed by swamps. There are many rivers, which generally run north; the chief are the Ruata, Bobot, and Saputana. They are, however, mostly unnavigable, and are often dry in the dry season. Amahai, the only harbour, is fairly good. The island is very little known, the only part with which Europeans are familiar being the western end, where the peninsula of Huammual is connected with the main island by a low, narrow isthmus. There are dense forests everywhere, which provide excellent timber; in all the swampy valleys the sago palm grows wild. The chief products are sago, timber, nutmegs, gum damar, and other forest produce. At Wahai there are European coffee and cocoa plantations; tobacco and coconuts are also grown there. The island is believed to contain minerals of value, including petroleum.

Alfurs are the only inhabitants of the interior, but on the coast they are mixed with Javanese, Macassars, and Malays. The coast population is mostly Christian and Mohammedan, but the Christian Alfurs do not differ much from their heathen neighbours.

CERAM LAUT AND GORAM ARCHIPELAGO

Ceram Laut is a cluster of islands on one coral reef about 20 miles long. Included with it are Geser and Kilwaru to the west, and the *Goram Islands* (Suruaki,

Goram, and Manavoka) lie to the east-south-east. Most of these are covered with forests. There are no mountains in Ceram Laut of over 1,000 ft. Geser is a coal depôt, and Kilwaru a busy mart, where merchants from Ceram meet natives of New Guinea and the adjacent islands. It has a good anchorage. The principal article of export from Ceram Laut is trepang. The islands produce also sago, sugar-cane, coconuts, and timber of various kinds. The Goram Islands, with an area of about 150 square miles, are higher than Ceram Laut; they are more populous and more fertile. On Suruaki there are extensive swamps.

The chain is continued to the Kei Islands by the Matabello Islands, whose rugged hills are covered by coconuts, and the very similar Tior, Nusa-Tello, and Tionfoloka Islands. Some of these latter are entirely waterless, owing to the porous nature of the coral rock.

AMBOINA AND THE ULIASSERS

The island of *Amboina* or *Ambon* (from a Malay word meaning "mist") lies to the south-west of Ceram, and east of it is the group of small islands generally known as the *Uliassers*. Amboina is 32 miles long, and has an area of 386 square miles. The island is very irregular in shape, for it is divided into two unequal parts, Hitu and Leitmor, by a narrow alluvial isthmus. The mountains are volcanic, and though none are now active, hot springs and solfataras are found, and slight earthquakes are still experienced; the highest peaks are Salhutu (4,020 ft.) and Wawani (3,609 ft.). The rivers are small and not navigable. The soil is fertile and the island covered with vegetation. Among the chief products are sago, bread-fruit, coconuts, sugar-cane, maize, coffee, cocoa, pepper, and cotton, while cloves, though no longer enjoying their former artificial monopoly, are still very important; copra, however, is tending to replace them as the chief export. In the bay of Amboina are found 700 varieties of fish.

Amboina town is the capital of the Residency of the same name, and at one time was world-famous, when it enjoyed a monopoly of the clove trade. It has both a European quarter and a Chinese quarter. There is a good and safe anchorage in about 20 fathoms, about two cable-lengths from the shore. The pier has about 18 ft. of water at its end. There is also a coal wharf 90 yds. long with 24 ft. of water alongside. The inner harbour is almost landlocked. Altogether Amboina is the most civilized island and Amboina town the most important port in the Dutch East Indies east of Macassar.

Of the other islands in the group, Haruku and Nusa Laut both contain hot springs. The latter island is hilly, but with plains in parts near the sea; it has two good anchorages, available during both monsoons, and produces sago, coconuts, and cloves. Saparua falls into two portions, connected by an isthmus, about half an hour's walk across; it is hilly, but along the coast is flat ground covered with coconut trees. Cloves form the principal product; the sago grown is sufficient for the population. Melano is thickly wooded.

BANDA ISLANDS

The *Banda Islands* lie 60 miles south of Ceram and 130 miles south-east of Amboina. They are ten in number, and three are of fair size; six of them together make the harbour of Banda. The total area of the group is about 20 square miles. The longest island, *Banda Lontar*, is $7\frac{1}{2}$ miles long, and has a crescent shape; the volcanic soil is covered with "parks" of nutmeg, the Banda Islands having formerly been the exclusive nutmeg garden of the world. The nutmeg trees grow under the shade of kanari trees, whose nuts produce an oil of value. Nutmeg trees begin to bear fruit from the eighth to the tenth year, and with careful tending the crop should not diminish till after the sixtieth. Many bear up to 100 years, and it is a local saying that a nutmeg tree lives as long as a man.

Mace grows round the kernel of the nutmeg. On *Banda Neira* is the town of Banda, one of the cleanest, neatest settlements of the Dutch East Indies. There are here some descendants of the original "perkeniers" who received estates in 1627, which they were required to plant with nutmeg trees. They had to sell the produce to the Dutch East India Company at rates fixed by the company. There is no other place of equal importance in the Dutch East Indies where the Arabs outnumber the Chinese. *Gunong Api* contains an active volcano (1,858 ft.), which is covered by bushes to within 700 ft. of the summit. No nutmegs grow on this island, but there are coconuts along the coast.

Nutmegs grow on Rum, Ai, and Rozengain, and coconuts on Rozengain and Pisang. Rum has a clean, white beach, frequented by turtles. Apart from nutmeg-growing, the principal industry of this group of islands is fishing.

KEI (KÉ) ISLANDS

This archipelago lies on the ridge that runs from Ceram as far as Timor Laut; it is separated by deep water from the Banda Islands on the west and the Aru Islands on the east. The whole archipelago has an area of 572 square miles. It consists of four groups—Great Kei (or Nuhu Yut), containing half the population, Little Kei and Kei Dula, the Tayando group, and the Kur group. *Great Kei* is a long, narrow island, 64 miles in length, with a narrow tongue of land at its southern extremity. It is mountainous and wooded, with patches of cultivation on the slopes; the mountains, which rise to nearly 3,000 ft. in the north, traverse the centre of the island. The coast is in most parts high, with steep cliffs.

The other islands are comparatively low, but there are hills in the south and north-west of Kei Dula. They are all covered with dense forest and produce excellent timber, some of which excels *jati* wood for boat-building. The inhabitants are famed for boat-

building, the best craft being called *skanderias*. Coconuts grow everywhere in abundance, and there are also areca palms, bananas, sago, maize, and vegetables. Most of the islands are encircled by extensive shoals. Trepang and the tortoise are found in great numbers on the many reefs, and the neighbouring seas teem with fish, but the natives seldom go outside the reefs or fish in waters of greater depth than 10 fathoms.

The settlements are round the coast; the inhabitants, who are friendly, are good blacksmiths and goldsmiths, and are renowned for their carving, the cave decorations of these islands being famous. Tual, the chief town, is the seat of a Dutch "Contrôleur," and a Dutch firm trades there in teak, ironwood, and other valuable timber.

ARU ISLANDS

This group, lying to the east of the Kei Islands, in the shallow sea between New Guinea and Australia, consists of one big island, *Tanabesar*, 122 miles long and 58 miles wide, and nearly 100 smaller isles. The area of the archipelago is 3,244 square miles. Tanabesar is intersected by several channels (*sungi*) of varying width, and less than 3 fathoms in depth, which practically divide it into six separate islands. The whole group is of low elevation, and contains no rivers of note. The surface is mostly covered with virgin forest, largely composed of screw pines, palms, kanari trees, and tree ferns. In Tarangan, the southern portion of Tanabesar, the forest alternates with grassy plains. The *sungi* are lined with mangroves. In many parts there are impassable swamps. The soil is fertile, but little cultivated.

The inhabitants of this group are very uncivilized; their agriculture is primitive; their villages on the west side are mostly in wooded places, on the east side on rocks. Dobo, on the small island of Wamar, in the west, is a trading rendezvous for Papuans and Moluccans, and the Aru islanders take their produce

to it. Sago, coconut, and areca palms, tobacco, sugar-cane, and maize are cultivated in the islands. Apart from agriculture, the chief occupations are fishing for trepang and sharks, diving for pearls, and hunting birds-of-paradise, whose dried skins are an important article of commerce. Japanese and Filipinos come here for pearl-fishing.

TIMOR LAUT AND TENIMBER GROUP

This archipelago (sometimes known as the South-Eastern Islands) consists of 66 islands, most of which are known under the collective name of Tenimber, though the two largest, Yamdena and Selaru, together with the islands between them in the Egeron Strait, are grouped together under the name of Timor Laut. The only high parts are the island of Laibobar (above 1,500 ft.), probably a volcano, Molu, Vordata, Selu, and a part of the south coast of Yamdena. Earthquakes sometimes occur. *Yamdena*, which is 74 miles long and 26 miles wide in the middle, has a much indented coast; there is a low, narrow foreshore planted with coconuts and mangroves, and fringed in most places with precipitous cliffs 60 to 80 ft. in height, on which are most of the stockaded villages where the bellicose inhabitants live. The west coast is lower than the east. The hills on the east coast are densely wooded. *Selaru* is 30 miles long and is mostly flat; it is covered with high grass and is less wooded.

On all the larger islands there are extensive swamps. The trees are of considerable height, but more sparse than on the islands previously described, and of no very great girth. The islands are not fertile, but provide for the needs of the inhabitants. Maize is the staple food; extensive coconut plantations line the shores; a little rice and sago are cultivated, also bananas, papaws, mangoes, manioc, and sweet potatoes.

Though the natives do little in agriculture, they are industrious fishermen, and some work in iron, gold, and

copper; traders, well armed, barter piece-goods and hardware for turtle, trepang, copra, some kinds of wood, and an inferior sort of mother-of-pearl. The inhabitants, especially in the interior of Yamdena, have not attained a high degree of civilization. The women do more work than the men, both in the fields and in fishing, besides weaving *sarongs* and baskets. Fishing is practised on the coasts with lines or with bows and arrows, but not with nets.

SOUTH-WESTERN ISLANDS

This collective name is given to the two diverging chains of islands which continue the lines respectively of the lesser Sunda Islands and Timor. The former, the northern chain, includes Wetar, Roma, Damar, Nila, and Serua, and is continued through Manuk to the Banda Islands on the inner volcanic band; the latter, the southern chain, includes Kissa, Letti, Moa, Leikor, and Sermata, and is continued through the Babar, Timor Laut, and Kei archipelagos to the southern Moluccas.

Wetar (*Wetta*), the largest island, is about 70 miles long and more than 20 miles broad. The land is broken and mountainous, especially on the north side, where precipitous cliffs reach the sea. The highest elevation is Tower Hill (4,390 ft.). There are many rivers and swamps, some of which are dry during the east monsoon. Most of the country is bare, but there are forests at certain places, and on the south side there is grassland. The chief anchorage is the open bay of Ilwaki, on the south of the island, which is visited by steamers of the Koninklijke Paketvaart Maatschappij. The population is about 7,000. Head-hunting is still practised. Traders barter rice, piece-goods, and arms for wax, trepang, and tortoiseshell.

Róma is 11 miles long and 6 miles wide. It is of volcanic origin, and contains hot springs; its highest point is 1,905 ft. The island is very fertile, especially in the south-east. The staple product is maize,

but areca palms and sago are also common. The inhabitants of Kissa migrate to Roma in periods of great drought in their own island.

Damar has an active volcano (3,110 ft.), and suffers from earthquakes. There is some lowland on the west, but everywhere else the land rises steeply from the sea. Kolowati Bay penetrates 4 miles inland, with great depth of water. The island is extraordinarily fertile. Near Wulur there are hot springs.

Nila has a lofty active volcano (3,908 ft.). The inhabitants grow coconuts and raise hops and poultry. They formerly cultivated cloves.

Serua has an active volcano (2,294 ft.); the island is covered with coconut, kalapa, and mango trees.

Kissa is an unhealthy island about 7 miles long and 5 miles wide. It is mountainous and bare, with very few trees, and almost rainless; sometimes a whole year goes by without rain. The coast is high and rocky, broken in places by narrow sand beaches.

Letti (9 miles long, 5 miles wide) suffers from the same paucity of trees and rainlessness. A range of dome-shaped hills traverses the middle of the island from east to west, the highest point being 1,403 ft. The inhabitants are less prosperous than those of Kissa.

Moa is 25 miles long, and is divided into two hilly parts by a strip of low, marshy land, thickly wooded with sago trees. It is a very fertile island, and cattle, goats, pigs, and poultry thrive there. The inhabitants of Letti migrate to Moa when drought compels them to leave their own island.

Leikor, of coralline formation, nowhere rises more than a few feet above the sea. It grows nearly all the tobacco consumed in the Letti group, to which it belongs. Though the seas round Leikor swarm with turtle, the natives despise it. The island produces good buffaloes, sheep, goats, and pigs, though there are no rivers, and rain-water has to be stored in trenches.

Sermata, 15 miles long, the chief island of the Serwatti group, has a range of hills rising to 1,378 ft., the sides of which slope steeply down to the sea. The

inhabitants live in twelve villages on the coast, surrounded by high stone walls. They are industrious and prosperous. They grow maize and yams, the latter in great abundance.

BABAR ISLANDS

Babar, 18 miles long and 4 to 18 miles wide, is mountainous (rising to 2,953 ft.) and thickly forested, and contains several rivers. Its low coast is covered with woods. The island is fertile, sago especially being grown in the swamps to the south-west. The other islands of the Babar group are bare and parched.

APPENDIX

I

BRITISH NOTIFICATION OF THE ARRANGEMENT AGREED UPON BY THE GOVERNMENTS OF GREAT BRITAIN AND GERMANY RESPECTING THE BOUNDARIES OF THE POSSESSIONS OF THE TWO COUNTRIES IN NEW GUINEA, JUNE 18, 1885.

(See Hertslet, L. *A Complete Collection of Treaties, &c.* Vol. xvii, p. 457.)

The following arrangement has been agreed upon between the Governments of Great Britain and Germany, as to the boundaries of the possessions of the two countries in New Guinea:—The point on the north-east coast of New Guinea where the 8th parallel of south latitude cuts the coast, forms the boundary on the coast, and a line described as under determines the boundaries inland of the respective territories:

Starting from the coast in the neighbourhood of Mitre Rock on the 8th parallel of south latitude, and following this parallel to the point where it is cut by the 147th degree of east longitude, then in a straight line in a north-westerly direction to the point where the 6th parallel of south latitude cuts the 144th degree of east longitude, and continuing in a west-north-westerly direction to the point of intersection of the 5th parallel of south latitude and of the 141st degree of east longitude.

The British possessions lie to the south of the line thus defined, the German to the north. The British possessions will not include Long Island, or Rook Island, or any islands adjacent to New Guinea to the northward of the 8th parallel of south latitude.

II

CONVENTION BETWEEN GREAT BRITAIN AND THE NETHERLANDS DEFINING THE BOUNDARIES BETWEEN THE BRITISH AND NETHERLAND POSSESSIONS IN THE ISLAND OF NEW GUINEA, MAY 16, 1895.

(See Hertslet, L. *A Complete Collection of Treaties, &c.* Vol. xx, p. 812.)

Art. I. The boundary between the British and Netherland Possessions in New Guinea starts from the southern coast of the said

island at the middle of the mouth of the Bensbach River, situated at about 141° 1′ 47·9″ of east longitude (meridian of Greenwich).

Art. II. The boundary proceeds to the north, following the meridian which passes through the said mouth, up to the point where that meridian meets the Fly River.

Art. III. From that point the waterway (" thalweg ") of the Fly River forms the boundary up to the 141st degree of east longitude.

Art. IV. The 141st degree of east longitude after this forms the boundary up to the point of intersection of the boundaries of the British, Netherland, and German Possessions.

Art. V. Navigation on the Fly River is free for the subjects of both Contracting Powers, excepting as regards the carriage of warlike stores, and no duty shall be imposed on other goods conveyed by that river.

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