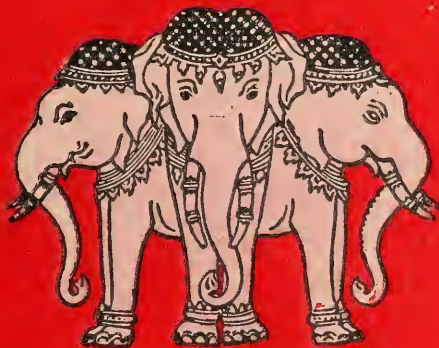


UNIVERSITY OF TORONTO



3 1761 01306787 1

# THE KINGDOM OF SIAM



Printed in Toronto

INTERNET ARCHIVE

Digitized for Microsoft Corporation  
by the Internet Archive in 2008.

From University of Toronto.

May be used for non-commercial, personal, research,  
or educational purposes, or any fair use.

May not be indexed in a commercial service.



67











HER MAJESTY THE QUEEN OF SIAM

# The Kingdom of Siam

Ministry of Agriculture  
Louisiana Purchase Exposition  
St. Louis, U. S. A.

1904

Siamese Section

Edited by

A. Cecil Carter, M.A.

Secretary-General of the Royal Commission

Illustrated

63299  
16/12/04

G. P. Putnam's Sons  
New York and London  
The Knickerbocker Press

1904

COPYRIGHT, 1904

BY

JAMES H. GORE

Published, September, 1904

The Knickerbocker Press, New York

ELECTRONIC VERSION  
AVAILABLE

Digitized by Microsoft®

NO. 99000-524

# THE COMMISSION.

---

## *President.*

H. R. H. The Crown Prince.

## *Vice-Presidents.*

H. R. H. Prince Devawongse Varopakar.  
Minister of Foreign Affairs.

H. R. H. Prince Mahisra Rajaharudhai.  
Minister of Finance.

H. E. Chow Phya Devesra Wongse Vivadhna.  
Minister of Agriculture.

## *Secretary-General.*

Mr. A. Cecil Carter, M.A.  
Department of Education.

## *Members.*

H. R. H. Prince Sanbasiddhi Prasong.

H. R. H. Prince Marubongse Siribadhna.

H. H. Prince Vadhana.

H. E. Phya Vorasiddhi Sevivatra.

H. E. Phya Sukhum Nayavinit.

H. E. Phya Amarindra Lujae.

H. E. Phya Surasih Visisth Sakdi.

H. E. Phya Kamheng Songkram.

H. E. Phya Sunthorn Buri.

H. E. Phya Rasda Nupradit.

H. E. Phya Kraibej Ratana Raja Sonkram.

H. E. Phya Vijayadibadi.

Phra Phadung-Sulkrit.

## *Commissioner-General.*

Professor James H. Gore.  
The Columbian University.

---

## *Pavilion.*

A reproduction of the principal building of Wat Benchamabopit now in course of erection in Bangkok.





## INTRODUCTION

THE following notes on Siam have been written by high officials in different departments of the Government Service, and while in no way professing to give a full description of the people and country, each article is, as far as possible, an accurate statement of the existing conditions. These articles were written during 1903 and the statistics refer to this year and years anterior to this. There being as yet no standard for the transliteration of the Siamese characters each author has followed his own system.

THE EDITOR.





## CONTENTS

CHAPTER	PAGE
I.—THE ROYAL FAMILY . . . . .	1
II.—THE GOVERNMENT . . . . .	7
III.—A GENERAL DESCRIPTION OF SIAM . . . . .	17
IV.—NAVAL AND MILITARY FORCES . . . . .	63
V.—SIAM FROM AN HISTORICAL STANDPOINT . . . . .	77
VI.—LANGUAGE OF SIAM . . . . .	87
VII.—RELIGION OF SIAM . . . . .	93
VIII.—THE CAPITAL . . . . .	103
IX.—FINANCE . . . . .	127
X.—CURRENCY AND BANKING . . . . .	141
XI.—AGRICULTURE . . . . .	151
XII.—FORESTRY . . . . .	171
XIII.—JUSTICE . . . . .	183
XIV.—EDUCATION . . . . .	201
XV.—ARCHÆOLOGY . . . . .	211

CHAPTER	PAGE
XVI.—TRANSPORTATION AND MEANS OF COMMUNICATION . . . . .	227
XVII.—MINING . . . . .	237
XVIII.—COMMERCE . . . . .	247
XIX.—THE INDUSTRIES OF SIAM . . . . .	261
INDEX . . . . .	273





## ILLUSTRATIONS

	FACING PAGE
HIS MAJESTY THE KING OF SIAM	<i>Frontispiece</i>
HER MAJESTY THE QUEEN OF SIAM . . . . .	2
HIS ROYAL HIGHNESS THE CROWN PRINCE OF SIAM . . . . .	4
THE CROWNS OF SIAM . . . . .	8
LOCAL GOVERNMENT OFFICIALS . . . . .	10
THE ROYAL PALACE . . . . .	12
A TEMPLE . . . . .	26
A LAOS FAMILY . . . . .	30
THE OPENING OF A CANAL . . . . .	32
MOUTH OF THE MENAM RIVER . . . . .	34
LOWER SIAM . . . . .	36
A RAILROAD STATION, LOWER SIAM . . . . .	40
A FARM-HOUSE . . . . .	46
THE APPROACH TO KORAT . . . . .	48
PLOUGHING . . . . .	50
PRIMITIVE IRRIGATION . . . . .	54
A VILLAGE FESTIVAL . . . . .	58

	FACING PAGE
ELEPHANTS WITH HOWDAHS . . . . .	60
MINISTRY OF WAR . . . . .	66
THE ROYAL MILITARY COLLEGE . . . . .	70
HIS MAJESTY'S YACHT . . . . .	72
MOUNTED PUKET POLICE . . . . .	74
MENAM RIVER . . . . .	80
A TEMPLE . . . . .	84
HIS MAJESTY LANDING AT A TEMPLE . . . . .	94
TEMPLE GATE . . . . .	96
A GROUP OF PRIESTS . . . . .	98
A TEMPLE . . . . .	100
THE CITY WALL . . . . .	106
THE ROYAL PALACE . . . . .	108
THE SARANAROM PALACE . . . . .	110
BANGKOK TRAMWAY . . . . .	112
THE PORT OF BANGKOK . . . . .	114
A CANAL IN BANGKOK . . . . .	116
A STREET IN BANGKOK . . . . .	124
CUSTOM HOUSE AT BANGKOK . . . . .	130
HEAD OFFICE, RAILWAY DEPARTMENT. . . . .	138
MINISTRY OF THE HOUSEHOLD . . . . .	144
CLEARING THE GROUND . . . . .	154
PLOUGHING CEREMONY . . . . .	156
PLANTING RICE . . . . .	158

# Illustrations

xi

	FACING PAGE
HULLING RICE . . . . .	160
IRRIGATING BY HAND . . . . .	162
ARMY HEADQUARTERS. . . . .	164
THRESHING WITH BUFFALOES . . . . .	166
LOADING A LOG . . . . .	174
LOGGING . . . . .	176
LOG-LOADING STATION . . . . .	180
THE MINISTRY OF JUSTICE . . . . .	186
ROYAL PALACE . . . . .	190
A BUDDHIST TEMPLE . . . . .	204
SCHOOL FOR GIRLS . . . . .	208
RUINS AT AYUTHIA . . . . .	214
TEMPLE RUINS . . . . .	218
AN OLD TEMPLE . . . . .	220
RICE BOATS . . . . .	230
CENTRAL POST OFFICE . . . . .	234
HIS MAJESTY'S PRIVATE STATION . . . . .	236
MINISTRY OF THE INTERIOR. . . . .	242
TIDAL CANAL . . . . .	252
MAKING RATTAN ROPES . . . . .	256
MINISTRY OF FOREIGN AFFAIRS . . . . .	264
A FISHING SCENE. . . . .	268
A RUINED TEMPLE . . . . .	270





CHAPTER I  
THE ROYAL FAMILY





## CHAPTER I

### THE ROYAL FAMILY

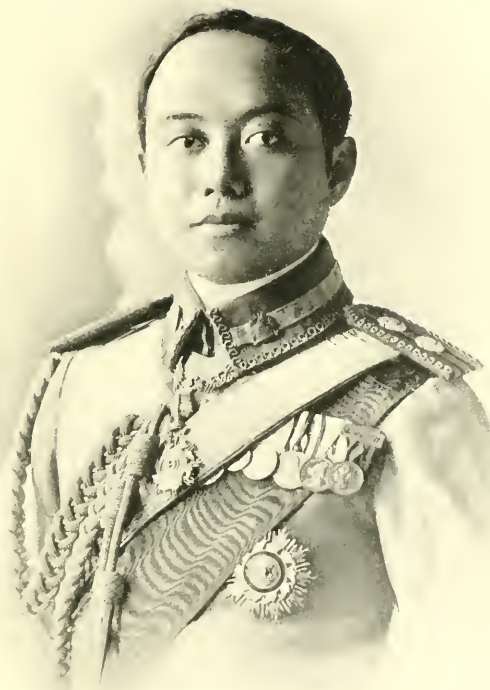
**H**IS Majesty, Chulalongkorn, King of Siam of the North and South, Sovereign of the Laos, the Malays, etc., is the fifth sovereign of the Chakrakri Dynasty, founded one hundred and twenty-one years ago. His Majesty is the eldest son of King Mongkut, and was born on September 20, 1853. He succeeded his father in 1868, reigning under a regency until he came of age. Since then His Majesty has introduced many important reforms, and Siam owes much of her prosperity to her King's energy and initiative. He works harder than most of his subjects, whose welfare he ever has at heart. In 1897, His Majesty undertook a journey to Europe where he was well received and entertained by the European sovereigns whose countries he visited. This journey, like everything else His Majesty undertakes, was for the benefit of his country and his people and has already produced

*The King.*

good results. He is a keen observer and he brought back with him many ideas formed or gathered during his travels abroad. He is the only independent Buddhist sovereign in the world and is therefore looked upon as the chief supporter of the religion of the Buddha. Under his wise and beneficent rule the future prosperity of Siam is fully assured, and her people, imitating the noble aims and efforts of their monarch, are destined to take a prominent position among the civilized nations of the world.

His Royal Highness, Maha Vajiravudh, Crown Prince of Siam, Prince of Ayuthya, is the son and heir of King Chulalongkorn. He was born on January 1, 1881, and was proclaimed heir-apparent on the death of his elder brother, Crown Prince Maha Vajirunhis, in January, 1895. His Royal Highness went to study in Europe in 1893, being chiefly resident in England. He entered the Royal Military College of Sandhurst in 1898, and also attended the School of Musketry, Hythe, where he obtained a certificate. He was for one month in 1899 attached to a mountain battery at the Artillery Training Camp on Dartmoor, near Okehampton, Devon. In 1900 he went up to Oxford University, studying history at Christ Church. In 1902, as a result of his studies he published a

The Crown  
Prince.



H. R. H. THE CROWN PRINCE OF SIAM



book entitled *The War of the Polish Succession*. During his stay in Europe, he represented his country at several notable functions, the most important ones being Queen Victoria's Jubilee, 1897; Queen Victoria's funeral, 1901; King Alfonso XIII.'s accession, in May, and King Edward's coronation in June, 1902. Before returning to his country, he visited various European Courts, and made a tour in the United States of America. He also visited Japan on his way home. At the present moment, His Royal Highness is in command of the Royal Foot Guards and is also Inspector-General of the forces on the Staff of the Siamese Army.

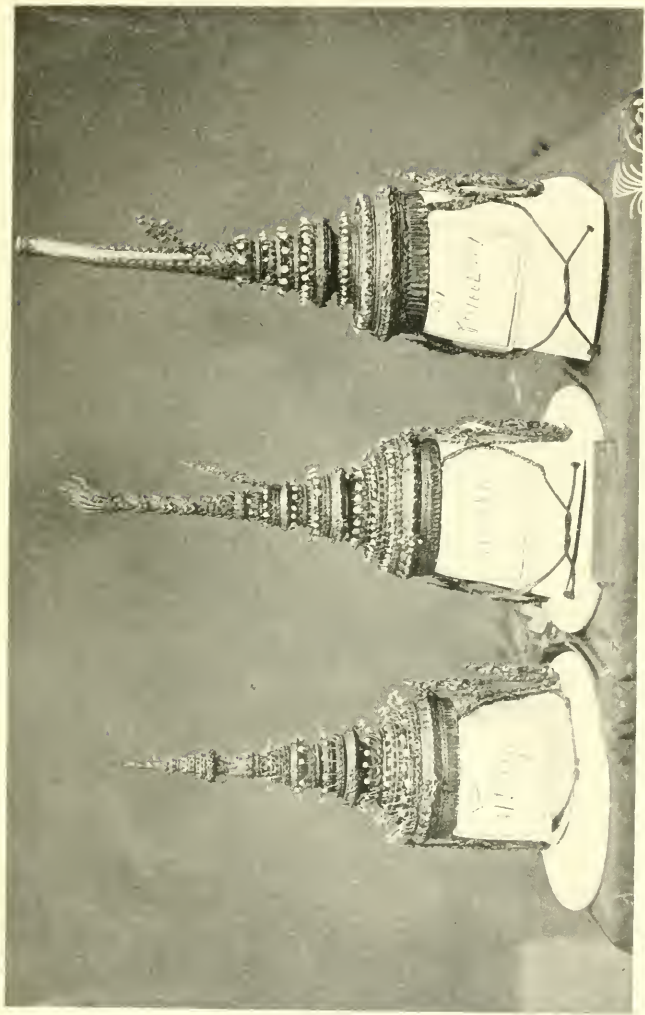
The King has several brothers, the chief one being His Royal Highness Prince Bhanurangsi, Minister of War and Commander-in-Chief of the Royal Navy. The King's sons have all <sup>The Princes.</sup> been or are going to be sent to Europe for education, so it may be hoped that they will support the King in carrying out his ideas and reforms. They have been sent to learn various professions so that when the time comes they may be the leaders in such professions. In a country like Siam, when princes lead others follow. We may therefore be permitted to look forward to a period of rapid advance for the kingdom of Siam.





CHAPTER II  
THE GOVERNMENT





THE CROWNS OF SIAM





## CHAPTER II

### THE GOVERNMENT

IN such a country as Siam, where there is no written constitution, as there is in the United States, for instance, it is not easy to write of its constitution in the compass of a small article, at least in detail.

Only the chief points are here explained.

The Government is in form an absolute monarchy all power being vested in the hands of the King. He is in theory, the master of life and death and the whole of the land is his property, but it is hardly necessary to say that this is not so in practice. No one is ever condemned without a trial, and a line is drawn between government property and the King's private property. Improvements of the King's property are never paid for out of the public or government treasury.

The King is assisted in his executive duties by a council of Ministers (*Senapati*), whose members are of equal rank. Portfolios are distributed as follows:

1. Foreign Affairs—Prince Krom Luang Devawongse.
2. Interior—Prince Krom Luang Damrong.
3. War and Navy—H. R. H. Prince Bhanurangsi.
4. Treasury—Prince Krom Mun Mahisra.
5. Local Government and Police—Prince Krom Luang Nares.
6. Public Works — Prince Chowfa Krom Khun Naris.
7. Household—Prince Krom Khun Bidyalabh.
8. Justice—Prince of Rajaburi.
9. Agriculture—Chow Phya Devesra.
10. Ecclesiastical Affairs and Education—Phya Vudhikara Pati.

Under the Minister of Local Government is the Sanitary Board, with Chow Phya Devesra as President.

The Department of Public Works is divided into three sections, viz. :

- (a) Public Works.
- (b) Post, Telegraph, and Telephone.
- (c) Railway.

The details of administration will be found described elsewhere.

Besides the Council of Ministers, there are also a Council of State (*Rath Montri*) and a Privy Coun-

cil (*Anga Montri*), the members of which are appointed by the King and hold their seats during His Majesty's pleasure. In the State Council the members perform the functions of a legislative assembly; that is to say, whenever a new law is required it is presented to the Council in the form of a bill, and the Council debates upon it. If the bill is passed it must receive the sanction of the King before it becomes a law. The Privy Council has several members, and its functions are purely advisory.

#### THE ADMINISTRATION

The administration of the country was formerly divided between the three Ministers, the Minister for Civil Affairs and the Minister for Military Affairs, with the Minister of the Treasury as Governor-General.

But in 1894 the internal administration was re-organized and the whole of the country placed under the administration of the Ministry of the Interior (*Mahathai*) with the exception of the capital and surrounding provinces, which is administered by the Ministry of Local Government.

At the head of the Interior Administration is the Minister appointed by the King with a seat in the

Cabinet; he is assisted by a Vice-Minister, who, however, holds no seat in the Cabinet.

The ancient provinces, whilst retaining their boundaries, are now grouped together into Monthons or Circles under High Commissioners, who are appointed by the King, but act under the orders of the Ministry of the Interior.

The administrative staff of a monthon comprises:

The High Commissioner or Governor-General.

The Deputy Commissioner or Deputy Governor-General.

The Chief Law Officer.

The Assistant Commissioner.

The Chief Revenue Officer.

The Commandant of the Gendarmerie.

The Chief Treasury Officer.

The Chief Public Works Officer.

The Inspector of Jails.

The Secretary of the High Commissioner.

The Assistant Inspectors.

The administration of each province comprises:

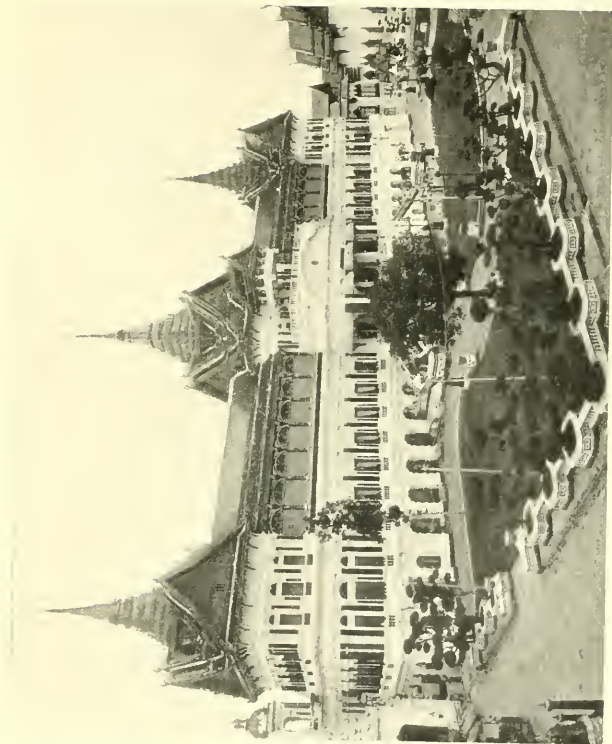
The Governor.

The Deputy Governor.

The Public Prosecutor.

The Treasury Officer.





THE ROYAL PALACE



The Revenue Officer.

The Gendarmerie Officer.

Each province is again subdivided into districts under the district officer (*Amphur*), who is assisted by one or more assistant amphurs according to the extent of the district, and by a subordinate revenue officer.

The district is again divided into villages under a village headman, and the villages are subdivided into hamlets under an elder.

A hamlet is a collection of about ten houses or one hundred people, who elect their own elder under the presidency of the district officer. The ballot may be either open or secret and a bare majority is sufficient. The duties of the elder are to report any cases of crime to the headman and to preserve a register of people in his hamlet, to summon the people in cases of flood or fire, and to assist in arresting criminals. All the inhabitants are bound under penalties to assist their elders in the execution of the law when called on.

A village consists of ten hamlets. The headman is elected by the council of elders and receives confirmation from the governor of the province.

His duties are to supervise the elders and to inform them of any new government regulation, to

provide transport and assistance for persons traveling on government business, which must, however, be paid for by such persons, the headman having no power to requisition either goods or labor without proper payment.

The district is composed of villages the total number of whose inhabitants is not less than ten thousand people.

The district officer or amphur is selected from among the assistant district officers or householders of the district. The governor of the province sends three or more names to the high commissioner, who selects one of them. He chooses his own assistants, but their appointment must be approved of by the governor and confirmed by the high commissioner.

All other appointments are made by the Ministry of the Interior. District officers, headmen, and elders must be Siamese subjects resident in their districts and take the oaths of allegiance twice a year according to their own form of religion. There is no religious disability.

One most important feature of the administration is the meeting of high commissioners, who assemble once a year at the capital under the presidency of the minister to discuss and draw up the programme

for the following year and report on the past year's work.

Under the Ministry of the Interior are also the Forest Department and the Mining Department; under the Ministry of Agriculture are the Survey, Land Record, and Irrigation Departments.





## CHAPTER III

### A GENERAL DESCRIPTION OF SIAM







## CHAPTER III

A GENERAL DESCRIPTION OF SIAM BY THE DIRECTOR-GENERAL OF THE ROYAL SURVEY DEPARTMENT

SIAM, "The Land of the White Elephant," "The Land of the Yellow Robe," "The Country of the Tai," *i. e.*, the Free, is situated in the south-east corner of Asia. Geographically it may be described as lying within the fourth and the twenty-first parallels of north latitude and between the ninety-seventh and the one hundred and sixth parallels of eastern longitude.

Siam is bounded on the north by Tong-king (French) and the Southern Shan States of Burma (British); on the west by Annam (French) and Cambodia (French); on the south lie the Gulf of Siam and the Malay Peninsula stretching southward, and washed on the west by the Indian Ocean, and on the east by the China Sea, and bounded itself on the south by the Federated Malay States (British).

The length of Siam, north and south, is about 1130 miles, and the breadth, at the widest part (latitude 15° N.), about 508 miles, while the area is 242,587 square miles, a little more than Spain and Portugal together, and the total coast-line is 1760 miles.

The two most striking physical features are the Mekawng River (unnavigable for large vessels), which runs for a thousand miles along the northern and eastern boundaries, and the range of mountains forming the western flank of the upper part of Siam, and which continues southward to form the backbone of the Malay Peninsula.

Bangkok, the capital of Siam, is on the river Menam Chao Phya, commonly called the Menam, and about thirty miles from the mouth of that river. This port lies at the centre of the base of the triangle which forms that part of the Menam valley to which has been given the name "The Garden of Siam." This base is one hundred miles long, and the height of the triangle is 124 miles, so that the area is over six thousand square miles.

North of this area the country becomes more broken till the mountainous country of the northern part of Siam is met with. East of Menam valley, and lying between it and the valley of the Mekawng,

is a large tableland, of no great elevation, not well watered, and therefore sparsely inhabited. The nature of these districts, however, is more minutely described later on.

The third great physical feature of Siam is the Isthmus of Kra, that narrow, low part of the Malay Peninsula which has so long attracted the eyes of engineers anxious to reduce the already shortened sea routes of the world.

To give a clear idea of the country it is convenient to divide it into three divisions: Upper Siam, the hilly country; Lower Siam (alluvial plains), including the eastern provinces (tableland); and the Siamese Provinces of the Malay Peninsula.

UPPER SIAM—TERRITORY, CLIMATE, POPULATION  
—BY THE DIRECTOR OF THE INLAND  
REVENUE DEPARTMENT

Upper Siam lies approximately between latitude  $16^{\circ}$  north and latitude  $21^{\circ}$  north, and is drained by four great rivers, the Maping, the Mawang, the Mayom, and the Menam, each of which is divided from the others by ranges of mountains forming well-marked watersheds. These hills are chiefly composed of limestone overlaid by sandstone and

slate. This sandstone is ferruginous, and in some places iron conglomerate occurs as one advances southwards.

From Chieng-tung in British Burmah there stretches right across Upper Siam in a southeasterly direction a line of disturbances or faults marked by a series of hot sulphur springs. The medicinal value of these springs is entirely neglected by the people, though, judging by their analogy to those of Japan, these springs should be of great therapeutic value. The four water systems run from north to south, nearly parallel to one another, for over two hundred miles, then converge, finally forming a single river, the Menam Chow Phya, the main artery of Siam.

The soil in the valleys is chiefly a sandy loam of great fertility, composed of detritus washed down from the sides of the hills.

The slopes of these hills were formerly covered with dense teak forests, but owing to the indiscriminate felling of timber for many generations are now covered with worthless jungle.

The usual result of reckless clearing of the mountainsides is very evident; through the centre of the district runs a broad belt of country, the natural features of which have been entirely altered by the

decrease of rainfall, and the evergreen forests have been replaced by deciduous trees.

The hillsides are cultivated by a nomad people, whose method is as follows: Having selected a site they fell and burn the forest trees, a most laborious work, and in the space thus cleared and fertilized they plant a crop of rice. After the first harvest the clearing is abandoned for two or three seasons to allow the soil to recuperate, the length of time it lies fallow depending on the depth of soil and the contour of the slope.

A peculiar variety of rice is frequently planted in these clearings, which are marvellously productive; when ripe the ears of this rice are black, but when husked and boiled the grains are of a reddish color and a peculiar fragrance.

In the valleys another variety of rice is largely cultivated, known as glutinous rice; this rice is quite different from the white rice of Lower Siam, and only those people born and bred in these districts are able to subsist on this peculiar variety, though it is eaten in small quantities as a delicacy by the people of the plains. When eaten freely by those unused to it, the effect on the general health and constitution is most injurious, and for this reason the Government is making great efforts to induce

the farmers to substitute ordinary white rice in its place.

Fish, which forms an integral part of the food of Lower Siam, is a rare luxury to the people of the north, the rivers of Upper Siam being markedly devoid of animal life, probably owing to extreme shallowness of the water in the dry season and rapidity of the current during the rains.

This difference in the daily food forms one of the great contrasts between Upper and Lower Siam.

The second most important agricultural product of Upper Siam is tobacco. This is generally planted after the subsidence of the rains on those parts of the bank which have been under water during the floods, though occasionally it is planted in the rice-fields as a second crop. The leaf is of a peculiarly fine texture and would probably displace foreign tobacco in the local markets were it cured by scientific methods.

The method of curing it in vogue is extremely primitive; the leaves are first plucked and then kept in the dark to allow a part of the natural moisture to evaporate.

After this they are folded lengthways and placed one on another, then cut in cross-sections by a small hand machine; after this the cut leaves are exposed

to the sun for one or two days, and the tobacco is ready for consumption.

A large proportion of this home-grown tobacco is used for chewing, mixed with the areca nut and betel leaf. Foreign tobacco is never used in this way.

Tea grows wild on the slopes of the hills and is also cultivated to a small extent; it is not employed as a beverage, but is pickled. After the leaves have been plucked they are exposed to the sun for two or three days and then steamed to remove tannin and glucose; the leaves are then thrown into small pits and weighted down, where they ferment. After fermentation they are ready for use. This product, known as *mieng*, is rolled into balls, and one of the balls is placed in the hollow of the cheek and allowed to remain there until the soluble constituents of the tea have been extracted by the action of the saliva.

The appearance of the people who indulge in this practice—and it is almost universal among the inhabitants of Upper Siam—is extremely quaint, the ball of tea making a huge swelling on one side of the face, as though the person were suffering from a severe attack of toothache. This method of using tea appears to be peculiar to Upper Siam;

the Burmans and Thibetans, although preparing the leaves in very much the same way, use it in quite a different manner.

The cultivation of the poppy for opium, although in its infancy, promises to become of considerable importance. It is cultivated chiefly on the Burmese frontier by a race known as the Meow, who have probably become acquainted with the method of cultivation from the people under British rule.

Other foodstuffs are planted to a minor extent but only for local consumption, *e. g.*, sugar-cane, bananas, oranges, mangoes, limes, and various indigenous fruits.

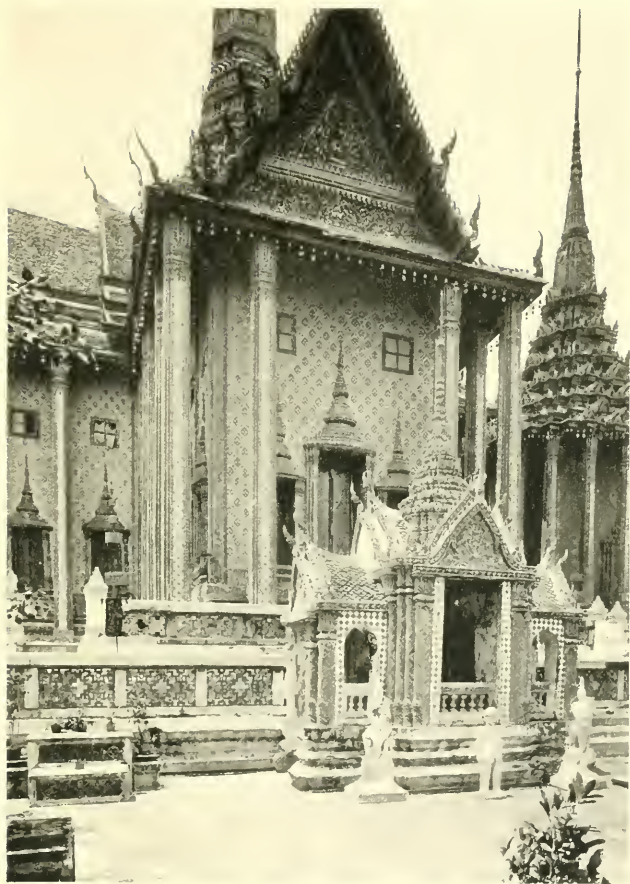
The country has proved itself capable of producing most European vegetables, and in many of the large towns cabbages, beet-roots, lettuce, carrots, etc., can be procured.

There are no large centres of industry, but a good deal of work is done by people in their own homes.

Most houses possess a loom, in which is woven both silk and cotton cloth sufficient for the needs of the household.

The yarn and raw silk are mostly imported. In Chieng Mai, the capital of Upper Siam, a large quantity of lacquer-ware is made chiefly by the immigrants from the old capital, Chiengsen.





A TEMPLE



The foundation of this ware is woven bamboo; the frame is coated with a paste of wood oil mixed with bone ash, and when nearly dry a second coating of wood oil mixed with cinnabar is applied and allowed to harden. On the smooth surface thus produced the pattern is engraved by sharp tools and the incisions filled with a black varnish; the whole is then rubbed smooth with pumice-stone and a final coating of varnish applied.

Many specimens of this ware will be found among the Siamese exhibits.

A small amount of native iron is worked, chiefly for the manufacture of knife-blades.

Bronze casting must formerly have reached a high degree of excellence, but to-day is chiefly confined to replicas of existing work. Scattered profusely over the country are to be found bronze statues of Gautama, some life-size, many larger, but nearly all of artistic workmanship. The reason of the decay of this craft is probably due to the gradual shifting of the centre of the Siamese race to the south. The artists followed in the train of the Court, leaving behind them many magnificent specimens of their art neglected and uncared for.

Silverware is manufactured to a small extent; the workmanship, however, is crude, though possessing

a distinctive character. The designs are *repoussé* in very high relief.

A large amount of unglazed pottery ware is manufactured, chiefly for domestic use, *e. g.*, water-jars, cooking-pots, goblets, flower-pots, etc. Most of these are of their natural red color with an incised design, but the water-goblets are frequently black and of an elegant shape. Tiles about one-eighth inch in thickness and about four by three inches are largely made for local use.

Sticklac is found wild, but the insect is also propagated artificially. When the insect settles on a tree the deposit is carefully collected and the insects grafted upon the trees which are found most suitable to their reproduction. The lac is obtained by breaking off the twigs; the insects, which are nourished by the sap, then die, but certain of the twigs are left over to serve as the nucleus for the following year. Very little of this lac is used locally, the great bulk being exported; it is prepared by boiling in water, the liquid giving a splendid scarlet dye and the residue a sealing-wax of a low melting-point.

Many of the people are engaged in breeding oxen and water buffaloes. The oxen are in great demand as pack-animals and the buffaloes for agricultural operations and hauling lumber.

To the east are large salt workings which not only supply Upper Siam but export to surrounding countries. The salt is extracted from the earth in a systematic manner; a well is dug, lined with timber, and the brine hauled up in buckets. This brine is poured from the buckets into wooden troughs and then evaporated in iron cauldrons over wood fires; unfortunately, this salt possesses a peculiar bitter taste, said to be due to the presence of sulphate of sodium.

Saltpetre for the manufacture of gunpowder is made from the excreta of the bats which haunt the limestone caves. The substance is collected and boiled with water in wooden vats furnished with bamboo tubes, by means of which the lye is drawn off. This lye is then concentrated and crystallized in the same way as the brine from the salt wells.

A resin is collected in the forests and used for caulking boats. This resin is the product of the dammer-bee and is found in cavities in the trunks of trees.

There are extensive cutch forests, but only the wood is used, as the people appear ignorant of the method of extracting the cutch.

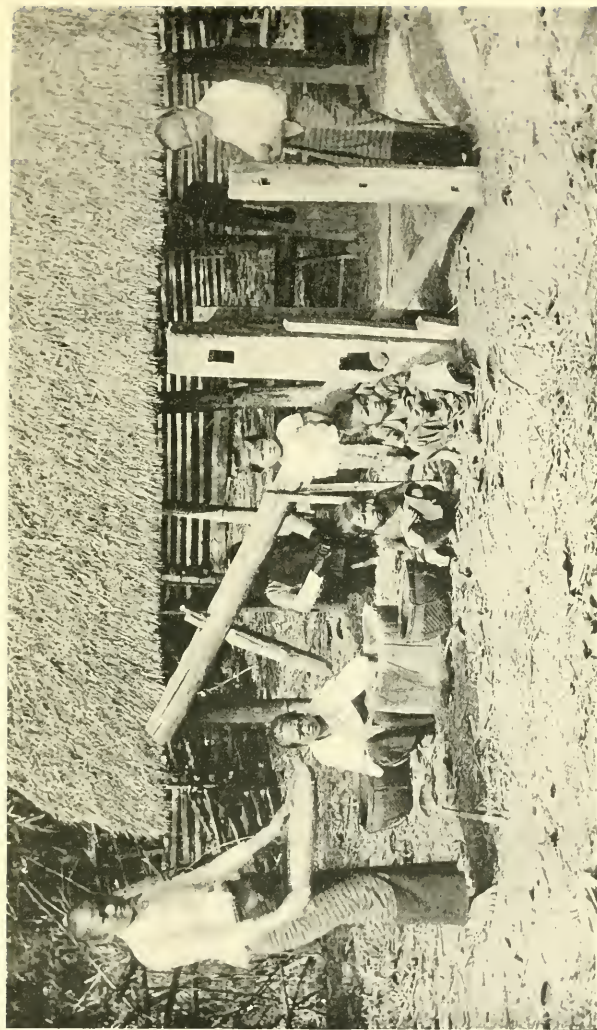
Upper Siam is famous for its boats, which at present form the only means of transport and

communication between Upper and Lower Siam. These boats are very strongly built, broad, roomy, but drawing very little water; they are either rowed or poled, and average about thirty-five feet in length.

The number of these boats built is decreasing with the advance of the railway to the north, and when the country is in communication with Bangkok by rail the art of building them will probably die out. At present the journey from Bangkok to Chieng Mai occupies from three weeks to three months according to the height of water in the river. At the period of low water it is generally necessary to dig a channel for the boats through the sand-banks which stretch across the bed of the river.

The average altitude of the country is about one thousand feet above sea-level. Chieng Mai, the chief town, has an altitude of one thousand feet, but within an hour's ride is the mountain Doi Sutep, of over five thousand feet, used as a health resort in the hot weather.

The temperature over such a hilly country varies largely, but the average temperature of Chieng Mai (one thousand feet) may be taken as a mean. In 1893 the average daily temperature for December varied between 53° F. (minimum) and 77° F. (maxi-



A LAOS FAMILY





num); for March, the hottest month, between 67° F. and 95° F.

The rainfall is governed by the monsoon; from November to April practically no rain falls; the total from May to October is about forty inches.

The country is generally healthy, the principal diseases being malarial fevers and smallpox; goitre and other diseases due to the limestone formation are common. Cholera is rare.

Western methods of treatment and surgery have made great progress, entirely due to the noble efforts of the American missionaries, whose hospitals and dispensaries are always crowded by applicants for relief.

The bulk of the population are Laos, a subdivision of the great Thai race; this race has many subdivisions, of which the Siamese alone have assimilated Western civilization and maintained an independent position among the nations of the world.

A few of the villages to the northwest are inhabited by a race called Mu Hsu or Meow, probably immigrant and of Chinese origin. Another subdivision of the Thai, called Lu, are found in the Nan district. These Lu have migrated to Siam within the last forty years, driven from their own country,

the Sibsong Panna, an independent country on the southern borders of China, by its internal troubles. They are remarkable for their industry and trading capacity, and their villages are models of order and cleanliness.

In the district of Nan are found the Yao, a people of Chinese origin and characteristics; the men retain the queue and wear a turban flattened on the top; the dress of the women is remarkable for its beautiful embroidery. Their head-dress is a flat structure resembling a gigantic college cap or mortarboard.

Scattered over the whole country are found the Kamoos, whose home lies east of the Mekong; their work is the felling of the teak. Many return to their homes after having accumulated sufficient wealth; those who remain marry Laos women and settle down.

In the west and southwest are found many communities of Karens, chiefly of the Pwo (white) and Bghai (red) septs. They are an agricultural race.

Another branch of the great Thai race is found distributed over the whole kingdom. They come from the Shan country, which lies between Burmah proper and China. These people are great traders and deal largely in teak; they form a wealthy and independent section of the community.



OPENING OF A CANAL



The population of the provinces of Upper Siam may be taken as follows:

Chieng Mai .....	225,000
Lampun.....	45,000
Lampang .....	100,000
Nan.....	90,000
Tern .....	10,000
Prë .....	38,000
Total.....	508,000

The great bulk of the trade of Upper Siam is with Burmah and China, the transport to Bangkok being too costly. It is carried by caravans composed of mules, pack-bullocks, and carriers. The imports from China are chiefly brassware, ponies, and silk; walnuts are also largely imported, but rather as ballast than as a paying freight, as the caravans are usually thirty days *en route*. The imports from Burmah are chiefly piecegoods, opium, and ponies. The exports are chiefly sticklac, horns, hides, beeswax, and imported goods.

LOWER SIAM—BY THE DIRECTOR OF THE IRRIGATION DEPARTMENT

Lower Siam embraces the extensive plain of the Menam Chow Pya, the main artery of the country and of the neighboring Bangpakong and Mekong rivers, whilst the adjacent plain of the Pechaburi River forms a transitional junction

Territory.

between the plains of Lower Siam and the Malay Peninsula.

Lower Siam can be considered to begin about as far north as the junction of the Nam Ping and the Nam Po, the principal branches of the Menam Chow Pya, at a northern latitude of about  $15^{\circ} 20'$ , and stretches as a broad plain towards the Gulf of Siam, over a length of about 150 kilometres from the east to the west.

To the west Lower Siam reaches to the hill ranges that separate Siam and Lower Burmah, and to the east it stretches to the hill range which separates the Menam basin from Korat plateau.

The Menam Chow Pya is the most important river of Siam from every point of view. The river begins to bear the above-mentioned name at Paknampo, the junction of the Nam Ping and the Nam Po, its principal tributaries.

The Nam Ping drains a rapidly sloping, comparatively narrow valley, together with the adjacent mountainous regions, and shows somewhat the character of a torrent running through a wide, sandy bed. A sudden rise and fall of some feet in a few hours, which is enormous for Siam, not infrequently occurs, and in the dry season the river is only navigable for very shallow craft.



THE MOUTH OF THE MENAM RIVER





The Nam Po unites the slow waters of the Pitsnu-loke and the Savankoloke rivers. These, which are frequently interconnected, drain the extensive and flat upper Menam plain and adjacent hill regions. In the plain they show quite the character of lowland rivers, the water running calmly through deep beds and the banks to the storage capacity of the annually inundated swamps in the lowest parts of the upper Menam plain. Both are navigable for a good distance upstream, even in the dry season.

Below Paknampo the united river runs through the lower Menam plain. At Bang Klong Kiew and at Chainat the river gives part of its water to the Supan River and the Menam Nawi, and at Ban Takwai to the Lopburi River. The Supan River runs nearly parallel to the main channel and joins the sea at Tachin. The Lopburi River at Ayuthia joins the Pasak River, another principal tributary of the Menam Chow Pya, again. The Pasak River drains the long and extensive valley to the east of the Nam Po area. The Menam Nawi also joins the main channel again. About 250 kilometres below Paknampo, near Paknam, the main channel empties into the Gulf of Siam.

The Menam Chow Pya carries down a great quantity of silt and sand, derived from the slate and

sandstone formations of its catchment area, and at its mouth has deposited an enormous bar, which is a great impediment to navigation.

The Bangpakong River receives its rather sluggish water from an almost perfectly flat catchment area of very gentle slope, bounded to the west by the Menam plain and on the other sides by low hill ranges.

The Mekong River derives its supply from the extensive, rather high, densely wooded hill ranges and narrow valleys west of the Menam plain, and runs with a considerable fall and a fast current through the plain west of the lowest parts of the Menam plain.

The whole lower Menam plain and the plains of the neighboring rivers show in all respects the most regular type of river-deposited alluvial lowlands, having a fairly uniform, slowly decreasing slope, with the rivers running on ridges, and swampy tracts in the lowest parts between.

Paknampo lies thirty-two metres above the ebb-level of the Gulf of Siam, and at the mouth of the river the ground-level is about four metres above ebb-level. Thus the average slope of the land is about one to nine thousand, the distance from Paknampo to the gulf being about 250 kilometres.

In the upper parts of the plain, between Paknam-



LOWER SIAM



po and Chainat, some low hills crop out of the alluvial upper stratum. But below this scarcely any spot of greater elevation than its surroundings interrupts the flatness of the plain and the regularity of the slope.

The soil of Lower Siam is clayey, with more or less quartz sand. The substratum is a marine sand formation.

The plain, where not cultivated, is chiefly covered with jungle grass, where herds of elephants live on brushwood and bamboo. Extensive forests do not exist. Except in the high tracts along the rivers, even clumps of trees are scarce in the greatest part of the plain, apparently in consequence of occasional floods and want of drainage.

The coast of Lower Siam is flat, with a broad, muddy shore, and is covered with mangrove trees, and further inland with nipa groves. Lagoons and dunes do not exist.

The ground at the coast is only slightly elevated above ordinary high-tide level, so that extraordinary high tides overflow a strip of the adjacent land.

The difference between ebb- and flood-level is three to four metres in the gulf and causes the sea-water to run far up the rivers in the dry season, when the discharge of water by the rivers is small.

There is a continual slow increase of land along the coast of Lower Siam.

Lower Siam lies between the thirteenth and sixteenth degrees of north latitude, thus it is a tropical, though not quite an equatorial, country.

*Climate.*

Because of this situation there is a quite distinct cool winter season in Lower Siam and a distinct hot season.

The hot season, however, falls not in the summer, but in the springtime, in consequence of the influence of the southwest monsoon.

The southwest monsoon commences generally towards the end of April. Then the breeze grows stronger and the rains gradually commence; first come some occasional showers termed the mango showers, as they occur at the time when the mango-tree is in flower. In June the rains become fairly regular. The influence of the rains and of the breeze moderate considerably the heat of the summer.

The southwest monsoon and the rains usually last till about the end of October, when the northeast monsoon begins, and dry weather follows. The height of the rainy season falls in September. Before and after this only rare showers occur.

The combined influence of the solar season and

the monsoons governs the climate of Lower Siam in such a way that the Siamese divide the year in three seasons, namely: a hot one (March–June), a wet one (July–October), and a cool one (November–February).

Climatical data are as yet scarce in Siam.

With regard to records concerning temperature, this is especially the case. The few data available, however, agree fairly well.

According to these data the highest temperature rises above 100° F. in the hot season, and the lowest approaches 50° F. in the cool season, whilst the average temperature can be put at above 80° F.

The records of temperature for 1902, as kept by the Chief Medical Officer of Health at Bangkok, are stated in the following table:

TEMPERATURE IN SHADE

Month	Average	Highest	Lowest
January.....	76°.82 F.....	93° F.....	59° F.
February.....	77°	94°	56°
March.....	84°.8	102°	70°
April.....	86°	100°	73°
May.....	85°.88	102°	73°
June.....	86°.56	100°	74°
July.....	85°	98°	73°
August.....	84°.1	98°	74°
September.....	82°.43	97°	70°
October.....	83°	94°	73°
November.....	82°.4	93°	68°
December.....	81°.2	95°	69°

The records of the rainfall also are scanty in Siam and with many breaks. From the existing records are derived the following figures, concerning the average monthly rainfall in Bangkok during the ten years' period, 1882-1891:

AVERAGE RAINFALL IN BANGKOK

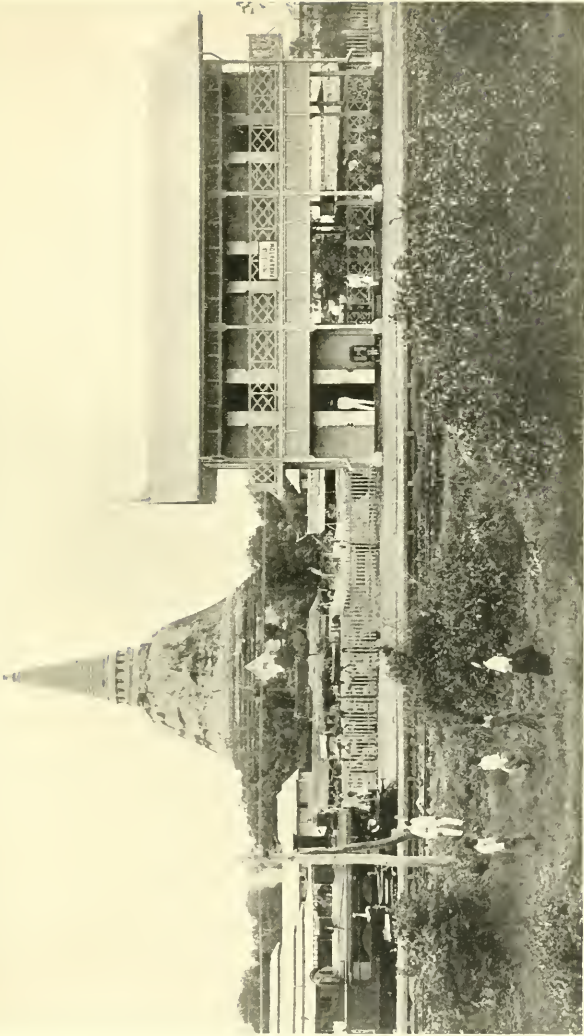
January.....	2.23 cm.	} For nine years only; consequently the annual average does not agree with the sum of the monthly averages.
February.....	3.76 cm.	
March.....	1.40 cm.	
April.....	4.71 cm.	
May.....	17.34 cm.	
June.....	14.02 cm.	
July.....	14.73 cm.	
August.....	17.93 cm.	
September.....	28.90 cm.	
October.....	20.83 cm.	
November.....	6.58 cm.	
December.....	0.38 cm.	
Annual.....	130.20 cm.	

The maximum annual rainfall recorded in Bangkok is 194.36 cm. in 1849; the minimum 85.75 cm. in 1884.

During the last four years, in a great number of places all over the country, regular rainfall observations have been recorded. The average of all these records for the lower Menam plain is 120.01 cm. per year.

It is a matter of interest that, according to the





RAILROAD STATION, LOWER SIAM



results of these records, the amount of rain is much smaller in Lower Siam than in the upper Menam basin and than in the hill region between the Menam and the Mekong basins. Comparison of the figures for the average rainfall in the northern provinces of Siam (149.24 cm.) and in the eastern hill range (Muaklek 149.78 cm. and Hinlap 169.23 cm.) with the figures for Lower Siam (120.01) show this fact clearly.

In the Malay Peninsula (average 221.35 cm.) and in the southeastern provinces of the kingdom (average 252.22 cm.) the rainfall also appears to be much greater than in Lower Siam.

These facts are well known by long experience, and, indeed, they can be explained very rationally by the function of the high western hill ranges that retain the humidity of the southwest monsoon; thus we find that the rainfall in Lower Burmah is more than one hundred inches, that is, about twice as great as in Lower Siam. The influence of these hill ranges decreases as the distance to the east increases, and also with increasing elevation of the adjacent regions, and so naturally this influence is greatest in Lower Siam.

Similar circumstances explain the fact that the annual rainfall at Chantaboon, on the west side of

the hill ranges along the east coast of the Gulf of Siam, amounts to 300 cm., and in Pnom Penh, the capital of Cambodia, on the east side of these hills, measures only 133 cm.

The air in Lower Siam seems to be rather dry; regular records concerning this matter, however, have not as yet been made.

Violent tempests or cyclones are unknown in Lower Siam. There is almost regularly a slight motion of the air, which is strongest in the winter time and least in the hot spring season. The flatness of the country is favorable to this slight breeze, especially in the inland regions, where few big buildings or clumps of trees impede the motion of the air near the surface of the earth.

This slight breeze is a great benefit to the country, as it tempers the influence of the heat.

With regard to the direction and the force of the wind the influence of the monsoons is prevalent, but the monsoon winds are very considerably modified by the sea, which tends to create a cool breeze from the sea by day and the reverse at night.

A regular strong wind for a considerable time is very rare in Lower Siam, though sudden squalls often occur at the turn of the seasons and in the rainy season.

The number of the inhabitants of Lower Siam may be roughly estimated at some two and a half to three millions. The main stock is Siamese or Thai, while interspersed are numerous villages of Shans and Laos and of the neighboring races, such as Malays, Peguans, Burmans, Cambodians, Annamese, Chinese, etc. This is clearly shown by the names of the villages, for we find Bangkok (Malay), Bang Raman, Mon, or Talaing (Peguan), Bang Kamin (Cambodian), Bang Yuen (Annamite), Bang Laos, Bang Gala Njiew, or Pamah (Shan).

Some of these settlements, especially those of the Burmese, Malay, and Cambodians, were originally founded by prisoners of war and date from the period when war was frequent among the countries of Indo-China; others were founded by immigrants seeking easier conditions of life, as the Chinese. Many others, especially those of the Catholic Annamese, were founded by people seeking refuge from the religious persecution of their own country. The rulers of Siam have always shown the greatest tolerance in religious matters.

The people of these settlements have intermarried with the Siamese and all speak the Siamese language. The men frequently retain parts of their

original habits and dress, but the women almost without exception adopt the Siamese dress.

The Siamese are of smaller stature than the Chinese and Indians, but taller than the Japanese and Malays. They have straight, black hair, which is worn cut short by both sexes; beards are little developed, and complexion a light brown, like the races of southern Europe.

There is an immense variety of types caused by frequent intermixture with other races; a typical race can therefore hardly be distinguished. In agricultural pursuits they display a marked perseverance and energy, and on an average the land worked by a cultivator is greatly in excess of that worked by the cultivators of neighboring races.

When the Siamese came down from the northern hills and invaded the plains they were still in a state of primitive civilization, but readily adopted the civilization of the ancient Khmers, their nearest neighbors.

Siamese civilization bears very distinctly the character of its origin, but nevertheless many traits of the ancient invading mountaineers, who called themselves Thai, *i. e.*, free, are preserved in the character of the people. The abject humility and abject terror before chiefs and great people, so common

among Asiatic peoples, is entirely absent among the Siamese. The people are polite, courteous to strangers, and have a high sense of self-respect.

Slavery in the antique sense has never existed in Siam, though bond serfdom, ending with the restitution of the debt, was formerly common, and, although abolished as a legal institution, still exists in outlying provinces, though only as a bona fide agreement between master and man.

The position of women is high in Siam. They enjoy, both in business matters and social life, a great independence.

Though polygamy is permitted it does not exist among the great mass of the people and in no way affects the position of women.

Marriage is a civil contract and the wife retains her dowry; divorce is infrequent.

From a literary point of view the women are badly educated, but this is more than balanced by their native shrewdness.

Nearly every male can read and write. This is largely due to the fact that in the interior primary instruction is in the hands of the priests, and girls are not admitted to the schools of the monasteries.

The customs and habits of the Siamese are largely influenced by their religion; they are charitable both

to the priests and the poor. Their religion also forbids the taking of life, and hence hunting is little practised. Catching and eating of fish is permitted, though looked down on as a calling.

The national dress is the panung for both sexes. The panung is a piece of silk or cotton cloth about three yards long and one broad, which is wound round the hips, the slack then rolled up and passed between the legs and hitched up behind; it gives the appearance of a pair of loose knickerbockers. The men wear a white coat of European cut and the women a jacket or blouse.

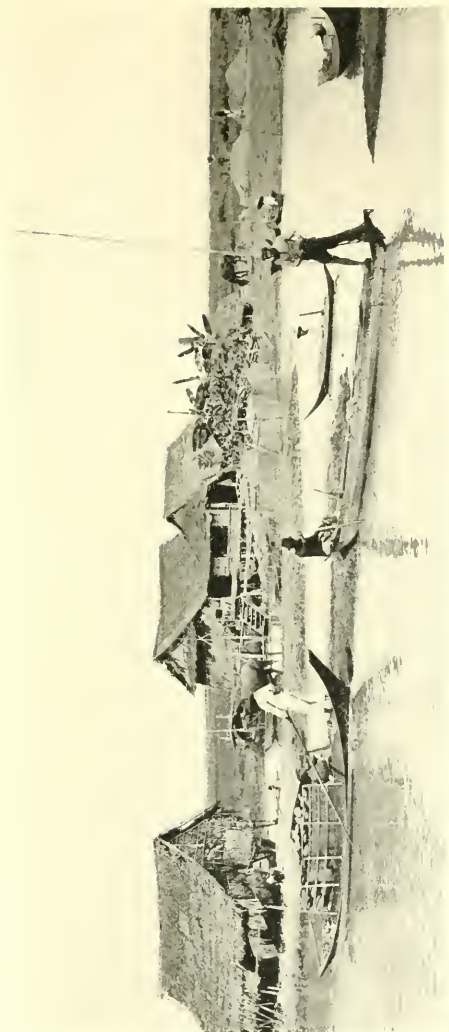
The population of Lower Siam is an agricultural one.

In Lower Siam, besides the capital, Bangkok, there exists comparatively few small towns; the bulk of the population live in villages or solitary homesteads situated chiefly along the banks of the rivers or numerous canals. These scattered homesteads are a distinguishing feature of the country.

In Lower Siam communal lands are not found, the farms being either the property of the farmer or rented by him from the big landowners.

A peculiar feature of the population is their fre-





A FARM-HOUSE



quent removal to the river banks during the dry season, which lasts for five or six months, due to the scarcity of drinking water, as, owing to the alluvial nature of the soil, wells do not exist.

The typical home of the farmer is a house built on piles five or six feet above the ground, and thatched. The house contains several rooms, with well-made windows and doors and a broad verandah. Under the house are kept the ploughs, harrows, carts, etc.

There is an enormous variety of boats used, which are manufactured by the people themselves, and are used for transporting the crops.

In Lower Siam the chief agricultural pursuit is that of rice-growing; this, of course, is not an accidental circumstance, but due to the climatic and hydrographic conditions of the country. In the dry season the ground is too dry for cultivation without artificial irrigation, and in the wet season too wet to produce other than rice.

The Government is now embarking on an extensive irrigation scheme which will embrace the greater portion of the Menam valley, and when in operation not only will the rice crop be extended and improved, but dry-season crops will then be possible.

Notwithstanding the various difficulties with

regard to water-supply which the people have to contend with, owing to irregularity of rainfall, the Siamese farmer, with the help of his family, cultivates a rather extensive holding; an average holding is seven hectares, and fifteen and twenty hectares is not unknown; to this extensive cultivation is due the large export of rice.

#### EASTERN PROVINCES

The eastern provinces of Siam embrace the western part of the Mekong basin, generally known as the Korat plateau, and the western part of the plain of the Talesap or the great lake of Indo-China, with the adjacent hill and coast regions.

To the west and to the south the Korat plateau reaches to the wooded hill ranges which separate it from Lower Siam and from the Talesap plain, and to the east and north it is bounded by the Mekong River. As the right bank of the Mekong is flanked by nearly uninterrupted hill ranges, the Korat plateau in fact can be described as a basin nearly surrounded partly by fairly high, partly by rather low, hilly regions. The central basin is a flat, sandy, alluvial plain (sandstone, slate, and laterite are the predominating formations of the surrounding hills), that on an average lies about two hundred



THE APPROACH TO KORAT

*Digitized by Microsoft®*



metres above sea-level and shows no important risings, though in some parts low laterite ridges crop out as watersheds.

These circumstances predominate the physical and hydrographical character of the country.

Nearly the whole basin drains into the Nam Moon and its principal tributary, the Nam See, which, before joining the Mekong, pierce the hill ranges that flank that river by a series of rapids about thirty kilometres long. Only a small part of the territory drains into the Mekong by separate small streams, of which the Nam Loey, the Nam Luang, and the Nam Songkran in the north are the most important.

The Nam Moon is navigable for big boats, during about seven months a year, from some few kilometres below Korat to the commencement of the rapids, which only can be passed during a couple of months in the height of the rainy season.

The *régime* of the rivers is irregular. In the rainy season they are not capable of draining the country properly, in consequence of the rapids in the hill regions, so that the greatest part of the flat country is turned into interminable swamps, and in the dry season they contain no water or hardly any, as their catchment areas are confined to the rainless plateau and neighboring hills. In the dry season the

swamps are changed into a barren, treeless plain, the sandy soil of which is strongly agitated by the prevailing southern winds and fills the air with dust. In the somewhat more elevated, less swampy parts low bamboo shrub occurs, so far as the extensive salt wastes, which cover a great deal of the higher tracts and border on the swamps in many parts, do not render all vegetation impossible. The more elevated laterite and stony ridges are mostly covered with *forêts clairières*, *i. e.*, shadeless forests of sparse, poor, dwarfish trees; this kind of forest is largely dispersed in the lower parts of the Mekong River. On the somewhat elevated ridges of deposits along the streams belts of proper forests are usually growing, and on these ridges the settlements and the rice-fields of the sparse inhabitants are found.

The plain of Talesap is an alluvial lowland, elevated about from ten to twenty metres above the sea-level. Ranges of wooded hills separate it from the Korat plateau, the plain of the Bangpakong River, and the coast of the Gulf of Siam. The plain and adjacent hill regions drain into the great lake by the Kanburee River and its tributaries, among which Sangke River is the most important, and by some smaller streams. The lake is in connection with the Mekong and serves that river as a





PLOUGHING



regulating basin, so that the water-level of the lake rises and falls with the floods of the river in such a way that in the connecting channel it alternately runs from the lake to the river and in the reverse direction. This causes the lake to silt up rapidly.

In consequence, there is a difference of about nine metres between high and low water-level, and at the high level the lake extends its water over the plain so that the greatest part of it is deeply flooded. The lake is bordered by a belt of aquatic shrub growing in the soft mud. The solid plain more inland, owing to the fertility of the soil of sandy clay, when the flood recedes is soon turned into an endless jungle of high grass where countless deer feed. In the higher region of older formation the *forêts clairières* appear and, on the hills, forests proper. In the height of the dry season the lake becomes a shallow swamp; the rivers grow quite dry or leave only some dirty pools in the lowest part of their bed, and the whole country assumes an extremely barren character.

Cultivation is almost confined to and is only feasible in those regions along the rivers where flooding does not reach more than a convenient depth.

The coast generally is steep and rocky, but interrupted by small alluvial plains at the mouth of the rivers.

From the climatic point of view the eastern provinces approach very near Lower Siam. As in Lower Siam, the southwest monsoon rains are considerably detained by the hill ranges which surround the Korat plateau and the Talesap plain to the west and south. Moreover, these hill ranges detain also the diurnal sea and land breeze. In consequence the climate assumes a more continental character than in Lower Siam; the difference to Lower Siam appears to be that rainfall is somewhat smaller and in the hot season the heat somewhat greater, whilst in the northern parts the cool season is decidedly much cooler.

The regions to the south and west of the hill ranges along the coast of the gulf are in a particular position. Here the annual rainfall is about three metres, *i. e.*, twice as much as in Lower Siam. In other points of view the climate in this region is about the same as in Lower Siam, but the influence of the sea is stronger.

The population of the eastern provinces is estimated at a little more than a million. About half of them are Laos, who live in the Korat plateau; about a quarter Siamese (chiefly in the coast region and in the Korat plateau), and the rest are Chinese, Cambodians (chiefly in the Talesap plain), etc.

The Laos are of the same race as the Siamese, and their language shows only very slight dialectic differences to the Siamese language. They, moreover, have the same religion, generally wear the same dress, and have almost the same habits, customs, festivals, houses, manner of life, and occupations as the Siamese.

The chief difference between the Laos and the Siamese is, that the latter have been more under the influence of progress on European lines and economically are in much more favorable conditions.

This refers, of course, not only to the Laos, but as well to the rest of the population of the eastern provinces, among whom the Cambodian, though of another race (they are descendants of the ancient Khmers and of autochthonous races and speak a language of their own), have the same religion and almost the same dress, customs, habits, houses, and manner of life (which chiefly appear to have been derived from the ancient Khmers).

The Korat plateau and the Talesap plain are poor regions. In the rainy season the country is largely a swamp; a great part of the higher lands have a barren, laterite, sandy, or stony soil (in the Korat plateau) or contain too much salt to be cultivable, so that in general only the belts of deposits

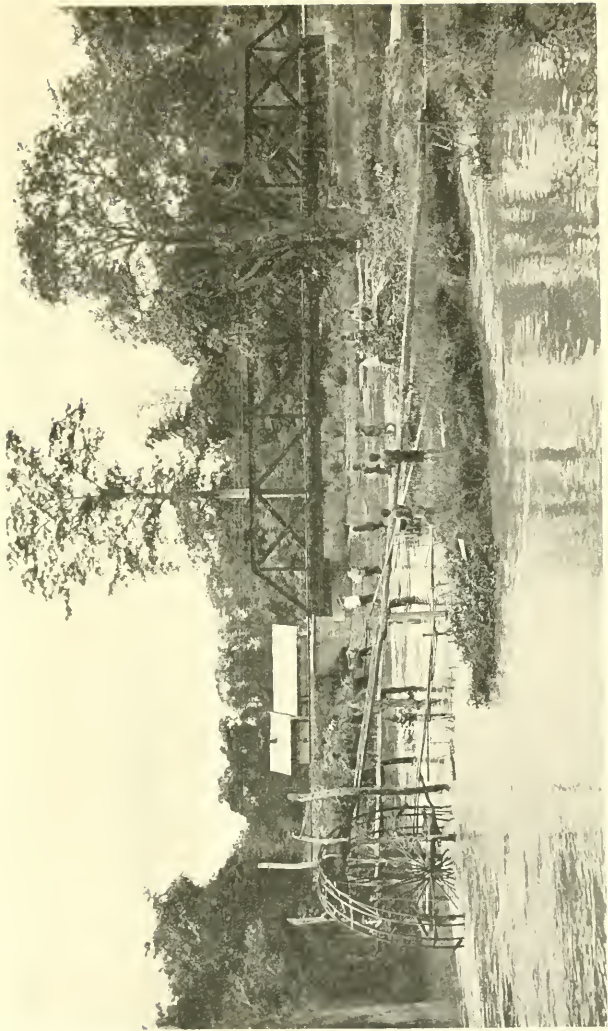
along the rivers are fit for cultivation. Moreover, these regions only are fit for settlement, because in the dry season the country is nearly waterless, as only a few of the rivers contain a glimpse of dirty water that gathers in pools in the deepest places, whilst the ground-water, if obtainable, is generally too salt to be drinkable.

Removing to the higher regions when the floods commence, and to the riverside in the dry season, is, therefore, often necessary, this compels people to content themselves with most primitive and uncomfortable shelters.

Communication, moreover, is still worse than production. Roads are almost impassable in consequence of the flooding, and the rivers mostly are navigable only during a few months.

It is certainly no surprising fact that under such unfavorable circumstances the inhabitants are poor and backward compared with the Siamese of Lower Siam, and that the sanitary conditions of the people are worse than anywhere else in Siam. Enteric diseases (dysentery and cholera), fever, and small-pox are very common in these regions.

The people live in small settlements spread over the country. There are only a few towns in the eastern provinces, and these are very small.



PRIMITIVE IRRIGATION





The principal means of subsistence is rice growing. The methods are primitive; the crop is uncertain, small, and of inferior quality. In the higher regions the rice is planted in the rainy season; in the deep inundated tracts people cannot commence to plant before the water subsides. In the last case the crop is particularly uncertain.

The Korat plateau has nearly no rice to spare for export; from the Talesap plain one to two hundred thousand piculs annually are exported.

Cattle and swine breeding and salt making out of the salt surface earth in the salt wastes are the most important industries, and silk weaving, timber, tobacco, fishing in the great lake, and collecting jungle produce are subsidiary employments.

There is also some mining of copper, iron, gold, and rubies in the Korat plateau, but this is not of real importance.

As these eastern provinces have little to export, the import trade and the interior trade are of course also small. The coast regions are in a much more favorable condition with regard to climate as well as with regard to soil and situation. In consequence the people here are in fairly favorable conditions. Rice growing is here also the principal industry, and fishing in the gulf, pepper cultivation, sugar

manufacturing, the timber and fire-wood trades, and collecting jungle produce are minor industries. Also ruby mining may be mentioned as a trade of some importance in the regions along the east coast of the Gulf of Siam.

#### THE SIAMESE PROVINCES OF THE MALAY PENINSULA

In this article this southern division will include all that part of Siam and its dependencies situated in what is geographically termed the Malay Peninsula.

Politically the peninsula is divided between Great Britain and Siam; the dividing line running along the southern boundaries of Kedah, Raman, Kelantan, and Tringanu.

The territory which we are now dealing with thus includes the following provinces, starting from the north and coming south: Petchaburi, Bangtaphan, Chumpon, Langsuan, Chaiya, Bandon, Lakon, Patalung, Singora, Patani, Nongchik, Jering, Saiburi, Jalar, Raman, Rangeh, Kelantan, and Tringanu, on the eastern slope, and Kra, Renong, Takuapa, Panga, Takuatung, Gerbi, Puket, Trang, Stul, Perlis, and Kedah, on the west.

The country is on the whole mountainous; but

far less so than is ordinarily supposed. The whole general Malay Peninsula has been formed by a granite upheaval, which is clearly traced from the dividing range between the valleys of the Salween (Burmah) and the Menam (Siam proper) right down to Singapore and the islands to the south of it. This granite upheaval is not so prominently represented in the Siamese division as it is in the southern; but there are several peaks of from three thousand to five thousand feet high. The older geological strata are limestone and slate. These have been everywhere greatly disturbed and altered by the granite; and the limestone which was originally overlaid by the slate is frequently met with at far higher levels, the granite in its upward passage having caused the limestone to fold over the slate. The limestone wherever found is highly crystalline and very durable, offering a far greater resistance to denudation than the granite or the slate. Though the main range, as already stated, runs down the axis of the peninsula, yet the various systems of hills which make up the main range generally run in a southwest-northeast direction. One very striking result of this feature in the mountain system is that practically all the rivers issuing on the east coast run in a northeasterly line, while

Physical  
Features.

those on the west coast have a southwesterly course.

Few of the rivers are of much importance, as the areas drained by most of them are limited, owing to the narrowness of the peninsula. The  
**Rivers.** Bandon (Menam Luang), Patani, and Kelantan rivers are the largest on the east coast; while the Takuapa, Trang, Merboh, and Muda are the largest on the west. All these rivers have bars at their mouths and are consequently entered with difficulty by ships of anything but light draft; there is, however, in most cases deep water in the rivers themselves.

The rivers at Renong, Takuapa, and Panga, on the west coast, are very badly silted up by tailings from the tin mines worked in the hills.

From the north down to the southern limits of Singora and Trang, the indigenous population is  
**Inhabitants.** Siamese; south of that it is Malay. There are, of course, many Malays north of this line, and Siamese south of it, and also a certain amount of a mixed breed; but this is the main ethnological division. Besides these two settled races, there are the Negritos, who are found very sparsely inhabiting the jungle-covered mountains of Lakon and all the country south of it. These Ne-



A VILLAGE FESTIVAL



gritos probably represent the aboriginal population. They are in an extremely low state of culture, holding aloof from the settled populations, living on wild fruits and roots, and wild game which they pursue with poisoned arrows shot from a blowpipe. These wild tribes are stated to be of Melanesian stock, and are probably related to the so-called "Mincopies" of the Andaman Islands, and the Aetas of the Philippine Archipelago. The Siamese and Malays are generally similar to the representatives of the same races elsewhere, so that there is no need to describe them here. Besides the three indigenous races above mentioned, there is a very large immigrant Chinese population.

The Chinese come chiefly from Amoy, and many of them settle permanently in the country. In Singora especially a great part of the Chinese population has practically become indigenous.

It is very difficult to make any reliable estimate of the numbers of the different races inhabiting the region being treated of; but the following figures are given for what they are worth:

Malays. ....	900,000
Siamese .....	800,000
Chinese. ....	200,000
Negritos .....	10,000
Total. ....	<u>1,910,000</u>

The climate of these regions may be generally described as moist and hot, though seldom malarious.

*Climate.* In the northern part, the climate more nearly approaches that of the Menam Valley, where there are very distinct wet and dry seasons; but in going south the conditions are more like those prevailing in Singapore, where the distinction between the seasons is slight, and rain falls more or less the whole year round. It is impossible to give a description of the climate, embracing the whole region, because the conditions vary immensely in neighboring places. The presence or absence of mountains on the inland side of different districts influences the rainfall to an incredible extent. Generally speaking, the east coast gets most rain during the northeast monsoon, the months of November, December, and January being particularly wet; this, however, does not apply from Langsuan northward, where the rains are heaviest in August, September, and October.

On the west coast the rains come on during the southwest monsoon; June, July, and August being the wettest months in most places. The rainfall, as stated above, is very variable; and practically no records are available; but the mean fall for the whole region is probably about ninety inches, vary-





ELEPHANTS WITH HOWDAHs



ing from about sixty inches in the more northerly parts, to about one hundred and twenty inches in the southern.

The soil of the plains is not very rich in most parts; there is, however, some very fine rice land in Lakon, Patalung, Kedah, and Kelantan.

Even in sandy land, however, excellent Flora. crops are raised, the regular rainfall and absence of any prolonged dry season being of the greatest assistance to agriculture. But the granite hills are usually covered with a thick covering of rich clay; and for all kinds of hill crops the country is admirably adapted. The mountains are covered with the densest and most magnificent tropical vegetation, in which the most characteristic and useful growths are several varieties of the guttapercha (in the south only), the camphor tree, ebony, eaglewood, sapan, rattan, nibung, bamboo, nipa-palm, cocoanut, areca, and gomuti.

The fauna is unusually rich, both the Asiatic mainland and the islands of the Eastern Archipelago being represented by numerous Fauna. varieties. The elephant, tiger, one-horned rhinoceros, tapir, hog, and many varieties of bear and bison are met with. Quadrumana are represented by nine or more specimens. Amongst birds

there are several varieties from Java and other East Indian islands; in fact, the Malay Peninsula is largely the meeting ground for the denizens of the Asiatic and the Polynesian worlds.



CHAPTER IV  
NAVAL AND MILITARY FORCES





## CHAPTER IV

### NAVAL AND MILITARY FORCES

#### THE SIAMESE ARMY

**A**MONG the departments of Siamese administration that have shared to the full in the progress which forms so marked a feature of the present reign, the army occupies a foremost place; for not only have radical reforms been introduced into the organization of this most necessary branch of the service, with a view to increase its efficiency, but every effort has been made to reconcile as far as practicable the inevitable call it makes upon the time of the younger and more vigorous elements of the nation with the exigencies of the other branches of the government service, as well as with the conditions indispensable to the healthy development of the country's natural resources and industrial capabilities.

*Its Reform  
and Im-  
provement.*

With the system until recently in force, military

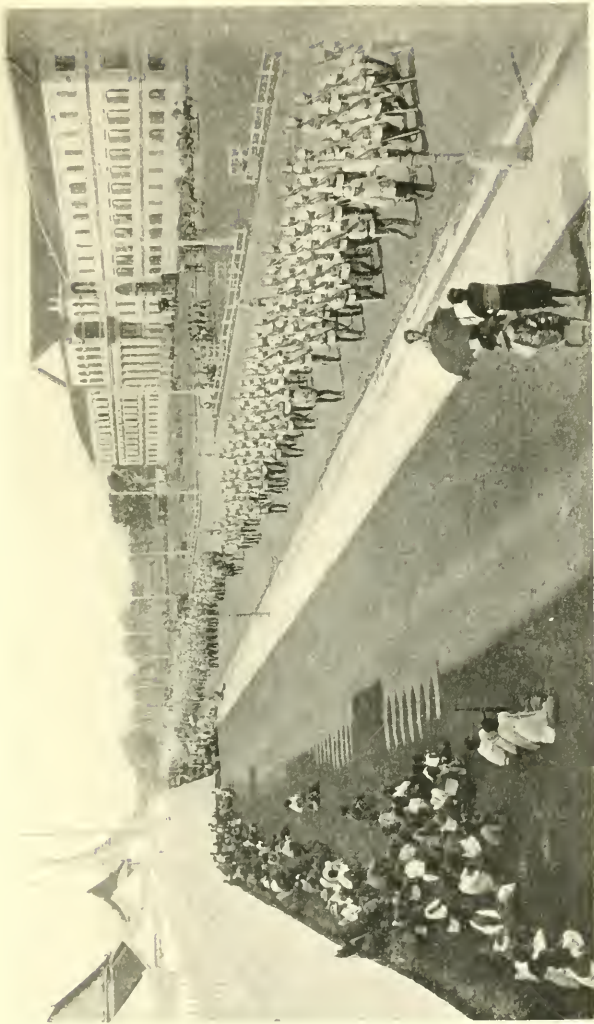
service, while weighing heavily upon a few particular classes of the population which had to exercise it hereditarily as a profession, did not become an imperious duty for all able-bodied citizens except in the very moment of common danger. Moreover, the service performed by these classes, consisting for the most part of government serfs and alien auxiliaries, had necessarily to be taken by turns of some months in and some months out, with serious detriment to the homogeneity and compactness of the army, and continuous hindrance to the steady improvement of its efficiency. There was practically no limit to the duration of such service, except physical incapability from youth on the one side and downright decrepitude on the other, so that it became a life-long burden to those who were restricted to it.

The many drawbacks resulting from such an antiquated system could not avoid being fully recognized, and the reforms gradually introduced into other branches of the administration, above all in statutory legislation, rendered possible the transition to a new order of things more in keeping with modern ideas and outcome of civilization. Thus the new system was inaugurated, in which the fundamental principle, that

The Old  
System.

The  
Transition.





THE MINISTRY OF WAR



able-bodied citizens are expected to serve a term with the colors, has been laid down as a patriotic duty to all, tempered, as a matter of course, by such limitations and exemptions as the welfare and most pressing needs of the country and its people have rendered advisable. The example has most happily in this connection come from the higher classes, led by the members of the Royal Family, many of whom have now adopted the army as their profession.

The system recently adopted is similar to that of a militia or cantonal one. It has been practised in several monthons, and the result has so far been very successful. According to this system, every man is required to serve two years in the regular army, and afterwards is transferred into the first and second reserves, respectively.

The New  
System.

In case the number in the new ranks exceeds that required for the standing army, the recruits are passed into the reserves. While in the first reserve a man is liable to be called for training during a period not exceeding two months a year, and while in the second reserve his training is limited to fifteen days.

While on active service all men belonging to the above categories are exempt from both capitation

and land taxes, and after having completed their terms of military service become freed from payment of similar taxes for the rest of their lives.

Facilities and  
Exemptions  
Accorded.

Total exemption from military duty is accorded to Chinese settled in the country, to wild tribes, to physically disabled persons, and to recipients of a royal authorization to that effect.

Temporary exemptions are provided for in favor of members of the priesthood, students in the higher standards during their course of study up to thirty years of age, officials in the civil service while on active duty, village headmen so long as they exercise such functions, sons of disabled parents who provide for their sustenance, elder brothers who support orphans; younger brothers as yet incapable of earning a living, so long as necessary; agriculturists and tradesmen who do a large business entailing on their part the payment of a certain large sum yearly in taxes to Government, so long as such payment lasts; invalids; persons involved in legal suits to which they personally attend, as long as such suits last, etc.

These provisions are destined to meet the peculiar conditions of the country and people.

For the purpose of military organization, the

country has been apportioned into circles, or monthons, which are not necessarily identical in extent and limits with the monthons created for the purpose of civil administration.

Military  
Territorial  
Organization.

Within the area of these monthons the men are recruited, drilled, and kept under normal conditions to serve their terms with the colors.

By having recourse to this regional system of enlistment, the least possible inconvenience is caused to the men themselves, who thus enjoy the advantage of performing their military duties near their own homes, and can easily return to the labor of their fields or other customary occupations during the periods in which their presence under arms is not required.

The same facilities are enjoyed by the non-commissioned officers who are picked from the ranks and trained at a special school established for them in each monthon, whence after training and qualification by an examination they are detailed for service to the corps stationed within their native monthon.

Since last year (A.D. 1902) the infantry has been armed with the new repeating rifle (model R. S. 121), while the cavalry and artillery retained the Mannlicher carbine.

Armament  
and  
Equipment.

The field artillery ordnance consists, for troops in the interior, of steel-bronze 7-cm. mountain guns only, the conditions of the country not permitting, for the present, the use of a heavier ordnance. For the same reason the employment of larger bodies of cavalry becomes impossible over the greater part of the country, hence the task of the cavalry must remain confined to reconnaissance and scout duty. In this no better animal could meet the requirement than the local wiry and hardy little pony. Accordingly the cavalry is mounted exclusively on native ponies and armed with sabre and carbine, so as to readily do also work on foot, and the use of the lance has been proscribed. For the artillery, elephants, pack-bullocks, and boats are severally used, according to the character of the country to be traversed. The clothing and accoutrements of the troops follow, on the whole, Western models, being modified in detail so as to suit local conditions. Barrack accommodation on improved lines is provided both at Bangkok and in the various outer monthons.

Great attention has been paid during the last ten years or so to this most essential branch of army organization. About nine tenths of the commissioned officers are now supplied

Military  
Education.



THE ROYAL MILITARY COLLEGE



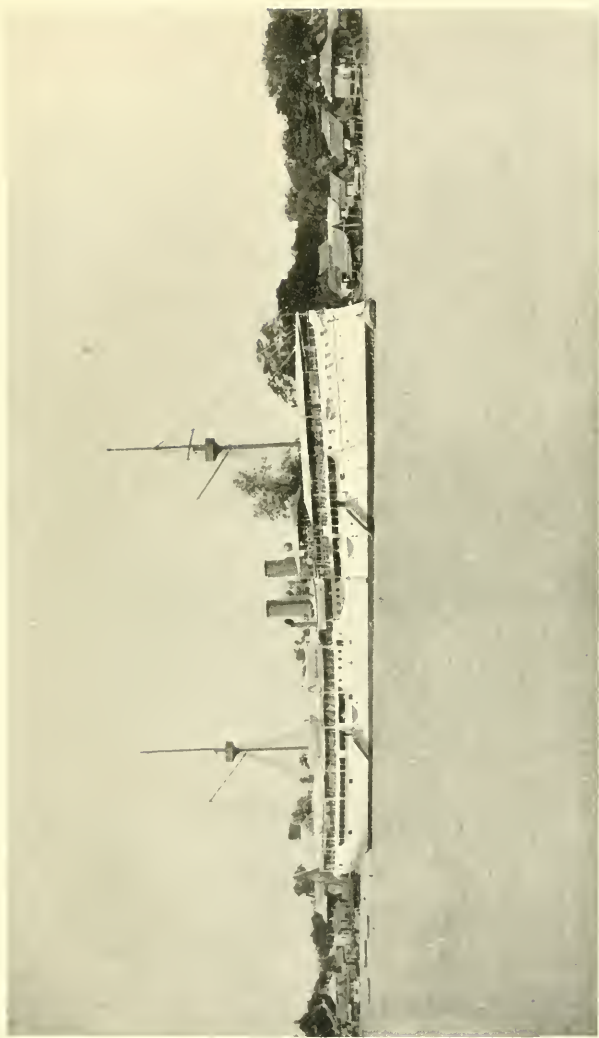


by the Royal Military College, and only about one tenth by the rank and file. The Royal Military College, installed in a spacious and imposing group of buildings, was founded as early as 1885, but it has since been several times enlarged and generally improved. It now accommodates over three hundred cadets, who go through a three-years course of training, at the end of which those who qualify at a final examination are promoted and appointed to the various corps. A preliminary course of three years is also provided for those applicants who join the college before possessing the necessary qualification for the technical course.

The Royal Military College at Bangkok has been an important factor in the improvement of the standard of officers in the army. Over three fourths of the officers now on active service have been trained there, and so satisfactory have been the results attained that there is a great and continuous demand for these officers for the work of civil administration. Many of the officers who are now at the head of the various departments and corps of the army have received their complementary education and military training in Europe, in the armies of either England, Germany, Austria, or Denmark. To these will soon be added a small yearly supply

from those cadets who have won scholarships and are now receiving their military training abroad, so that the standard of officers in the army will keep continuously improving. Of the special schools for non-commissioned officers mention has already been made. There are now three such establishments in full order in the military monthons of Bangkok, Korat, and Rajburi, aggregating a total of some three hundred pupils. Other similar institutions are being created in each of the newly formed monthons.

His Majesty the King is the supreme head of all forces. The army is immediately controlled Headquarters Staff. by a General Commander-in-Chief, with an Assistant General. The Headquarters Staff is organized into three administrative branches, under the supervision of the Chief of the General Staff, the Adjutant-General, and the Quartermaster-General, respectively. Besides the above-named principal officers, there is an Inspector-General, whose function is to inspect all His Majesty's forces. The Army Headquarters are located in a spacious building near the centre of Bangkok City. On the same premises is also installed the Ministry of War and Marine, on which the army depends mainly for administrative purposes, as well as for the supply of both men and war material.



HIS MAJESTY'S ARMORED YACHT



The army as it stands will be quite sufficient for ordinary purposes, which are chiefly the maintenance of order and security in the outlying districts, and ability to cope with any eventual rising of unruly alien elements whether in the capital or in the interior of the country.

Strength of  
the Army.

THE ROYAL NAVY

The Naval Yard and Arsenal are situated in Bangkok, on the west side of the river opposite the royal palace.

The dockyard contains the Admiralty and Administrative offices, also barracks for the men, drilling grounds, and artillery park; a drydock able to dock the largest ships of the navy, also patent slips, workshops, iron and brass foundries, carpenters' and sailmakers' shops, etc.; two shear-legs of different lifting capacities, and all necessary appliances for the fitting out and repair of the ships of the navy.

The naval education is carried on in three schools: the Naval Cadet school, the Marine Officers' school, and the Petty Officers' school.

The engineers receive part of their education in the Naval Cadet school.

The Commander-in-Chief of the Navy is, at pres-

ent, the Minister for War, Admiral Prince Bhanurangsi.

Chief of the Staff, Captain Prince Abhakara.

PRINCIPAL SHIPS OF THE NAVY

NAME OF SHIP	DISPLACEMENT (Tons)	TYPE	I. H. P.	SPEED	GUNS	HULL
<i>Maha Chakreri</i> .....	3,000	Cruiser	2,800	14½	16	S.
<i>Makut Rajakumar</i> .....	700	"	560	12	8	S.
<i>Ran Rook</i> .....	700	Gunboat	535	10	9	S.
<i>Bali</i> .....	580	"	500	11½	10	S.
<i>Sugrib</i> .....	580	"	500	11½	10	S.
<i>Muratha</i> .....	530	"	500	11½	9	S.
<i>Yong Yot</i> .....	450	"	255	9	5	W.
<i>Han Hak Sakru</i> .....	250	"	140	7	3	Comp.
<i>Teywah Suraram</i> .....	115	"	190	9	1	W.
<i>Nirben</i> .....	290	Despatch	180	9	.....	W.
<i>Prap Parapaks</i> .....	200	"	171	10	.....	Comp.
<i>Uthai Rajakit</i> .....	134	"	100	8	.....	W.
<i>Thon Kramoom</i> .....	1,000	Training Vessel (sail)	.....	.....	4	W.

Besides these ships the navy possesses two transports, two yachts, various despatch and river vessels, steam launches, fire engines, and one spar torpedo-boat, in all seventy-one vessels.

GENDARMERIE

Outside the capital and the surrounding province the country is policed by the gendarmerie. This is a body of military police at the head of which is a



MOUNTED PUKET POLICE





military officer, as Inspector-General, acting directly under the orders of the Ministry of Interior. Most of the force are mounted, and all are drilled on military lines, special attention being paid to skirmishing and shooting. There are numerous stations scattered over the country, which serve as centres for the prevention and suppression of crime.

From each station patrols are sent out, chiefly during the night, who report themselves to the civil officials of each district, to whom they hand over any lawbreakers they have arrested, and receive information of any crime committed in the district.

The force possesses a training school for its officers, but the men are trained at the stations.

The force is recruited in some provinces by voluntary enlistment and in some by conscription.

The present strength of the force is: non-commissioned officers and men, 6000; officers, 150; chief stations, 250.

The cost of the whole force, including school for officers, is over 2,500,000 ticals.

#### THE PUKET FORCE

Puket, the centre of the tin-mining industry, has a separate police force, which is solely responsible to the Minister of the Interior and the High Commis-

sioner of the monthon. The sanctioned strength, consisting of twelve officers and 531 men is composed of Siamese and Malays, and distributed as required amongst the six provinces which comprise the Puket monthon.

The force is both a military and civil one, and was reorganized at the beginning of 1900. One of the chief features in the reorganization was the training of young Siamese police officers; selected men were sent to Rangoon for a six-months course of police training and drill with the Rangoon police; they took every advantage of the opportunity afforded them and obtained certificates of efficiency.

The whole force is armed, and great interest is taken in musketry. There is a rifle range, where target practice is held periodically and rewards given for good shooting.

The force has a mounted detachment at headquarters; they are chiefly used for patrolling, and escorting high officials when on tour of inspection.

Crime is very slight throughout the monthon.



CHAPTER V  
SIAM FROM AN HISTORICAL STANDPOINT





## CHAPTER V

SIAM FROM AN HISTORICAL STANDPOINT,  
BY DR. O. FRANKFURTER, SIAMESE FOREIGN OFFICE

LITTLE is known about the early history of the country which was first called Siam by the Portuguese and, following them, by the other nations who first came into contact with it. The name has become more general during the last few reigns, perhaps through a mistaken etymology by derivation from *cyama*, blue-black. This derivation is inadequate with regard to the complexion of the people and to the soil, to which it is equally inapplicable.

Siemlo, the Chinese name, is of equally doubtful etymology, and by the neighboring countries, such as Burmah and Cambodia, the country was called, after the name of its former capital, Sri Ayuddhya.

The Siamese call themselves Thai, probably the equivalent of Franks, the free ones, *i. e.*, free from the foreign (Cambodian) yoke.

We find also in some chronicles the well-known

Indian term, Suvarnabhumi (golden country), so that it shares with other countries the honor of being called the Golden Chersonese or Chryse.

The chief source of the earliest history is found in the *Phongsawadan Muang Nua* (the *Annals of the North*). The facts related therein are to a great extent correct, but as these annals have been compiled from various fragments without much discrimination, and as, moreover, the data given in these annals cannot be reconciled, they can only be used as throwing a general light on the history of Siam.

Besides these *Annals of the North*, there are local annals, some written in Pali, some in Siamese or Laosian, which also throw a certain light on pre-Buddhistic times.

None of these chronicles, with the exception of the *Annals of the North*, have as yet been printed. The great difficulty met with is the use of the eras. As is well known, there were three eras in common use—the Buddhist era dating from 543 B.C., the Maha Sakarat era dating from 78 A.D., and the Chula Sakarat dating from 638 A.D., while at the present time the Gregorian Calendar has been adopted, the era in use dating from the foundation of the present capital in A.D. 1781.

In these old chronicles the eras were frequently



THE MENAM RIVER





changed for what may be called local eras, and unfortunately the Buddhist era, the only real fixed one, has never been adopted throughout in any of the countries.

In the earliest times, before the capital was established at Ayuthia in 1350, there extended throughout the country a number of small principalities. These extended over what is now called Siam, from the borders of China east and west through the valleys of the Menam Chow Phya and the Menamkong and down the Malay Peninsula, with Ligor as capital, as far south as Malacca.

These principalities were bound together by race, language, religion, and customs, but did not form a political entity or state, though standing in commercial relations with one another. Frequently the dominions of a prince were extended by marriage and frequently they were subdivided by the laws governing succession.

The early history of the race shows a continual migration from the north to the south, seeking an outlet to the sea, successive sections pressing in those that had gone before until in 1350 the branch of the Tai race known now as the Siamese established their capital at Ayuthia.

The history of the Siamese as a dominant power

begins from this date, for at that time twenty of the minor principalities to the north, east, and west, and four to the south, owed allegiance to Ayuthia, sending as a token the customary gold and silver flowers, and the oath of allegiance was taken by Pitsanuloke, Sajjanalai, Sukothai, Nakon Sri Thammarat (Ligor), Rachasima (Korat), Tenaserim, and Tavoy.

From the founding of the capital at Ayuthia in 1350 down to its destruction in 1767 by the Burmese, its history is chiefly to be found in *Phongsawadan Krung Kao*, or the *Annals of Ayuthia*, in which is related the reigns of thirty-six kings, commencing with the reign of Phra Chao Utong, and ending with the reign of Krom Khun Anurat Montri, during whose reign Ayuthia was destroyed by the Burmese.

The history is written without preconceived ideas, and although it is a compilation only made in the middle of the last century by Somdet Pra Paramamijit, it gives a very fair account, and many of its facts are corroborated by the chronicles of neighboring countries and the description given by foreign travellers.

There is, however, not always a right proportion in details, and while some reigns are detailed at inordinate length others are dismissed in a few words. It goes without saying that the inner connection of

the facts related is not always made clear inasmuch as the source from which the compilation was made proved inadequate.

The history of the Siamese during these years shows their efforts to consolidate their political power, by which they roused the jealousy of the neighboring countries who were striving for the same end. The inevitable result was war, and the dependent states were compelled to vary their allegiance and submit to the victorious power.

These attacks finally culminated in the destruction of Ayuthia by the Burmese and its abandonment by the Siamese as a capital.

The nearer to our own times, the more exact and explicit the history proves to be; the chronicles as related by Somdet Pra Paramamijit breaks off with the reign of Khun Hluang Tak, who, after the destruction of Ayuthia, collected the shattered forces of the Siamese Army and eventually re-established the dominion, founding his capital on the west bank of the Menam Chow Phya at Bangkok.

After the deposition of this monarch who became mentally deranged, and was succeeded by the first king of the present dynasty, we have the *Annals of Bangkok*. These annals were compiled from original sources by the late Chow Phya Thipakarawongse.

The modern history of Siam may be considered to begin under King Mongkut (1851-1868), when Siam entered into treaties with foreign powers granting the rights of extraterritoriality to their subjects, and the opening of the Suez Canal brought the nations of the West into closer contact with those of the Orient.

With the opening of the Canal the attention of the Western nations was turned towards the East, and it was through their colonial expansion that, indirectly, a large influence was brought to bear on the development of the country.

Besides these annals, the attention of those interested in the history of the country should be called to the collection of the laws of Siam, made in the year 1807 by a commission appointed by King Phra Buddha Yot Fa, and since 1872 frequently reprinted; the absence of a proper chronology is, however, much to be deplored. Nevertheless a careful study of these laws, taken in conjunction with the facts related in the annals, would probably be instrumental in constructing an authoritative history of the last six hundred years both from an historical and intellectual standpoint.

Another source of the history of Siam are the local chronicles regarding the origin of the more



A TEMPLE



famous statues of the Buddha; an archæological survey would also perhaps throw a welcome light on its history, whilst the chronicles of the neighboring countries of Annam, Burmah, Pegu, and Cambodia would elucidate the more obscure points. The description of early travellers and residents should also not be neglected, though scarcely any of them are free from a certain bias.

This is more especially the case with regard to the narratives of the French travellers who visited Siam in the seventeenth century a most interesting period of its history.<sup>1</sup>

The descriptions of modern travellers from the last part of the nineteenth century are written under preconceived ideas and inadequate knowledge and may be disregarded by any one who undertakes a serious study of Siamese history.

Happily we have for the last two reigns the official gazette in which everything of importance is chronicled and the laws by which the country is governed are promulgated. This forms an adequate source of the history of Siam in latter years.<sup>2</sup>

<sup>1</sup> Cp. Lanier, *Étude historique sur les relations de la France et du royaume de Siam de 1662-1703*, Versailles, 1823; Anderson, *English Intercourse with Siam in the Seventeenth Century*, London, 1890.

<sup>2</sup> Cp. Satow, *Essay towards a Bibliography of Siam*, Singapore, 1886.





CHAPTER VI  
LANGUAGE OF SIAM





## CHAPTER VI

LANGUAGE OF SIAM, BY DR. O. FRANKFURTER,  
SIAMESE FOREIGN OFFICE

THE Tai family of language to which Thai, the language of the people of Siam, belongs, is spoken with slight but well-defined phonetic differentiations, east from the frontier of Thibet and south from the Chinese frontier, through the whole valley of the Menam Chow Phya (Siamese) down to Songkla (Singora), in the Malay Peninsula, and west from the frontiers of Annam, Tonquin, Cochin China, and Cambodia. The characters in which these languages are written are derived from Indian alphabets, and their affinity with those in which Cambodian, Burmese, and Peguan, and the language of the continent of India and of Ceylon are written can be easily traced. It is clear that the forms of the characters were influenced by the material used in writing (copper plates, stone, palm leaves, paper written by stiles, chisels, brushes).

The alphabets are akin to those of Sanskrit and Pali,—syllabic.

The affinity of the Tai group with other languages is not certain, but there is no connection with the Mon-Annam group or the Malayan family.

The character of the language is that of a tonal one. There are five tones in the language, but differentiation of meaning is not, as a rule, expressed in the same word by tones. These tones are known as the tonus rectus, circumflexus, demissus, gravis, altus (Pallegoix, *Grammatica Linguæ Thai*), and their pronunciation is roughly indicated by their nomenclature, most of the words are, however, pronounced in the tonus rectus.

The unit of speech is the sentence, and consequently there are no distinct words for the different parts of speech, as practically any word according to the context in which it occurs may perform the function of verb, noun, adjective, pronoun, etc.

In the sentence the determinating word follows the determined word, contrary to the invariable rule of Chinese, where the determinating word precedes the determined word.

Loan words and especially abstract terms are mostly derived from Sanskrit and Pali, although of course the words of commodities introduced through

intercourse with European nations are derived from European languages. Thus we have derived from Portuguese, in the fifteenth and sixteenth centuries, for instance, the words for paper, bread, soap, cloth. In the same way, commodities of Chinese origin are designated by Chinese words, such as terms for ships and furniture, etc.

In more modern times, loan words for European commodities were derived from the English, but now there is a marked tendency to employ words for new commodities from the stock already existing or to derive them from Sanskrit or Pali words.

It goes without saying that in the frontier districts we find the influence of the bordering language and consequently loan words from Annam, Cambodia, Burmah, China, etc.<sup>1</sup>

<sup>1</sup> Diguel, *Étude de la langue Tai*, Hanoi, 1895.

Frankfurter, *Elements of Siamese Grammar*, Leipzig, 1900.

Lorgeou, *Grammaire Siamoise*, Paris, 1902.

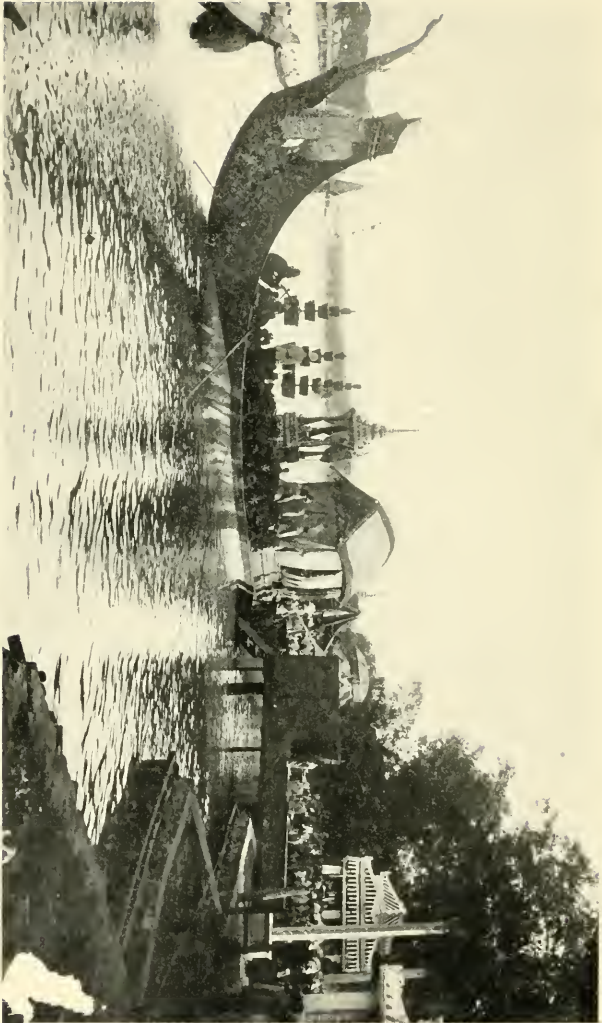


CHAPTER VII  
RELIGION OF SIAM









THE KING LANDING AT A TEMPLE



## CHAPTER VII

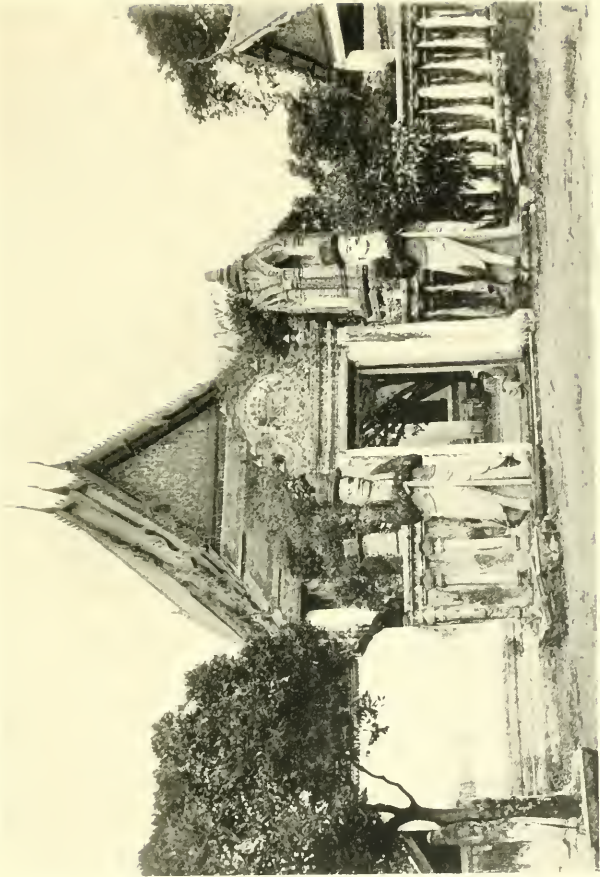
RELIGION OF SIAM, BY DR. O. FRANKFURTER,  
SIAMESE FOREIGN OFFICE

THE religion of the state is Buddhism, while all other religious creeds are granted full liberty of worship, nor are their followers, by virtue of their creed, prevented from occupying any secular office under the administration or disabled in any other way.

The king is the highest "supporter of the doctrine," and stands at the head of the religion, and in consequence of this position a spiritual hierarchy has developed which corresponds in many ways to the position of the temporal hierarchy. The king appoints all ecclesiastical dignitaries, and they as well as all other priests and monks are, with regard to their temporal affairs, under the Ministry of Public Worship.

First in the hierarchical order are the four Somdet Phra Chow Rajagana (archpriests), who stand at the

head of different assemblies of priests and monks. From among these four dignitaries the king appoints the Somdet Phra Sangharaja (prince of priests), who, as his title implies, is the head of the entire ecclesiastical order. The whole kingdom is divided among these four dignitaries, of whom there is one for the northern division, one for the southern, one for the sect of the Dhammayutika, and one for the hermits. The Dhammayutika are a sect formed under King Mongkut, with the aim of bringing the doctrine in outward matters (initiation into the priesthood, dress, etc.) more in accordance with the pristine teachings; whilst the archpriest appointed for the hermits (of whom there are not very many now), *i. e.*, those living in secluded places, follows the king into the province. These archpriests receive from the king, just as the highest officials of state, gold or silver tablets recording their titles. Next in the hierarchical order are the five high-priests to assist the archpriests, and after them fourteen dignitaries in whose official titles the words Dhamma, Raja, Deva enter. In the hands of these twenty-three priests lies the supervision of the doctrine in all respects. Then follows an official list of twelve gurus (teachers) who, as their title implies, are to assist in teaching the doctrine. These also receive their



TEMPLE GATE



official appointment from the king, whilst other gurus or teachers are appointed by the archpriests, corresponding in this respect to civil officials who receive their appointments from the hands of the responsible minister.

These gurus can be appointed heads of temples, and sometimes the title is bestowed on them, as the recognition of special service rendered in scholarship, as an honorary degree. The priests next in rank are those who hold official positions or are appointed to a certain office under the archpriests, the high-priests, the heads of temples, so that their official position only lasts as long as the superior who has appointed them holds his office. They are entrusted with the ritual, and act as judges and arbiters in cases of discipline. A numerous class of priests are formed by the "Barien" scholars, who receive their title after having passed an examination in Pali, in the sacred books, and in the commentaries. There are nine steps in these examinations and they must be taken one after the other. They are entitled to the epithet "Maha" (eminent) before their own names, but they hold no official position in the government ecclesiastical service, although from their ranks the officials are mostly recruited; they also receive a "fan" as a mark of honor from the

king. The Ācāriya are those who make a study of the outward manifestation of the religion, and their services are required in connection with royal festivals; they may receive an official title. As the last rank of the priests we have to mention those priests engaged in attending to private ceremonies not held in the temples.

The term "monk" may be applied to the large class of persons living in the temples without any official rank and engaged more or less earnestly in the study of the sacred writings or in meditation. It is, moreover, an essential part of the education of a Siamese, when he has completed his twentieth year, to enter a temple for a time. Many of the Siamese while still boys of fourteen or fifteen also enter as novices (*Samaneras*) for a short period, in the upper classes usually from six months to a year. This custom, however, is not so universal as their entering as priests when grown up. There is no restriction placed on a priest as to the duration of his stay in the priesthood, but while a monk he has strictly to obey the rules of the order.

The initiation generally takes place at the commencement of the rainy season (full moon of the eighth month, *i. e.*, July), and is always accompanied by a festival. It forms the conclusion of the education.





A GROUP OF PRIESTS



This initiation and service in the priesthood is of special importance to the princes of the reigning house, and most particularly to those princes in the direct line of succession, for the king as temporal head of the religion must have shared in the common lot of the followers of Buddha in order that he may be in full sympathy with their feelings and ideas, and the great reverence in which the priesthood is held forms a firm bond between the highest and the lowest in the land.

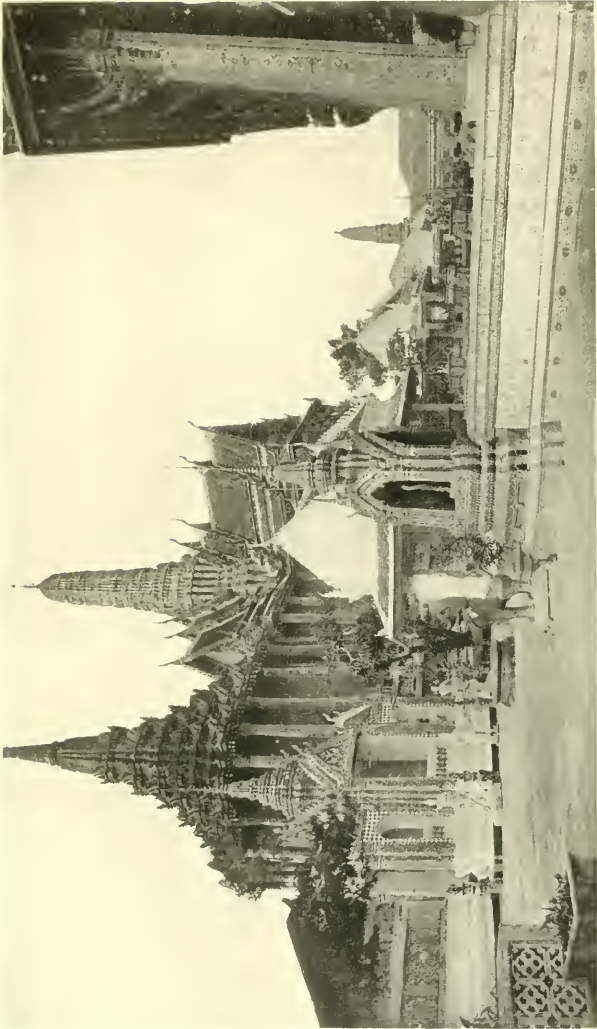
It can thus be clearly understood that the priests are under the strict control of the state. From it they draw their power, by it they are provided with means of subsistence, under it they form an hierarchical order. In the hands of the priests was from the olden time the practical and religious education of the people, as it is even now controlled by the Education Department. The priests are to a large extent, formerly more so than at present, the physicians of the people, and they certainly also help them in their spiritual needs.

With regard to the tenets of Buddhism as practised in this country, it can only be said that it is the Buddhism of the southern school. The sacred books contained in the *Tripitaka*, known in Ceylon and Burmah, are likewise known in Siam, and it was from

this country that the *editio princeps* was issued a few years ago. Amongst the educated classes, Buddhism is practised in its pristine purity, while of course, just as elsewhere, superstitious practices have crept into the popular belief. Buddhism in Siam has kept clear, however, of esoteric influence, as it was prevalent a few years ago in Ceylon under European influence; it has thus kept the command forbidding to claim or to aspire to supernatural power, whilst Nirvana is rightly explained as the extinction of the three fires of lust, hatred, and delusion. A more realistic view is taken, however, among the people, who believe in future substantial states, and in a migration of souls which enter new bodies according to the good or evil deeds performed in this world, though according to the pristine teaching it is only the deeds, as such, that survive.

This may perhaps be due to the birth stories which, although they do not form part of the sacred writings, are well known in Siam as in other Buddhist countries. These birth stories are in many cases old folklore tales which were used to illustrate a verse in the sacred writings.

With regard to the whole doctrine of life and death as presented in Buddhism, we will quote from



A TEMPLE



the sermon preached by Somdet Pra Vanarat at the memorial service of the late Crown Prince, in whose words is found a solution of the whole question both with regard to the dead and the living.

“In the life of sentient beings there is no certainty. We know not when or for what reasons life will be extinguished. No one is able to guarantee existence; short is our life and swiftly are we extinguished, and our sorrow never ceases. As the potter’s work will be broken, so our life will come to an end, and whether children, young or old, whether foolish or wise, all fall under sway of death. We may speak of days, months, and years; but we cannot say when our existence will come to an end. No one is spared, whether of kingly origin or a Brahmana, whether a Vaisaya or a Sudra, whether of the lowest caste or a slave; all fall under the sway of death. When we depart from one existence to another, the parents cannot protect their child, nor will the love of the kinsman avail aught to his kin; the lamentations and grief over the departed do not benefit him. Death is the natural consequence of existence, and our life is like that of the cow which the Brahmana leads to the altar for sacrifice. Knowing this, what will lamenting over the departed benefit us? The dead are not

supported by our grief. The dead have no consciousness of our acts, and they have prepared their existence by their own deeds. Everything is subject to change, although we may think it permanent; this is the law of the universe. . . .

“Thus having listened to the words of the Fully Enlightened One, we know that the dead cannot come to life again; therefore let us cease lamenting and turn our attention to the living, so that the country may prosper; work for the living. For such is the work of the living, when death has not yet reached them. We are born and die, this is the way of the world; but the good works we do in this world, they will bear fruit in future, they will last.”<sup>1</sup>

<sup>1</sup> Cp. Phra Phachonwilat, *Tham nieb Samana Sakdi* (“The Rank of the Priests”), Bangkok, 1902; Kotmai Phra Songh, *Laws Governing the Priesthood in Kotmai Thai*, vol. ii., Bangkok; Chow Phya Thipakarawongse Kinanukit, translated by Alabaster, *Modern Buddhist*, London, 1870; also, *Wheel of the Law*, London, 1871.



CHAPTER VIII  
THE CAPITAL





## CHAPTER VIII

### THE CAPITAL, BY THE SECRETARY-GENERAL

THE capital of Siam is Bangkok, situated on the river Menam, about fourteen miles from the sea, though owing to the winding of the stream it is about twenty-five miles by river. It is a most interesting town for travellers, and their number increases year by year.

Owing to the bar at the mouth of the river, vessels drawing more than fourteen feet of water cannot come up to the town, so that the only main line of steamers which calls is the East Asiatic line from Copenhagen to Shanghai; however, there are almost daily steamers of some one thousand tons to Singapore and Hong Kong.

The main portion of the city lies on the east side of the river, though the west side is thickly populated on the banks. The old name given by travellers to this town was "the Venice of the East," and fifty years ago it was a good description; since then

roads have been made, the canals have been bridged, and electric tramways cross the city in various directions.

Bangkok is the chief city of Siam in every sense: it is the chief port, the chief commercial centre, the centre of the Government, and principal residence of the king and royal family.

Unlike most other Eastern cities, there is no foreign quarter, but the European houses are dotted about the city, the suburbs, the banks of the river, and the busiest part of the town.

The nucleus of Bangkok is the royal palace, situated on a bend of the river. The outer walls of the palace enclose an immense area, but the ground devoted to the actual residence and garden is comparatively small. Within the walls are various ministries, namely, the Foreign Office, the Treasury, the Ministry of the Interior, the Ministry of the Household, and, in addition, the Royal Library, Legislative Council, a magnificent Buddhist temple, barracks, etc. Surrounding the palace on the land side is the city proper, formerly surrounded by a massive embattlemented wall and pierced by lofty gates. Most of the wall has now been pulled down, and a boulevard constructed, and of the gates few have withstood the modern desire for wide roads. Most of



THE CITY WALL



the roads are macadamized, drained, and planted with trees, and many of the sidewalks are protected from the sun and rain by lean-to roofs projecting from the houses. Next to the palace is a large open space of grass of an oval shape surrounded by trees. This is the Premane ground, formerly used for the royal cremations, but now used for drilling troops, kite-flying, cricket, foot-ball matches, and golfing.

Anchored in the river, between the palace and the naval dockyard, are the royal yachts and such of the gunboats as are not cruising in the gulf or conveying troops to distant parts of the kingdom.

From the palace to the southeast stretches the New Road, the oldest of the roads built outside the city. Formerly an elephant track running parallel to the river, along the backs of the houses which faced the river, it now passes through a densely populated quarter and is the busiest road in the town. Lined on both sides by shops for some three miles, it is traversed by electric trams which follow one another every few minutes, while carriages, jinrikishas, bullock carts, and native omnibuses pass in a perpetual stream. It is intersected at right angles by numerous roads leading to the river, but the farther it gets from the palace the less densely populated it becomes, and after passing

through the rice-mill district it ends close by the abattoirs.

From the Premane ground to the northeast stretches the finest boulevard in Bangkok, leading from the royal palace to Dusit Park, a private residence of the king. It is not quite finished yet within the city walls, but the section from the city walls to Dusit Park, a distance of over a mile, is now open. This boulevard consists of three carriage-ways, separated from one another by double lines of trees and bordered by shady footpaths.

The palace is surrounded by ornamental gardens open to the public, and the whole quarter is laid out as a purely residential district, the houses being occupied by the princes and noblemen of the court. Between this quarter and the river runs the Samsen Road, corresponding to the New Road below the palace, but far less densely populated. It has a good service of electric trams. Running between these two main roads are many subsidiary roads; the total length of carriage roads being some one hundred and twenty miles. The river is hardly less crowded than the New Road. Both sides for miles above and below the palace are lined by floating houses, most of which are occupied by traders, who, taking down their front shutters, wait quietly for



their customers to arrive in boats or launches and take their purchases away with them. These houses consist generally of several rooms and are supported on pontoons; the row is only broken by landing stages and the mouths of canals. Built in Siamese style, with the curious gable characteristic of Siamese architecture, they form one of the unique and interesting sights of Bangkok.

Down the middle of the stream are anchored the ocean-going steamers flying the flags of many nations, sailing boats loading teak for the European and American markets, whilst in and out and from shore to shore scurry steam launches of every sort and shape. With the tide, huge rice-boats bring the harvest to the rice-mills, and rafts of teak logs, which may have been years on their journey from the north, follow a puffing launch which has picked them up above the city to tow them to the mill. Then there are house-boats, with two or more rowers; a priest's boat, paddled by ten of his pupils; boats which ply for hire and carry eight to twelve passengers, rowed and steered by one man like a gondola; tiny canoes, beyond the skill of Europeans to manage, holding just the postman and his bag of mail, or perhaps a travelling cook who, with his pot of boiling rice on a little stove in front of him and

the rest of his cuisine cunningly stowed around him, drives a roaring trade with the boatmen and dwellers in floating houses, dispensing his goods with the one hand and keeping the boat steady with the other.

A noticeable feature in the river life is the water markets at certain places along the banks; a regular market is held which begins soon after midnight and lasts till seven or eight in the morning.

Both buyers and sellers are chiefly women. The sellers come in small boats bringing fish, eggs, fruit, etc., which they have themselves grown, and one may see two or three hundred small boats, each with its little lamp, the owners talking and laughing with their neighbors. Then as soon as the sun has risen they begin to return home, and what was a busy market is now an open space of river.

To foreigners the most interesting things to be studied, after the life and customs of the inhabitants, are the royal palace with its surroundings and the numerous Buddhist temples.

The town of Bangkok being comparatively modern (1782) is interesting chiefly on account of its up-to-dateness, but within easy reach of Bangkok by rail are many places of historic interest such as Ayuthia (the old capital), Korat, Rachburee, Prapatom, Petchaburee, etc.



THE SARANAROM PALACE, BANGKOK



The population of Bangkok is estimated at five hundred thousand souls, of whom, some eight to nine hundred are Europeans or Americans. Besides these, the foreign element includes Chinese, Japanese, Koreans, Malays, Javanese, Hindus, Klings, Pathans, Afghans, Burmese, Arabs, Cambodians, Annamites, most of whom are rendered conspicuous by their national dress, which they seldom abandon. Owing to this habit of retaining their national dress, which differentiates them from the rest of the people, a casual observer is apt to overestimate the foreign population, the number of which, excluding the Chinese, is comparatively small.

The Chinese population, by the returns of the poll-tax in 1900, was 65,345 male adults, and the entire estimated Chinese population, allowing for old men, women, and children, who pay no tax, 85,500. In 1903, owing to exceptional circumstances, the number rose to 100,000.

Bangkok is the terminus of four lines of railway. It has a fine service of electric trams, and is well lit by electricity. It possesses one of the finest race-courses in the East, a United Club, open to all nationalities, a Siamese Club, a German Club, a Golf Club, and a Sports Club, several European-managed hotels, three banks, a French hospital, and

a British nursing home, English, French, Danish, German, and American doctors, besides numerous Siamese hospitals and medical men. The climate and rainfall are those of Lower Siam. Further details and statistics relating to the capital will be found in the various sections.

#### THE PORT HEALTH DEPARTMENT

The sanitary service of the port of Bangkok is directly under the control of the Ministry of Local Government, and is directed by the Medical Officer of Health, assisted by two medical boarding officers, orderlies, boatmen, coolies, and a large staff of police told off specially for this duty. The sanitary stations are two in number: one at the island of Koh Phai, some thirty miles beyond the bar; and the other at the customs station at Paknam, within the mouth of the river Menam Chow Phya.

At Koh Phai, where alone sick or inspected persons are landed, there are, besides medical officers' quarters, hospital quarters for Europeans and several large barracks capable of accommodating fifteen hundred Chinese coolies. Police barracks, coolies' quarters, storerooms, and a water-condensing apparatus make up the complement of equipment.



BANGKOK TRAMWAY





Throughout the year, all ships from Hong-Kong or China ports are medically inspected on their arrival. When quarantine is declared against any port, a period of nine days' quarantine is enforced and inspection takes place at Koh Phai.

According to the maritime decree, the medical officer may board and examine any ship arriving in Siamese waters no matter whence it has come, and ships which have already obtained pratique are still liable to control within the port.

During the past year, 262 ships were inspected, and 35,028 passengers were medically examined. It may be interesting to record that although plague has every year assumed epidemic form in Hong-Kong, a distance of seven days' steaming from Bangkok, no cases of plague, so far as it is known, have got beyond the quarantine station.

#### THE CATTLE TRADE AND GOVERNMENT ABATTOIRS

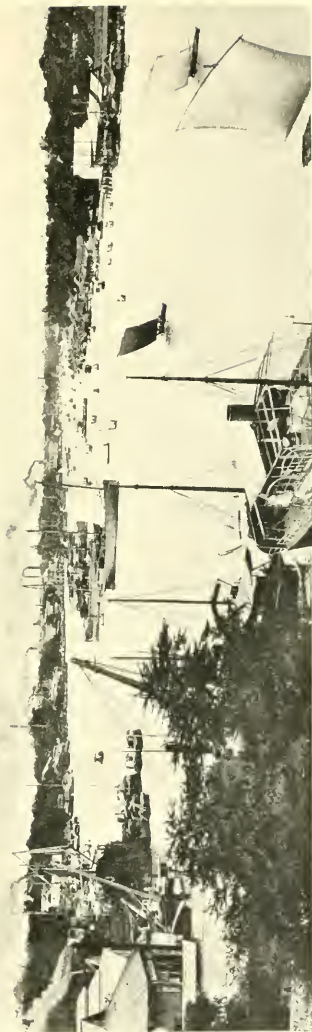
A considerable export of cattle from Bangkok to Singapore takes place every year. In Singapore the smaller animals are slaughtered for food, while the larger cattle are sent to the adjacent Malay and Dutch states for draft purposes.

Owing to a severe and widely extended epidemic

of rinderpest in Siam six years ago, the whole system of cattle inspection before export was reorganized. A royal decree was proclaimed giving to the Medical Officer of Health full control over the importation of cattle into the port of Bangkok, their detention in Bangkok, and the manner of export. At the same time powers were given dealing with the slaughter of cattle for food and with the care of milk cows and of cowsheds throughout the town.

A large piece of ground was purchased of the Government, and upon it were erected two large sheds, each capable of accommodating five hundred head of cattle. There was also built a quarantine shed capable of holding two hundred sick cattle, and at a distance of three hundred metres from the main sheds. A public abattoir was also erected, of such a size as will be sufficient for all needs for many years to come. In addition, there are the officers', inspectors', and coolies' houses. The cattle sheds are floored with compressed brick pointed in cement, while the abattoir is floored with concrete and cement and has steel and iron fittings.

Cattle can only be landed in Bangkok at the government wharf alongside the bullock sheds. This wharf was specially built to enable the ordinary



THE PORT OF BANGKOK



trading steamers to go alongside in order to load the bullocks.

Although rinderpest has practically died out, foot-and-mouth disease is almost always present in Siam. All bullocks are therefore subjected to eight days' medical observation in the government sheds free of rent. They are then slaughtered for food, or, as is the case with the great majority, are exported to Singapore. Before being passed for export by the customs authorities, each owner must show the export pass from the Medical Officer of Health certifying that the cattle have been quarantined for eight days and have been stamped as healthy.

Slaughtering of animals for food is only permitted in the government abattoir. Each animal is examined when alive, and the flesh is again examined before being allowed to be taken away from the abattoir, when, if found healthy, it is stamped with the medical officer's seal. The flesh of a bullock found in the market without this seal is presumed to have been slaughtered illegally and is confiscated and destroyed.

The dead meat is transported from the abattoirs to the butchers' shops in a specially constructed electric car run on the public electric tramway, thus ensuring prompt and clean delivery.

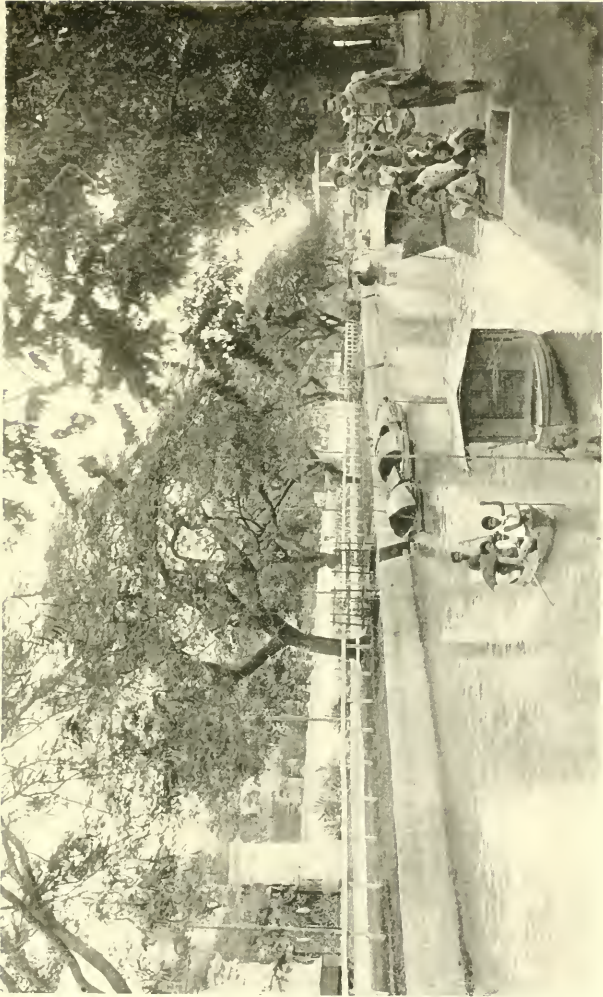
The following figures show the work done during the past year at the cattle station :

Cattle landed, 15,907 ; exported, 8574 ; slaughtered for food, 6900.

#### METEOROLOGY

Daily readings of temperature and rainfall are taken by the Medical Officer of Health. The following is an abstract of last year's readings from 1st April, 1902, until 31st March, 1903 :

MONTH	MEAN TEMPERATURE (Fahrenheit)	HIGHEST TEMPERATURE RECORDED IN SHADE (Fahrenheit)	LOWEST TEMPERATURE RECORDED IN SHADE (Fahrenheit)	RAINFALL IN INCHES
April.....	86.	98	73	2.97
May.....	85.8	102	73	3.15
June.....	86.5	100	74	2.99
July.....	85.	98	73	2.04
August.....	84.1	98	74	6.91
September.....	82.4	97	70	16.64
October.....	83.	94	73	7.77
November.....	82.4	93	68	1.49
December.....	81.2	95	69	0.08
January.....	80.6	97	58	0.05
February.....	80.7	97	66	0.03
March.....	86.	101	71	Nil.
Annual mean temperature....	83.6	Total rainfall....		46.47



A CANAL IN BANGKOK





## DRAINAGE

In Bangkok there is no system of drainage by closed pipes such as one sees in European countries. The numerous canals which intersect the city, as well as the deep and quickly flowing rivers, are the main sewers of Bangkok. These are flushed daily by the rise and fall of the tide, the influence of which is felt for many miles above the city. In addition to these natural drains, side drains have been constructed by the Sanitary Department alongside most of the streets. Into these flow the flood water after rainfall, as well as the soiled water from the neighboring dwelling-houses. Many of the drains have now been provided with sluice-gates where they join canals; the gates are opened at low water, and thus the drains are effectually flushed, the cleansing being assisted by sweepers. These drains are solidly built brick culverts lined with cement, and with man-holes every four metres apart to enable the coolies to cleanse the drains more easily.

As the pail system of conservancy is employed, nothing but bath, kitchen, and surface water enters these drains, so that complaints of their being offensive are not so frequent as might be imagined by those unaccustomed to such an open system of drainage.

## REMOVAL OF HOUSE REFUSE

This is done entirely by the Sanitary Department. Seven bullock carts and metal hand-carts are used for this purpose, and by aid of these some fourteen tons of refuse are carted away daily. In the meantime this refuse is utilized for the purpose of filling up marshy holes in and about the city. When enough refuse has been deposited, a layer of good soil is scattered upon the surface as a deodorant, and in a year, so rapid is the disintegration of all vegetable refuse in this climate, it is found that what was once a rubbish heap has become transformed into innocuous soil.

It is proposed to erect refuse incinerators, not only to destroy the ordinary refuse, but also to desiccate the night soil so that it may be sold as a fertilizer.

## PUBLIC AND PRIVATE LATRINES

Within the city of Bangkok there are now seventy-nine public latrines with a total of 361 rooms. The bucket system is employed and the daily changing of these is given out to contractors. An average of three thousand buckets of one gallon capacity are removed daily from these public latrines and from private houses. The night soil is taken first to a

central depot, it is there emptied into barges specially built for the purpose, and is then taken away some miles beyond the limits of the city where it is buried.

#### BANGKOK REVENUE DEPARTMENT

This department collects the various taxes in the province of Bangkok. The total taxes collected amounted to 1,800,000 ticals.

It has also charge of the Chinese poll-tax, which is collected every three years. During the year 1903, the tax was paid by nearly one hundred thousand Chinese, a number largely in excess of the previous collection. This increase is due to the fact that owing to competition the fare from China was less than \$1, and immense numbers took advantage of this cheap rate.

#### THE SANITARY DEPARTMENT

This department was instituted in the year 1897 for the city of Bangkok. The department is under charge of the Vice-Minister, who is assisted by directors of the various departments, a municipal engineer, a medical officer of health, and numerous assistant inspectors, clerks, etc.

The main duties of this department are:

I. The construction and maintenance of the roads and bridges.

II. The collection and disposal of all refuse.

III. The enacting and enforcing of regulations against infectious diseases both of men and cattle. The budget of the department amounted last year to 810,520 ticals (£1 equals 17 ticals) and a special allotment of 229,120 ticals.

The only revenue derived is the tax on bullocks slaughtered in the government abattoirs, which amounted to ten thousand ticals. The annual amount thus spent on the sanitation of the city by the Government amounted to 1,111,064 ticals, or over £65,000.

BANGKOK POLICE, BY THE COMMISSIONER OF  
POLICE

The Bangkok police is a force of 3580 officers and men of the following ranks:

Commissioner.....	1
Divisional Superintendents.....	4
Assistant Divisional Superintendents.....	8
Chief Inspectors.....	16
Inspectors.....	23
Head Constables.....	45
Sergeants.....	232
Constables.....	3078
Office staffs.....	73

The commissionership extends over the province of Bangkok and also includes the policing of all the state railways. It is divided into four districts: Bangkok town; northern suburbs; southern suburbs; railway district.

The force is composed of the following nationalities: Siamese, 3252; Europeans, 8; natives of India, Hindus, Pathans, and Sikhs, 320.

The force is recruited from all parts of Siam, enlistment being particularly popular in the districts of Korat and Lopburi, large numbers of Laos from those two districts joining every year. Amongst the native of India, Pathans largely predominate. The uniform of the men is khaki coat and pants, putties, with round cap.

In the town district the cap and putties are dark blue, in both the suburbs divisions the cap and putties are khaki, and in the railway district the cap is khaki and the putties are dark green.

The uniform of the officers is: full dress—dark blue; undress—white or khaki.

On first joining the town force, the recruit goes through a course of two months' training at the police school. He is there taught drill, police regulations, elementary law, and reading and writing, if not already able to read and write.

There are usually about 180 recruits under training.

The officers—*i. e.*, head constables and those above that grade—are recruited both by promotion from the ranks and by special enlistment.

The number of officers promoted from the ranks is small. In the case of special enlistment the officer recruit undergoes a training which varies from six to ten months, according to circumstances. Whilst under training, he receives a small allowance and is attached to a station under the supervision of an officer of experience who is responsible for his training.

In the system of administration the station circle is the unit. This circle necessarily varies greatly in importance, the biggest station circle having one hundred and fifty men attached to it, and the smallest twenty men. According to size and importance, the stations are under the direct command of an inspector or head constable or sergeant. The stations are grouped together in a series of chief inspectorships, each group being under a chief inspector. These again are grouped into subdivisions, each subdivision being under an assistant superintendent. The subdivisions are grouped into divisions, each under a divisional superintendent, and the commissioner supervises the whole.

The duties of the police are the same as elsewhere, being the investigation and detection and suppression of crime. The police also undertake the prosecution of all cases reported to them in the courts of first hearing. They also supervise the pawnshops and enforce the canal regulations. Permits for theatrical performances, etc., are issued by the police, and they are responsible for the maintenance of good order at such performances. The force also supplies watchmen to private employers. These men belong to the force but are paid for by the employer. The number of men so supplied is 205.

The work of the police is rendered more difficult by the very large number of courts.

Owing to the system of extra-territoriality, each treaty power has its own consular court. In addition to the ordinary criminal courts, there are in Bangkok ten consular courts, each having a different procedure and different system of law.

Another of the difficulties is the very large number of languages spoken, and although many police officers of and above the rank of head constable can speak two languages, and many three or more, it frequently happens that a complainant is quite unable to make himself understood.

In addition to the ordinary police, but included

in the totals already given, there is a Special Branch Police, a detective force, consisting of the following:

Assistant Superintendent .....	1
Chief Inspector.....	1
Inspectors .....	4
Head Constable.....	1
Sergeants.....	18
Constables.....	90

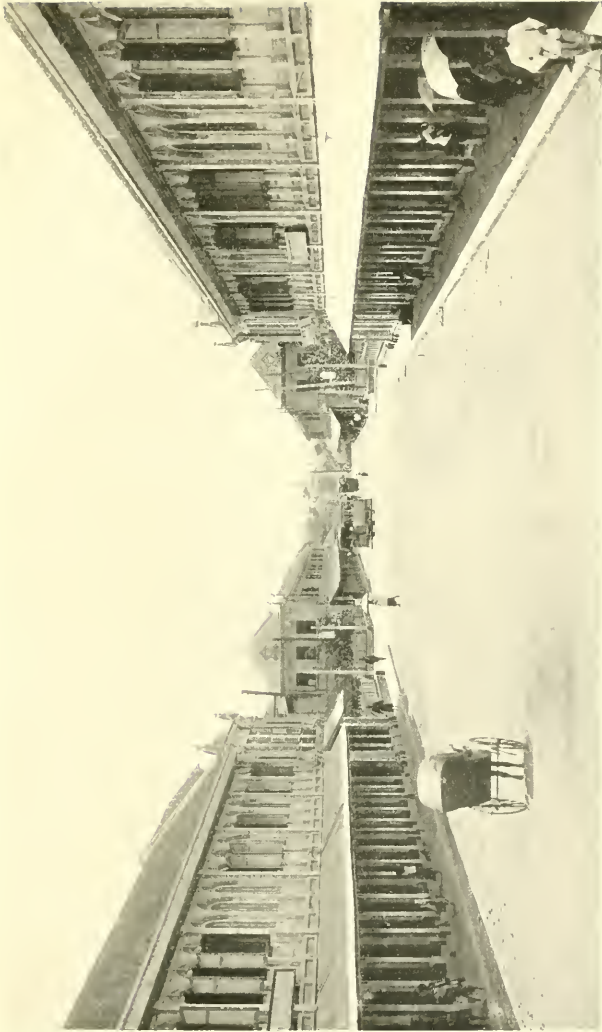
The assistant superintendent in charge of this branch is also the licensing officer of pawnshops.

Until the year 1901 there was no supervision of pawnshops. Before that time there were 432 shops, all of which habitually acted as receivers of stolen property. As there were no regulations of any sort and as the owners were under very many different jurisdictions, it was practically impossible to suppress crime.

In April, 1901, the pawnshop regulations became law, and there are now ninety-five pawnshops which are under strict laws.

Under the regulations, all forfeited pledges in pawnshops are examined by the police before any can be sold, and are compared by them with the lists of stolen property. For facility of reference, all property is divided into certain classes, and the description of each kind is entered in the appropriate





A STREET IN BANGKOK



volume, each inspector being provided with a complete set of volumes. Every morning at 8 A.M., the description of all property stolen during the previous twenty-four hours is sent to the Special Branch, the descriptions are entered in the volumes of stolen property, and the lists are then printed off and one copy sent to every pawnshop. In the event of any pawnbroker being already in possession of any of the property described or subsequently receiving it, he is obliged under heavy penalties to report the fact to the nearest station. To ensure his doing so, the examination of forfeited pledges already described is made. Another of the duties of the Special Branch is the identification of previously convicted offenders. The method in use on the Bangkok police is the finger-print method, the prints being classified by Henery's system. The bureau is maintained by the jail department. The finger-prints of every man arrested for serious crime are despatched each morning to the bureau. They are there examined, and in those cases where the offender has been previously convicted his former convictions are entered on a form which is taken to the court and attached to the case papers before the court opens for the day.

The finger-print is also utilized for the detection of

crime; every person who pawns an article being required to place the print of his right thumb on the pawn-ticket counterfoil.

In those numerous cases in which suspicion has fallen on several persons, and there is no clear proof against any of them, this affords a very valuable clue to the police, as an inspection of the fingers of the suspected reveals who, if any of them, was the person who pawned the recovered stolen property.

Although the system has been in force for only a few months, it has already resulted in the detection and conviction of many offenders. The latest available criminal statistics are for the year ending March 31, 1903.

During the year, viz., April 1, 1902, to March 31, 1903, 12,137 cases were taken up by the police on report.

For these offences 11,409 persons were arrested, of whom 5653 were convicted.

In 1191 cases the accused were allowed to compound with the complainants.

Of the total of 12,137, 3575 were of a petty nature, being cases of public nuisance, petty assault, offences against canal regulations, etc.

The force as at present constituted has been in existence since 1897.

CHAPTER IX  
FINANCE





## CHAPTER IX

### FINANCE, BY THE ACTING FINANCIAL ADVISER

THE budget estimates of the kingdom of Siam for the year 122 (April 1, 1903, to March 31, 1904) show a revenue of 45,540,000 ticals, an expenditure of 45,499,365 ticals, and a surplus of 40,635 ticals. The first two amounts are largely in excess of those for the previous year, and represent an advance of over sixteen per cent. on the estimates for 121 (1902-1903), the corresponding totals of which amounted only to 39,000,000 ticals, and 38,971,271 ticals, respectively. This increase is in keeping with the progress recorded during the last twelve years, in which period the public revenue and expenditure of the country have nearly trebled, as will be seen from the figures below :

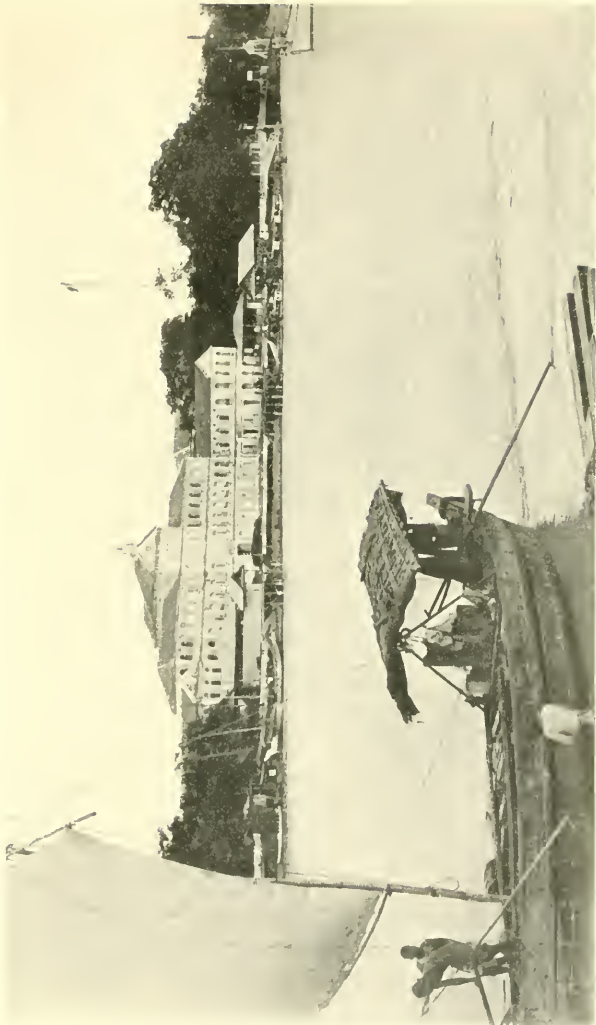
Year	Receipts (Ticals)	Expenditures (Ticals)
111 (1892-93).....	15,378,114.....	14,918,977
112 (1893-94).....	17,389,672.....	18,174,504

Year	Receipts (Ticals)	Expenditures (Ticals)
113 (1894-95).....	17,334,469.....	12,487,165
114 (1895-96).....	18,074,690.....	12,685,697
115 (1896-97).....	20,644,500.....	18,482,715
116 (1897-98).....	24,808,001.....	23,996,625
117 (1898-99).....	28,496,029.....	23,787,582
118 (1899-1900).....	29,902,365.....	27,052,717
119 (1900-01).....	35,611,306.....	31,841,257
120 (1901-02).....	36,157,963.....	36,646,558
121 (1902-03).....	39,000,000.....	38,971,271
122 (1903-04).....	45,540,000.....	45,499,365

The continuous, and in many ways remarkable, growth of revenue evidenced by these figures is all the more striking in view of the fact that it is the result, not of new or enhanced taxation, but merely of more effectual methods of collection and financial control, combined with the natural expansion of trade and cultivation. The expenditure, it can be readily understood, keeps pace closely with the revenue, since with a rapidly progressing administration and calls for funds from every quarter to carry out the numerous schemes brought forward for the development of the country and the increased welfare of its inhabitants, the budget allotments must always approximate closely to the funds available for the undertakings of the year.

It is, therefore, a matter for genuine satisfaction that the revenue continues to show itself so elastic





THE CUSTOM HOUSE AT BANGKOK



that the Government is able, year after year, to devote larger and larger sums for the requirements of the several departments of state, and the fact may fairly be taken as indicative of the steady development of the country, as well as of the real progress made in the government of the realm.

#### REVENUE

The appended statement shows the main heads of revenue and expenditure, with the amounts estimated against each for the current year, and the following explanations regarding certain of them may be of interest.

The revenue from the first four heads, as their names imply, is farmed out annually to the highest bidder, who has the right, under Government control, of retailing his spirits or opium at certain fixed prices, or of running his gambling houses or lottery offices, as the case may be, in conformity with the regulations in force in that behalf. This system ensures a considerable revenue to the Government from the heads concerned, with a minimum of trouble and expense, and the only item to which exception may perhaps be taken is that appertaining to gambling, which is open to obvious criticism.

It must be remembered, however, that the practice

is one of very long standing, that the gambling habit is deeply ingrained in the Chinese community, who constitute an important element in the population of the country, and that no Government can afford to suddenly lose a considerable portion of its revenue without violently checking the progress of administration. The question whether the total suppression of public gambling is practicable is engaging the attention of the Government, which is fully alive to the objections to be urged against the practice on moral and economic grounds, and it is hoped that it may be possible before long to devise a scheme providing a sufficient augmentation of revenue from some other sources to make up for the loss of that at present derived from the gambling farms. In the meantime, it is the policy of the Government to reduce the number of gambling houses as far as possible, and in pursuance of this thirty-eight such houses have been closed during the last four years, viz., seven in 1900-01, fifteen in 1901-02, twelve in 1902-03, and four in the current year (1903).

*The customs revenue* is derived from a general import duty of three per cent. *ad valorem*, and a varying export duty on the main products of the country, the chief of which are rice, teak-wood, and bullocks

—the last being exported principally for consumption at the neighboring port of Singapore.

*The mining revenue* is mainly obtained from royalty and export duties on tin. This commodity is obtained in large quantities in Siamese Malaya, and particularly in the province of Puket, on the west coast of the Malay Peninsula, which has been described as the Rand of the kingdom. The gross export of slab tin from Puket during the year 1902-03 amounted to 57,893 piculs (about 3430 tons), and the direct revenue was over one million ticals.

The receipts under the head "Royal Mint and Treasury" are almost wholly represented by the profit accruing to the Government from the coinage of ticals, of which it is expected that fourteen million will be minted during the current year to supply the requirements of trade. In accordance with the scheme brought into force in November, 1902, which is referred to in more detail in Chapter X., these ticals are issued by the Treasury at a fixed rate (at present seventeen to the pound sterling) in exchange for gold drafts on London.

*The railway traffic receipts* for the current year show a large increase of eighty-three per cent. on those estimated for the previous twelve months—a result due partly to the recent opening of a new line

of railway, 151 kilometres long, from Bangkok to Petchaburi, on the southwest of the capital, and also in part to the expectation of increased traffic on the northeastern line to Korat, including its extension to Lopburi. This very considerable increase of receipts is satisfactory evidence of the largely extended use of railways in Siam—a circumstance which must tend to the convenience and enlightenment of the inhabitants of the realm and the furtherance of trade, both internal and external.

*The octroi* in Siam is an impost of the nature of a transit duty on produce not included in the schedule of dutiable articles of export. Its effect being to hamper the internal trade of the country to some extent, and to raise the cost of living, the question of its abolition is engaging the attention of the Government.

*The Chinese poll-tax* is levied triennially on male Chinese subjects resident in Siam, while the *capitation tax* is an annual impost payable by Siamese males of certain classes, in commutation of the forced personal labor for the Government, formerly exacted.

#### EXPENDITURE

*Ministry of the Interior.*—In reviewing the expenditure heads, attention is naturally directed in

the first instance to the Ministry of the Interior, which controls the greater part of the administration of the kingdom, outside the metropolitan province, and as an indication of the enormous advance made by this ministry in the past decade, it may be mentioned that its expenditure budget has increased during that period about fifty-fold—the figure for the year 1894–95 being approximately 206,000 ticals, while that for the current year exceeds 10,500,000 ticals.

The chief items included in the above-mentioned sum are: Gendarmerie, 2,560,000 ticals; Revenue offices, 1,482,000 ticals; Provincial administration, 5,275,000 ticals; and Forests, 850,000 ticals. The gendarmerie is a police force of a semi-military character, officered partly by Europeans; while the duties of the Forest Department are concerned with the conservation of the extensive teak forests of Northern Siam, the general control of the timber-extracting operations conducted therein by the lessees of the several tracts, and the collection of the royalty and transit dues payable on the timber so removed.

*The Ministry of Local Government* controls the administration of the capital at Bangkok, as well as that of the province in which the capital is situated. The principal departments under it are those of

Police (1,143,000 ticals), including a special railway force, and Sanitation (1,121,064 ticals), which is concerned with the conduct of all sanitary arrangements of the capital, as well as the construction and maintenance of the roads and drains of Bangkok and the lighting of its public thoroughfares.

*Ministry of Finance.*—The principal departments included in the figures shown against the Ministry of Finance are the Royal Mint, 1,632,000 ticals, and the Custom House, 434,000 ticals. As regards the former, it may be mentioned that the greater part of the sum concerned represents the anticipated profit for the current year on the coinage of ticals—the whole of which has been charged off on the expenditure side of the budget for transfer to a special reserve fund to be formed in connection with the scheme lately adopted for placing the currency of the country on a gold basis. Further reference to this scheme is made in the chapter on Currency, but it may be briefly explained here that the policy of the Government is to set aside annually the profit accruing from the coinage of its metallic currency, with a view to creating a gold reserve for the purpose of ensuring the stability of the tical at the rate of exchange to be eventually decided on.

*Ministry of Agriculture.*—The expenditure of the



Ministry of Agriculture is chiefly incurred in connection with the following departments, viz., Land Registration, 179,000 ticals; Sericulture, 236,000 ticals; Mines, 174,000 ticals; Special Commissioners for the Issue of Title-Deeds, 195,000 ticals; and Survey Department, 901,000 ticals.

The departments concerned with the registration of land and the issue of title-deeds are creations of recent date, and have been established in conformity with the policy of the Government to accurately determine and record the holdings of the land-owning classes. The importance of this work cannot be overestimated, as it will not only ensure to the owners of the fields security of tenure in their holdings, but also provide the Government with reliable data for the assessment of land taxes.

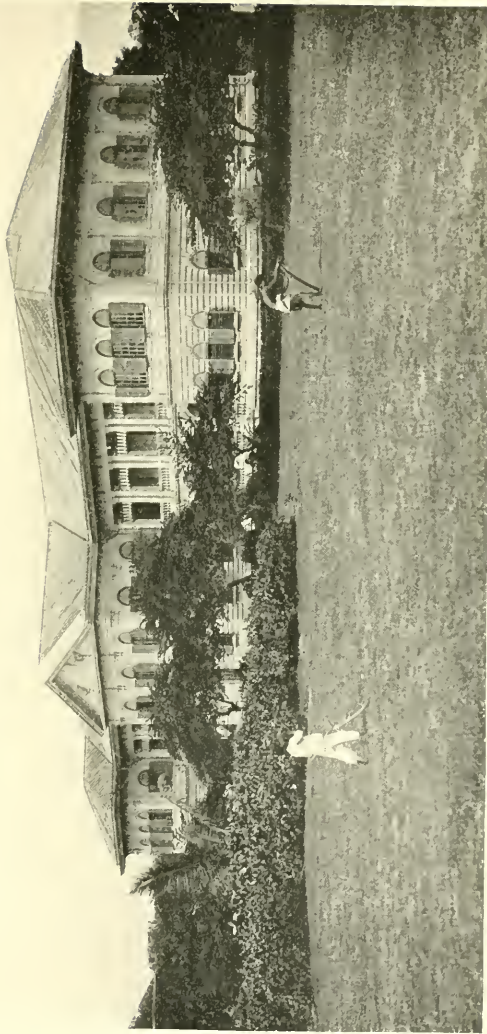
As regards the Department of Sericulture, which is still in its infancy, it will suffice to say that the efforts of the Government are directed towards the establishment of an agency for the investigation of the best methods of silk production, as suited to Siam. A Japanese expert was engaged for this purpose last year, and his observations and experiments have been attended with so satisfactory a measure of success that it is now the purpose of the Government, by the creation of model nurseries in

suitable localities and the adoption of modern methods of worm-raising and silk-reeling, to provide centres of instruction for the classes already engaged in this industry.

Siam at present exports a fair quantity of raw silk, but the quality is in all cases poor owing to unskilful methods, and, as a consequence, the prices obtained are very low compared with those of other silk-producing countries. This defect it will be the endeavor of the sericultural department to remedy, and if the scheme proves successful it should not be long before Siamese silk takes its proper place as an important and profitable article of export.

*Ministry of Public Works.*—The sum shown against this head includes the Provincial Buildings and Roads branch (1,269,000 ticals), and the Department of Posts and Telegraphs (914,000 ticals), but not Railways, which are separately shown in the accounts, though under the control of the same ministry.

The sum allotted for road construction in this year's budget is chiefly for the province of Puket, on the west coast of the Malay Peninsula, and the continued opening up of this part of the country by improved means of communications should assist in still further developing the flourishing tin-mining industry carried on there.



THE HEAD OFFICE, ROYAL RAILWAY DEPARTMENT



*Railway Construction.*—The policy hitherto adopted by the Government has been to construct its railways entirely out of revenue, and up to the end of the year 121 (1892-93) a sum of over thirty million ticals had been so expended. The current year's allotment of 1,500,000 ticals is considerably less than the average of the last few years, but it is proposed to supplement this to the extent of about 4,500,000 ticals from the accumulated cash reserve of the Government, in order to provide funds for the further extension of the northern line. This is to be pushed on as rapidly as possible to Chieng Mai, a town in the extreme north of Siam, and it is estimated that the work will be completed in about six years at a cost of thirty-six million ticals.

*Miscellaneous.*—The items included in this head are principally large sums of a special nature, such as 1,600,000 ticals for non-recurring expenditure in the northern province of Payap, which was disturbed last year by a local rising headed by freebooters from across the frontier; 300,000 ticals for the civil list of H.R.H. the Crown Prince; a like sum for His Majesty's tour expenses; and 150,000 ticals for expenditure connected with Siam's exhibits at the St. Louis Exposition, this not representing the whole of the expenditure, but the amount allotted for this

year only, a further credit of 30,000 ticals having been voted for the year and 70,000 ticals for the following year.

BUDGET ESTIMATE OF THE REVENUE AND EXPENDITURE OF THE  
KINGDOM OF SIAM FOR THE YEAR 122 (1903-04)

REVENUE		EXPENDITURE	
	Amount (Ticals)	Heads	Amount (Ticals)
Gambling Farm.....	5,757,383	Ministry of the Interior.....	10,580,018
Spirit Farm.....	4,158,583	Ministry of War.....	6,532,140
Opium Farm.....	7,113,396	Ministry of Foreign Affairs..	1,005,274
Lottery Farm.....	2,136,225	Ministry of Local Government	2,915,554
Miscellaneous Farms.....	638,170	Ministry of Finance.....	3,085,277
Taxes on Paddy Lands, Or- chards, Gardens, Planta- tions, and Fisheries.....	4,376,478	Ministry of Agriculture.....	1,906,840
Customs.....	4,384,913	Ministry of Justice.....	1,588,566
Forests.....	1,137,322	Ministry of Public Instruction	1,520,307
Mines.....	1,037,345	Ministry of Public Works....	2,183,799
Post-office.....	135,940	H. M.'s Private Secretary's Department.....	135,690
Telegraph Department.....	537,556	Legislative Council.....	154,943
Royal Mint.....	1,726,920	Royal Lictors.....	120,952
Railway Traffic Receipts....	2,020,000	H. M.'s Civil List.....	6,000,000
Judicial Fees and Fines.....	600,405	Pensions, Annuities, and Gratuities.....	730,000
Prison Manufactures.....	67,231	Railway Construction.....	1,500,000
Sundry Fees and Licenses....	2,357,765	Railway Traffic.....	1,010,000
Miscellaneous Taxes.....	60,024	Reception of Distinguished Visitors.....	100,000
Octroi.....	1,552,303	Exemption Notes.....	350,000
Chinese Poll-Tax.....	792,411	Miscellaneous.....	4,080,000
Capitation Tax.....	3,386,937		
Rent and Revenue from Gov- ernment Property.....	179,943	Total.....	45,499,365
Sale of Government Property	127,633		
Interest and Profit on Ex- change.....	539,000		
Miscellaneous.....	1,047,800		
Total.....	45,880,693		
Deduct for short collections	340,693		
Total net revenue.....	45,540,000		

CHAPTER X  
CURRENCY AND BANKING







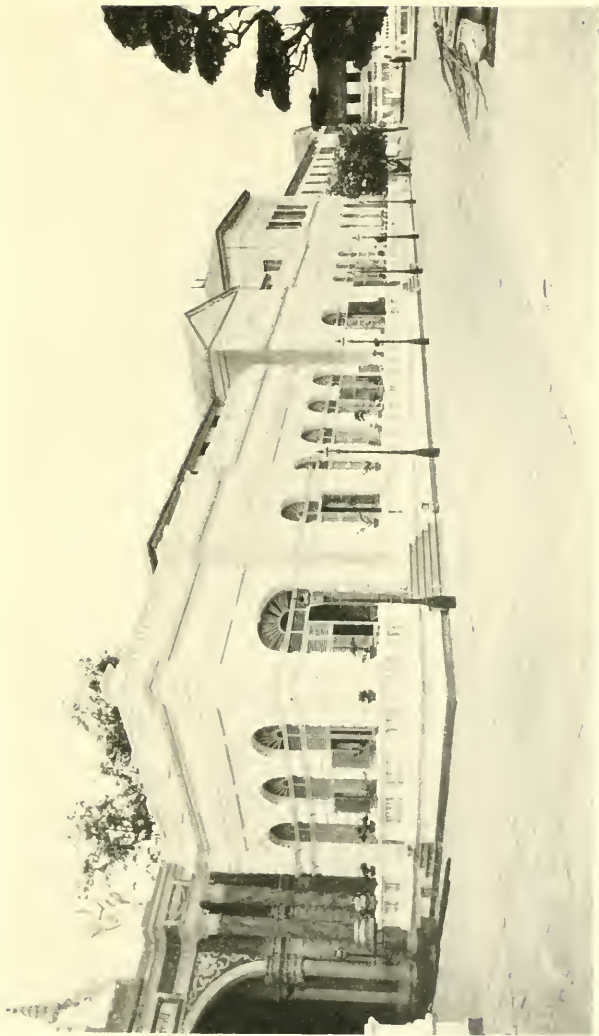
## CHAPTER X

### CURRENCY AND BANKING, BY THE ACTING FINANCIAL ADVISER

PRIOR to the 27th of November, 1902, the currency of Siam was on a purely silver basis, and hence, up to that date, the value of its monetary unit (the tical) followed the fluctuations of the white metal. For many years silver had been steadily falling and although, as shown in the chapter on Finance, the revenue was exhibiting a most satisfactory quality of expansion, the purchasing power of the tical was being reduced year by year, and larger and larger sums had to be paid by the state for all services and commodities whose value was measured in gold. His Majesty's Government was, therefore, forced to the conclusion that unless it took steps to counteract the depreciation of its monetary unit (a depreciation the end of which no one could foresee), it would be necessary, if the progressive efficiency of the administration was to

be maintained, to increase taxation to a considerable extent. This was regarded as undesirable for many reasons even if its practicability were demonstrated and consequently, after mature deliberation, it was resolved to prohibit the further free coinage of silver—hitherto imported in the form of Mexican and British dollars, and exchangeable, by law, without limit, at the rate of five ticals for three dollars. At the same time it was publicly notified that, for the future, any person desiring to obtain ticals from the Treasury could do so by depositing an equivalent sum in gold with the Government bankers in London, at a rate of exchange to be ascertained on application, and the first transactions effected under this arrangement were at the rate of twenty ticals to the pound sterling, the quotations of the local banks just prior to this having been about  $21\frac{3}{4}$ . The Government selling rate has since been gradually raised by easy stages until, at the present time, it stands at seventeen ticals to the pound, with a bank rate showing no very marked difference.

The arrangement here described has, so far, been found to work satisfactorily and has been generally approved by the banking and mercantile community, by reason of the strengthening effect it has already had on the currency of the country, and the expect-



THE MINISTRY OF THE HOUSEHOLD



tation that when the scheme is thoroughly established the tical will have a practically constant value. The importance of the latter consideration from the point of view of general trade interests will be readily appreciated, while the effect of a tical of higher value will be to lower gradually local prices all round and so reduce the cost of living to the community at large. It may thus be claimed that the important economic step taken by the Government for the placing of its currency on a gold basis is calculated to further the interests of the country generally, besides enhancing the credit of the state and the value of the public revenues, and that the measures adopted towards that end have resulted in a minimum of disturbance to the local trade interests.

METALLIC CURRENCY

The metallic currency of Siam consists of the following coins:

SILVER

Name	Approximate Weight	Fineness
Tical.....	23.4 grains	{ About 900 parts pure silver to 100 alloy.
Salung ( $\frac{1}{3}$ tical).....	58.5 "	
Fuang ( $\frac{1}{5}$ tical).....	29.25 "	

COPPER

Name	Approximate Weight
Song Phai, or 4-att piece (value $\frac{1}{16}$ of a tical).....	291 grains
Phai, or 2-att piece (value $\frac{1}{8}$ of a tical).....	175 "
Att (value $\frac{1}{4}$ of a tical).....	87 "
Solot, or half-att (value $\frac{1}{25}$ of a tical).....	43 "

## PAPER CURRENCY

Up to the 19th of September, 1902, the paper money circulating in Siam was confined to the issues of the three foreign banks having branches in Bangkok, and the notes of these, though not legal tender, had been practically accepted as such by the public and enjoyed a considerable measure of popularity. It appeared expedient to the Government, however, to provide for an issue of strictly convertible state paper currency, and arrangements were accordingly made for the establishment of a separate department for this purpose, subordinate to the Ministry of Finance, the operations of which commenced on the date above mentioned.

The Government notes are of five values, *viz.*, five, ten, twenty, one hundred, and one thousand ticals, and the success of the scheme has been most marked, as the circulation has risen in a single year to over six million ticals, being at the average rate of above five hundred thousand ticals a month. This result is all the more remarkable in view of the fact that the state notes have still to compete to some extent with the issues of the banks already referred to, and that no attempt whatever has been made to force the circulation in any way, the issues being made for cash only, even to the Treasury.

The striking success attained in the short time the department has been open augurs well for the future, and seems to show that the Government notes have supplied a real want in the needs of the country.

The outstandings at the present time are fully covered by cash held in the vaults of the paper currency department. By law, twenty-five per cent. of the coin received for the notes issued may be invested in such securities as the Minister of Finance may select, with the approval of His Majesty, but no investments have yet been made.

#### BANKING

Banking establishments are represented in Siam by branches of the Hong-Kong and Shanghai Banking Corporation, the chartered Bank of India, Australia, and China, and the Banque de l'Indo-Chine, which commenced business in Bangkok in 1888, 1893, and 1897, respectively. There are also agencies of the Mercantile Bank of India, the National Bank of China, Limited, and the International Banking Corporation of New York. All these institutions are substantial and well-established concerns, with branches, agencies, and correspondents in the principal cities of the world, and they are thus in a

position to meet all demands made on them for purposes of trade and private business. Their establishment in Siam has undoubtedly been most beneficial to the trade interests of the country, and the three first-named institutions also deserve special recognition as being the pioneers in the matter of popularizing the use of paper money in the capital of the kingdom. Much of the success of the Government issue, of which mention has been made above, is unquestionably due to the fact that the notes of the private banks had already thoroughly established themselves in the confidence of the people and had accustomed them for many years to the use of this particular form of credit. The Government paper had consequently no prejudice or suspicion to encounter, and was readily taken by the public from the first.

The aggregate volume of business done by the banks established in Siam may be gauged to some extent by the figures relating to the foreign trade of the country, which amounted, in the year ending the 31st of March, 1903, to a total of 155,531,994 ticals, the imports being valued at 69,716,074 ticals, and the exports at 85,815,920 ticals. These considerable figures, which show on the total an advance of nearly eighteen per cent. on the returns of the pre-



vious year, indicate the extent to which the assistance of the banks is invoked in financing the external trade of the country; but besides this there is, of course, a very large mass of business connected with private loans, advances, deposits, and drawing accounts. Among the latter are those of the Government, which keeps a portion of its cash balance with the three institutions mentioned as having branches in Bangkok.

No regular banking facilities are provided for the interior of the kingdom, but the Government is usually prepared to sell drafts on district treasuries, for the convenience of traders and others, at a small charge for commission. This privilege is readily availed of at times, and may be regarded as the germ of one phase of the functions of the future National Bank of Siam. There can be little doubt that an institution such as this would be of the greatest convenience and utility both to the Government and the country at large, and it is hoped that it may be possible before long to give practical effect to the idea.



CHAPTER XI  
AGRICULTURE





## CHAPTER XI

AGRICULTURE IN SIAM, BY W. A. GRAHAM, ESQ.,  
FORMERLY ASSISTANT TO THE MINISTER  
OF AGRICULTURE

THE Siamese are, before all things, an agricultural nation. From time immemorial, the valley of the Menam has been one vast rice-field, and the present inhabitants of the country continue to plough, sow, and reap in it after the same methods, and with the same kind of implements, as were employed by their predecessors a thousand years ago.

The Siamese man does not take kindly to most forms of labor, and is quite content to see such trades and manufactures as there are in his country in the hands of Chinese and other foreigners. The pursuit of agriculture, however, he reserves to himself, and, while nine tenths of the people of the country follow the calling, it is very rarely that foreigners are found taking an active part in any form of agriculture except market-gardening.

The principal product of the country is rice. Indeed, so much is this the case, that thus baldly to state the fact is to convey but a feeble and inadequate impression of the supreme position of this cereal in the land. It might almost be said that rice is the only agricultural product, for though Siam exports timber and grows maize, millet, sugar, tobacco, and fruit, yet her rice production preponderates so entirely, and her commerce, politics, and social conditions are now, and have always been, so profoundly influenced by rice, that all these lesser products amount, by comparison, almost to nothing. The European, whose idea of a staple food is formed from a knowledge of the part played in the economy of his own country, can only vaguely imagine the importance of rice to the Siamese. It constitutes not merely the principal, but almost the sole food of every one, from the highest noble to the lowliest plebeian: horses, cattle, dogs, cats, and all other domestic animals live on it; it is used for making beer and spirits; it enters largely into all ceremonials, and the superstitious observances in connection with it provide the people with their most frequent occasions for holiday-making. The only recognized means of investing money is, or was until the recent introduction of European banking,



CLEARING THE GROUND





the purchase of rice-fields; the nobility is graded according to the (now purely nominal) grants of rice-land conferred by the king; dealings in rice and the ownership of rice-land are the causes of most of the civil litigation in the law courts, and the result of the last, or prospects of the next, rice harvest, make the most absorbing topic of conversation at all times. It is rice which forms the cargoes of the thousands of boats ever passing up and down the river Menam; which supplies the grist of the numerous mills of modern Bangkok (the furnaces of which are fed with rice-husk), and which is carried away in the ocean-going steamers always to be seen loading in the port; finally it is from rice that the Government derives, directly, almost the whole of its revenue.

Every step in the process of rice cultivation demands, in common with most of the ordinary occurrences of Siamese life, the observance of more or less elaborate religious ceremonial, for no one living in a country where the innumerable spirits of earth, air, and water take such a lively interest in the affairs of mankind as they do in Siam, would be at all wise in undertaking any matter, as to the issue of which he might be anxious, without due propitiations made beforehand. Besides these private

ceremonies which affect the individual only, there are also others of a public nature, directly concerning the entire community, and regarded as of the utmost importance in determining the nature of the harvest. The chief of these are the "Loh Chin Cha," or Swinging Festival, and the "Raak Na," or First Ploughing; ceremonies probably of Brahminical origin, the latter, and diverse forms of the former, being practised in all the countries of Indo-China and mentioned in various Brahmin histories and traditions. From the incidents during the performance of these ceremonies, which are watched with anxiety by enormous crowds of the people, the soothsayers are enabled to foretell the amount of success which will attend the agricultural operations of the coming season.

Rice is grown in the plains after two different methods, the one by sowing the seed broadcast on the land where it is to grow, and the other by causing it to sprout first in small patches or nurseries of specially prepared ground and afterwards transplanting it into the fields. The first is the older system, the adaptation, in fact, of the ancient rude hill-cultivation to the plains, and for this the local rainfall is the only water-supply required, while for the second the collection of water with



PLOUGHING CEREMONY



which the land can be irrigated from time to time is necessary. For the first method, or "Na Wan" (*Na*, a rice-field, and *Wan*, to sow), also called "Na Muang," the land is ploughed as soon as the rain has moistened the soil sufficiently for the plough to break it up, usually in the month of June. Soon after, the ground is again gone over with the harrow, being thereby completely broken up and denuded of grass and weeds, after which the seed is sown upon it. The crop is then left to grow and usually receives enough moisture from the rain to enable it to come to maturity without further attention. For the second method, or "Na Dum" (*Na*, a rice-field, and *Dum*, to dive into, hence to plant with the hand in the soft, yielding mud), also called "Na Suan," the ploughing is as for Na Wan, but the harrowing is not done until sufficient water has collected on the field, either from rainfall or by irrigation, to entirely cover the soil. It is then churned into a porridgy mass and the weeds and grass removed by the harrow. In the meantime the rice has been sprouting in the nursery, the manured soil of which causes rapid germination, and the young plants are now taken up and planted out. The "Na Dum" method, common to all rice-growing countries of the East, is much more intricate than the "Na

Wan," but is also much more productive, and whenever a supply of water becomes available by irrigation or from excessive rain the latter gives place to the former.

The practice of "Na Dum" is an art. The seedlings, when the fields are ready for them, are taken from the nurseries in bundles of a hundred or so and neatly tied together, the mud being shaken from their roots by a deft kick administered to the bundle at the moment of drawing it from the soil. This work falls to the men and the planting usually to the women, and as skill in planting vastly enhances a girl's chances in the marriage market, so a young man who should hand to the women, to plant, bundles clumsily tied or with muddy roots would stand small chance of getting a bride in his own village.

Buffaloes are used for ploughing in the lower plains, where the atmosphere is humid, but the buffalo, in spite of his great strength, is useless in a hot, dry climate, and therefore, in the higher and drier parts, bullocks are used, a pair of these doing the work of one buffalo.

While the paddy, as it is called until the grain is husked, is growing, it demands no labor, and until it is reaped nothing is done beyond a little spas-



PLANTING RICE





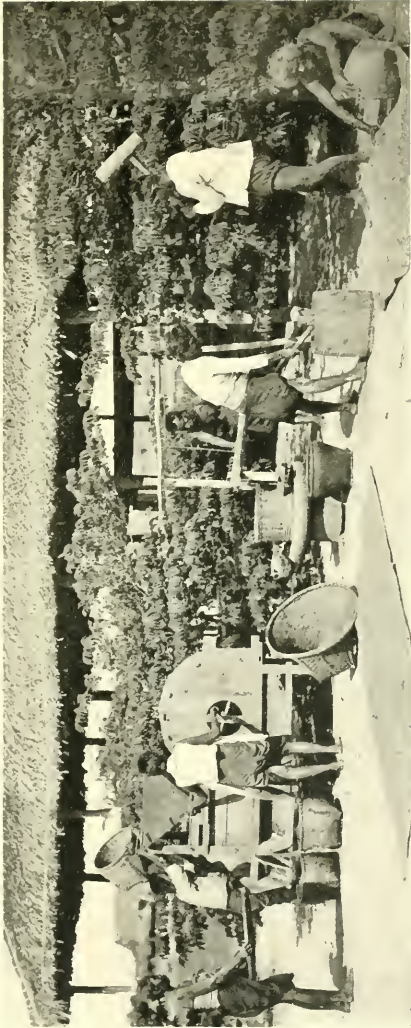
modic bird-scaring by the children. With the reaping time all are busy again: the crop is cut with small sickles loaded on sleds and drawn to the winnowing-ground, a small spot either in the fields or near the village, on which the earth is beaten down hard and smooth. There, after the spirits have been duly propitiated, the sheaves are strewn out and are trampled upon by the cattle until the grain is all detached from the straw. Winnowing then takes place, after which the golden yellow grain is stored in specially constructed huts and the year's work is over.

Though there are many large estates in the neighborhood of Bangkok, the property of the royal family and nobility, the greater part of the land is held in small farms by peasant proprietors, having full hereditary rights subject only to the will of the king, in whom, finally, all rights are vested in accordance with ancient custom. Each man ploughs his own land, but the planting and reaping is usually done with the aid of his neighbors, the whole village turning out and working together on each owner's fields in turn. This labor in common is the occasion for much merry-making, the young men and maidens, glad of the chance of meeting, planting or reaping all day amid bouts of repartee and bursts

of laughter, finishing up with a hearty feed at the expense of the owner of the fields, followed by rude music and further badinage. In the lower plains, however, where the farmer is beginning to understand the profit to be derived from increase of production, this happy-go-lucky custom is falling into disuse, the merry amateurs being replaced by hard-working farm hands engaged at a wage for the season.

Two crops of rice are habitually raised each year in the plains of Siam, the first called "Kao Bao," or light crop, and the second, "Kao Nak," or heavy crop. The "Kao Bao" is planted on irrigated land before the appearance of the rains in the plains, often as early as February, and is reaped in May or June. The "Kao Nak," is planted between July and September, and is reaped in December or January. The "Kao Bao" crop in no case amounts to a very large quantity of rice.

The inhabitants of the hilly parts of Siam cultivate a variety of rice different from that grown in the plains, following the method common to the hill-tribes of India, Burmah, China, and other rice-growing countries of the East. This is the old, original, primitive form of agriculture, the first probably practised by prehistoric man, consisting of



HULLING RICE



merely clearing a patch of jungle by cutting and burning, making holes with a sharp stick in the ground thus exposed, and therein inserting grains of rice.

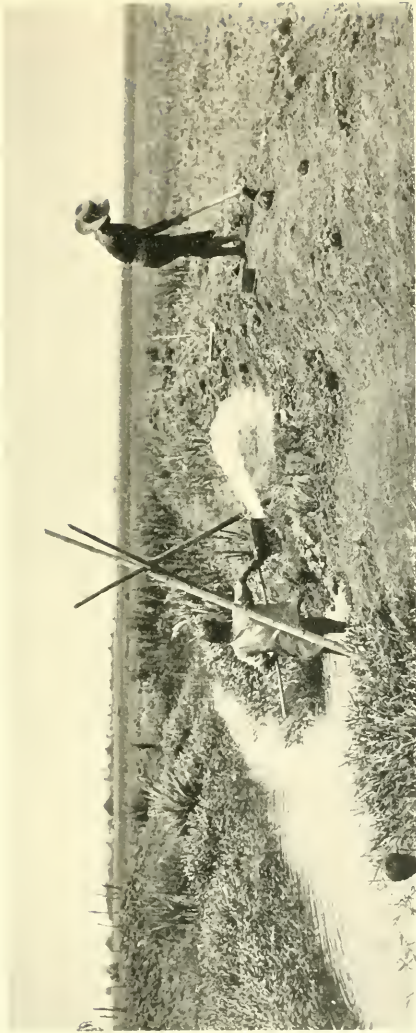
The varieties of rice cultivated in Siam after the above methods number more than forty, many of which, however, resemble each other so closely as to be scarcely worth special notice. Others present highly distinctive qualities either in size, color, or flavor of the grain (such as glutinous rice, red rice, and the small, round-grained hill rice), or in the nature of the plant itself. There can be no doubt that some of the latter varieties have been evolved from the peculiar conditions under which they have, during succeeding centuries, been cultivated. Thus a variety of common rice, grown on land which is subject to high floods, has the almost miraculous faculty of growing with more or less speed (at times as much as a foot in twelve hours) according as the water rises, the plant often reaching as much as ten feet in length in its efforts to keep its leaves above water. This variety, now a thoroughly established one in Siam, is unknown in Burmah, Java, or India.

That the amount of rice produced in Siam has increased enormously of late years is evidenced by a glance at the customs figures, which show that the

amount of rice annually exported has risen from 217,000 tons in 1885, to close on 800,000 tons last year. Nevertheless, it is now fully realized that the production of the country is still very far short of what it might be, were the question of irrigation properly taken up and all available land brought under cultivation.

Though the whole valley of the Menam is intersected by innumerable canals, many of which are of ancient construction, in the absence of water-control these are useful only as a means of communication; and irrigation, except in one small district north of Bangkok, is almost non-existent. Various uncouth and primitive implements are used by the farmers for raising water on to their fields, implements quite powerless to avert total loss of crop should water be scarce, but irrigation by raising the general water-level above that of the land, though there is a reason to believe it was once practised, is a lost art. The Government is now considering the execution of a great irrigation scheme which, if ever completed, will revolutionize agriculture in Siam and inevitably place her in the van of the rice-producing countries of the world.

Other agricultural products of Siam are maize, millet, tobacco, cotton, sesamum, sugar, betel-nut,



IRRIGATING BY HAND





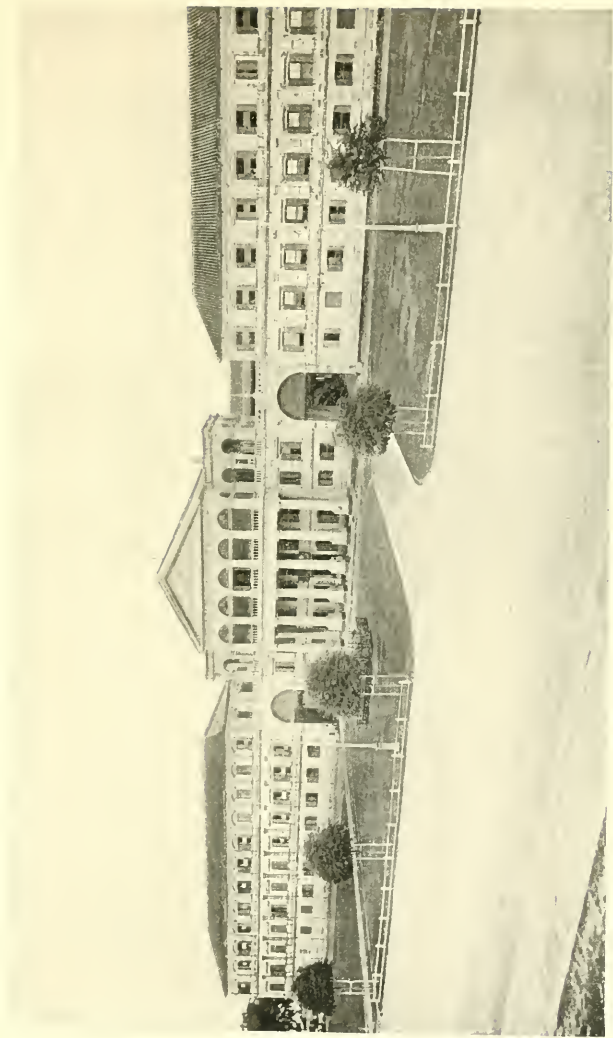
betel-leaf, pepper, cocoanut, yams, beans, gourds of different kinds, and a large variety of fruits.

*Maize* and *millet* are grown in small plots in the plains and in fields on the higher lands. As they do not require much water, two crops can often be raised in a year, but the amount grown is small and is not increasing.

*Tobacco* is grown in considerable quantities in several districts, though not in the lower plains. In some localities it is cultivated in the rice-fields during the dry weather, but the best crops are raised on the light, rich, alluvial soil near the banks of the upper reaches of the Menam. The production is not quite equal to the amount consumed in the country, and a certain quantity is imported from China. The methods of cultivation are rough. The seed is sown on ground prepared by ploughing and hoeing, and the young plants are thinned and occasionally weeded as they grow up. Little care is taken to ward off the attacks of insects, with the result that much of the crop is often lost, while that which is reaped frequently consists of diseased, stunted plants. Notwithstanding this bad treatment, however, and the very primitive methods of drying and curing the leaf, the tobacco grown in some districts, notably Pitsanuloke and Ratburi, is of a superior

quality, and there is little doubt that with proper care the tobacco of Siam could at least compete with that of Burmah, India, or Java. At present none is exported, but were a foreign market to be found, it is probable that tobacco-growing would extend rapidly.

*Cotton* has been cultivated in Siam from time immemorial, all tradition as to when and by whom it was introduced having long been lost. It is probable that the plant was first introduced from India, where it is known to have been used at least 2500 years ago, the earliest record of cotton in China being some centuries later. Several varieties of the species *Gossypium herbaceum* are known, and it is believed that *Gossypium hirsutum* is also found in Siam, though this species is otherwise confined to the American continent. Cultivation is carried on chiefly in the north, but is apparently declining owing to the increasing facilities for obtaining foreign cotton goods. There is, however, every reason to suppose that cotton could be successfully cultivated in all parts of the country and, given sufficient incentive to development, might become one of the chief agricultural products of Siam. The plant, which is treated as an annual in most countries, is here often allowed to remain in the ground for two



ARMY HEADQUARTERS



or even three years, bearing crops of diminishing value twice each year and growing into a straggling, woody shrub from six to eight feet high. This treatment is prompted by the laziness of the cultivators, laziness which, however, brings its own punishment, as the roots of the cotton, after three years' growth, are plunged very deep in the earth and can only be removed by extensive digging operations. The cotton produced in Siam is nearly all dressed, spun, and woven into cloth locally, but a small quantity of the raw article is exported overland into China and Burmah.

*Sesamum* is grown sometimes in the rice-fields before the rice season and sometimes on high land. It is easy of cultivation, and usually commands a good price, but it is not much grown in the lower plains. *Sesamum* is cultivated for the oil contained in the seed, which is extracted by means of rough wooden presses worked by hand or by bullock power. The residue, after the oil has been extracted, is also used for feeding cattle and as a manure. The oil itself is used locally for cooking, and a certain amount of the unpressed seed is annually available for export (about four thousand tons). It is probable that, with a little judicious encouragement, the cultivation of *sesamum* might

be greatly increased, as, the crop ripening in the month of May, it could be largely cultivated by diligent husbandmen without in any way interfering with rice-growing operations.

*Sugar.*—In the early part of the last century sugar was very extensively grown in and exported from Siam, and Sir John Bowring, when he visited the country in 1855, predicted that this would soon become its chief agricultural product. His conjectures have not, however, become facts, for, in common with other cane-sugar centres, Siam has been defeated by beet. Sugar is not now exported at all, in fact it is largely imported, while sugar-cane continues to be grown only for use as molasses and for the manufacture of coarse, unrefined sugar used for home consumption. A good deal of jaggery sugar is extracted from the palmyra and cocoanut palm-trees, but as the trees grow chiefly on waste ground and receive no attention from the cultivator, this can scarcely be considered as an agricultural product.

*Betel-nut* is grown all over the country, but not, except in the Siamese Malay States, in sufficient quantities to supply the enormous demand which the chewing proclivities of the Siamese create. The betel-nut palm is grown in gardens, of which



THRESHING WITH BUFFALOES





a great number exist in the suburbs of Bangkok. Once planted in a moist situation it requires absolutely no care, and though it is possible that by selection and manuring the fruit might be improved the Siamese cultivator has never thought it worth while to take any trouble with it.

*Betel-leaf* is a vine and is grown in plantations. It is cultivated round almost every village in the country, and so great is the consumption of it in Bangkok that one of the large markets there is devoted entirely to its sale. The vine requires a good deal of water, and the ground on which it grows must be manured and frequently weeded. The leaves are fit for use when the vine is a year old and, from that time on, are picked as quickly as they grow, until the vine is about five years old, when the leaves become too small and strong-flavored to be of value, and the plant is taken up and replaced by a young one. *Betel-leaf* is one of the few agricultural products the cultivation of which employs a considerable amount of Chinese labor, the others being pepper, fruit, and vegetables.

*Pepper* is grown in some quantity in the southernmost parts of Siam. At one time the production was greater than it is now, and in the seventeenth century the monopoly of trading in it was a bone of

much contention between the European merchants trading with the country. At that time the output was probably more than three thousand tons a year. Now it is much less, the market during the last few years having been so uncertain as almost to destroy the industry. Pepper grows as a vine and is trained upon poles, usually in small garden plots near the villages. It has a large, handsome green leaf. The seed, when dried and husked, consist of small, round berries. They are mostly smooth and hard, but about one third of the produce of each vine does not come properly to maturity, it shrivelling up, is separated from the good seed, and sold as inferior, or black pepper.

*Cocoanut* was, at one time, largely grown round Bangkok and farther inland, but within the last few years the ravages of the cocoanut beetle have been so terrible that the cocoanut palm has almost disappeared from there. Cocoanuts are now imported in great numbers, the cocoanut tree tax has been removed from the revenue schedules, and the country has apparently acquiesced in the defeat inflicted upon it by the beetle. Yet a reasonable amount of care and forethought is all that was ever required to overcome the insect pest, and even now there is no reason why cocoanut should be any more difficult

to grow in Upper Siam than it is in the Malay States. On the coast of the gulf, and inland in the Siamese Malay States, the cocoanut palm grows magnificently, and not less than ten thousand tons of copra, reported the finest in the world, are annually exported thence to Singapore. The cocoanut, like the betel-nut, demands no care except that the soil in its neighborhood be kept clean and open, and that a strict watch be kept for signs of beetle. After the trees become big, weeds cease to grow at their feet, and the happy cultivator then has nothing more to do than to gather his nuts, of which an average tree produces over one hundred in a year. The Malay, who is no more inclined to work than most people, has discovered the superior advantages of cocoanut-growing and, at the present moment, land is being converted, throughout the Malay States, from rice-land into cocoanut plantations.

The remaining vegetable products of the soil of Siam may be classed rather as horticultural than as agricultural produce. Of yams, beans, and gourds many different kinds are cultivated, but always in small quantities and for local consumption merely, and the same may be said of the various fruits, fibres, dyes, etc.

There has, for a very long time, been a Ministry

of Agriculture in Siam, but unfortunately in the past few steps have been taken by it to improve or encourage the agriculture of the country. Enough has been said to show that there is abundant room for such improvement and encouragement, and it is fervently hoped that the scientific agricultural experiment laboratory which has recently been organized under the Ministry, will place in the hands of the Government the means to give that assistance to the agriculturists of the country which alone can enable Siam to keep a place in the keenly contested produce-markets of the world.

## CHAPTER XII

### FORESTRY





## CHAPTER XII

### FORESTRY IN SIAM, BY THE CONSERVATOR OF FORESTS

AT present by far the most valuable tree in Siam is the teak. The forests in which this species occurs are situated in the dry regions of the Monthon Payupp, and those parts of the Monthons Nakon Sawan and Pitsanuloke which lie north of latitude  $17^{\circ}$ , the average annual rainfall being probably under fifty inches. These regions, which are hilly throughout, are drained by the Salween on the west, and the Mekong on the east, while the numerous feeders of the Menam water the whole of the central portion, all affording the waterways by which the timber is floated out.

Where conditions are suitable teak occurs in deciduous forests up to 2500 feet elevation, mixed with many other species, of which the following are some of the most important :

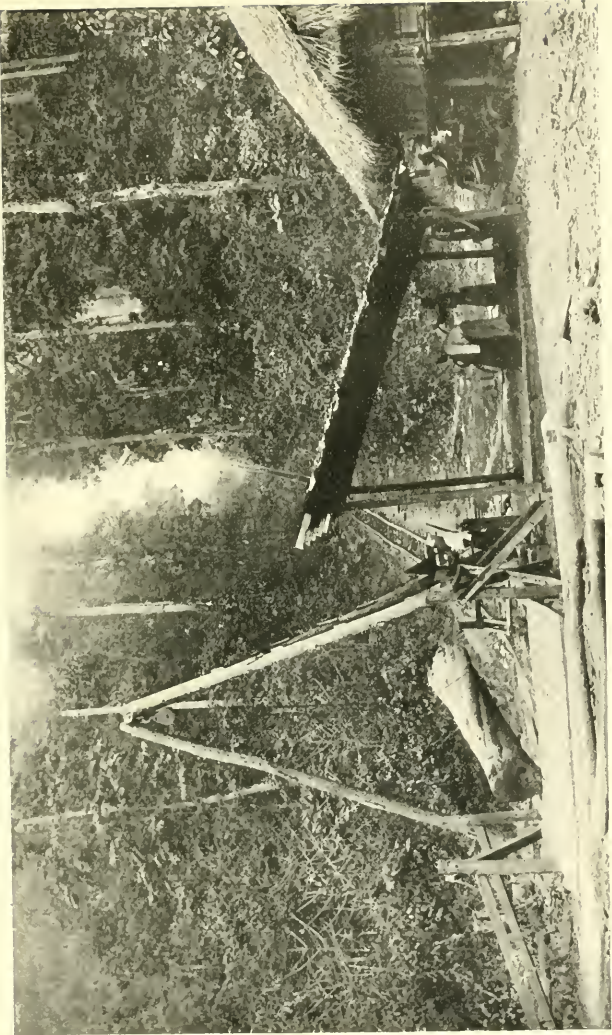
*Xylia dolabriformis*, *Eugenia jambolana*, *Bombax*

*insignia, Sterculia (various), Pteros pernum semisa-gittatum, Garuga pinnata, Bursera serrata, Semecarpus panduratus, Spondias magnifera, Terminalia tomentella, Terminalia crenulata, Terminalia bellerica, Anogeissus acuminatus, Lagerstræmia flos regina, Lagerstræmia tomentosa, Homalium tomentosum, Cordia grandis, Cassia Siamea, Odina wodier, etc., etc.*

Prior to the year 1896, although teak had been worked very extensively in the Menam and Salween basins, practically no attempts had been made to control these workings. It is true that such work was supposed to be restricted to forests for which leases had been granted by the Government, and the forms of lease then in use contained certain conditions as to minimum girth, etc., which, although inadequate, were apparently at the time considered a sufficient safeguard for the future of the forests, but as no Government official was directly responsible, not only were the conditions of leases not enforced, but very many unleased forests were worked under the authority of the local officials.

Forestry in Siam (if President Roosevelt's definition is to be accepted) may be said to have commenced only in 1896-97, when the Government secured the services of an officer of the Imperial





LOADING A LOG



Forest Service of exceptional abilities on deputation from the Government of India.

This officer at once directed his attention to the teak forests, and acting under his advice the following measures were taken to protect the very valuable properties of the Government.

(1) A Forest Department was established with an European staff of officers, recruited as far as possible from the Imperial and Provincial Forest Services of India and Burmah, not the least important of whose duties being the training of selected Siamese youths with a view to their filling responsible positions in the department in the future.

(2) The promulgation of various royal decrees by His Majesty, providing for the better protection and control of the forests, and absolutely prohibiting any work except under a lease.

(3) The inspection and survey of all leased forests by Forest Officers with a view to ascertaining the future possibilities of the forests and also further periodical inspections to ensure strict observance of conditions of leases.

(4) The training of selected Siamese at the Indian Forest School at Dehra Dun.

In 1897, with the consent of the lessees a new form of lease was substituted for that under which

they had hitherto worked, the conditions of this lease embodying the more important restrictions necessary for the future welfare of the forests, among which may be mentioned the raising of the minimum girth from fifty-one inches to  $76\frac{1}{2}$  inches.

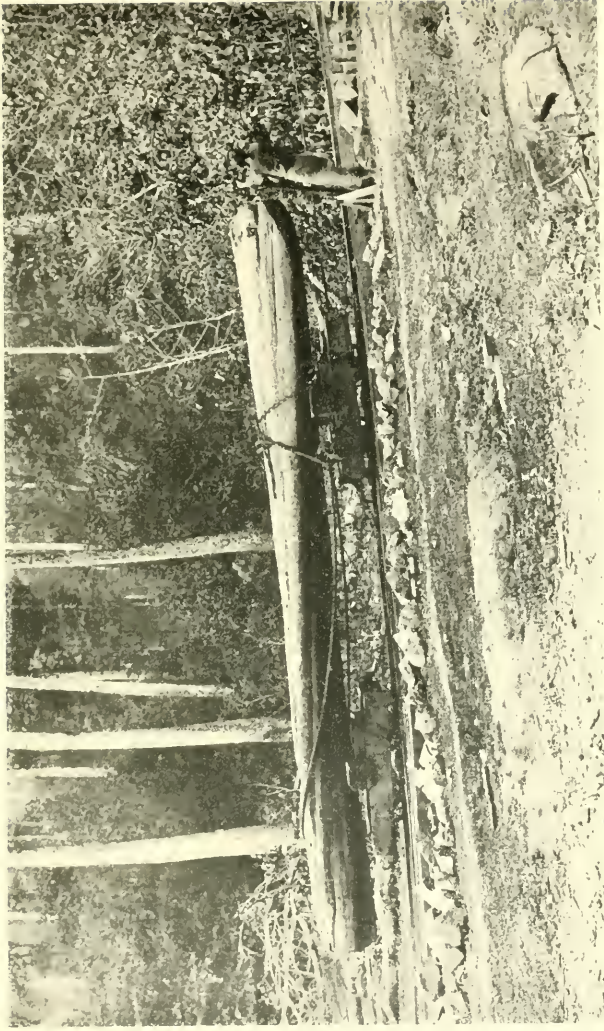
In 1900-01 most of the old leases expired and a further new form of lease was brought into force for such forests as Government decided should still be worked. This form provided for the closing of one half of the original areas and prohibited any further girdling by lessees.

The royalty was also raised from 4.25 Rs. a log to 10 Rs. per large and 6 Rs. per small log.

A short account of the system under which teak is worked may be of interest. The trees selected are first killed (girdled) by cutting a ring round the tree near the ground, well into the heart-wood.

They are then left standing for two years at least to season, when they are felled, logged, and dragged usually by elephants, into the nearest floating streams. Parties of elephants are also kept working the main streams to break up stacks and keep the timber moving.

Across the flat country carts are now being largely introduced, dragged by buffaloes, as such work can



LOGGING



be done in the hot weather when elephants cannot be used.

Various mechanical contrivances have also been introduced by the Borneo Company, Limited, and the Bombay Burmah Trading Corporation, Limited, with wire ropes to drag the logs over hills which are too steep for elephants.

Owing to the many rapids on the Me Ping, Me Yome, Me Wang, and Me Nam, logs are floated singly until arrival at Raheng, Sawankaloke, or Utradit, when they are made into rafts varying in shape and number of logs according to the river, and thus conveyed to the duty station at Paknampo, where they are examined, measured, and duty due collected by a Forest Department establishment before proceeding to Bangkok. The average annual arrivals at Paknampo amount to some one hundred thousand logs.

Salween timber is floated singly to Kyodan, a rafting station some seventy miles north of Moulmein, then rafted to Kado, where the Government inspection and collection of duties is carried out before passing to Moulmein.

Average annual arrivals from Siam at Kado amount to some sixty thousand logs.

As regards the other valuable species of timber



trees in the north, these at present cannot be worked north of Raheng, Sawankaloke, or Utradit, as, being heavy woods, they require to be floated lashed to bamboos, and too large a percentage would be wrecked in the rapids to make it a paying business. A railway to Chiengmai is, however, under course of construction which when completed will tap a very large area of practically virgin forest, so far as these species are concerned.

Whereas teak, the most valuable tree in Siam, and the most largely exported, is confined almost entirely to the hilly tracts in Northern Siam, it must not be supposed that Lower Siam contains no valuable forests; far from it. Although at the present time little is done to foster forestry operations in the south, the Government being fully occupied in looking after its teak forests in the north, the time is not so far distant when the forests of the Malay Peninsula and Lower Siam will constitute one more of the many valuable natural assets of the country. The areas of these forests are very extensive. On the east they extend from the borders of the Krung Kao Monthon all along the Korat Railway to a short distance beyond Buriram at the eastern extremity of Monthon Nakon Rachasima. This same block extends south into Monthon

Forestry in  
Siam.



Pachin. On the southeast a great belt of forest extends through the coast districts of Chantaburi and Pachin, while on the southwest the peninsular districts of Singora, Tringanu, Kedah, are one compact mass of dense forests.

The question that naturally arises in regard to such extensive forests is, Of what value are they to the Government or to any one else? Though their value is to a certain extent still a matter for the future to decide, it must not be supposed that nothing has yet been done to prove the existence of many valuable woods in them.

The first we may mention and at present the most valuable is the well-known rosewood (Siamese, *Mai Pa Yung*) *Dalbergia* (sp.). This extends in suitable localities throughout the forest area of Nakhon Rachasima and Pachin, and owing to the facilities of transport afforded by the Korat Railway considerable quantities are exported yearly to Bangkok and find their way to Hong-Kong and Singapore and even to London, where it is in demand as a furniture wood.

Other very useful woods are largely exploited from this area, such as *Dipterocarpus tubulatus*, *Shorca obtusa*, and *Pentacme siamensis* (Siamese *Mai Teng-Lang*); they are used in Bangkok as

posts for buildings, but more especially for the railway, the sleepers for which, as well as the wood for bridge construction, having been from the very commencement supplied entirely from the last two species, to which uses they are admirably suited.

In spite of such a great demand there are still enormous tracts of these woods which have never yet been touched by the axe.

In addition to the above may be mentioned *Pterocarpus indicus* (*Mai Pradoo*), a valuable furniture wood, supplies of which are only awaiting better means of communication and transport to be worked.

Turning to the woods of the peninsular districts we find along the coasts of Petchaburi and Champawn a kind of boxwood (*Mai Put*), much sought after by Japanese traders, who export it for use in wood-carving.

These are but a few of the many valuable woods, which as time goes on will no doubt be found in the as yet almost unexplored forest of the peninsula. Already foreign firms, who have recognized the value of these forests, are applying for concessions to work them, and when, in addition to the woods mentioned, the many other species useful for boat-building, house construction, and other local requirements, such as *Xylia dolabriformis* (*Mai Deng*),



LOG-LOADING STATION



*Hopea odorata* (Mai Takien), *Lagerstræmia flos regina* (Mai Tabak), *Schleichera trijuga* (Mai Mak-raw), *Nauclea cordifolia* (Mai K'woow), and a host of others are considered, the value of these forests to Siam can hardly be overestimated.





## CHAPTER XIII

### JUSTICE







## CHAPTER XIII

### JUSTICE, BY THE JUDICIAL ADVISER

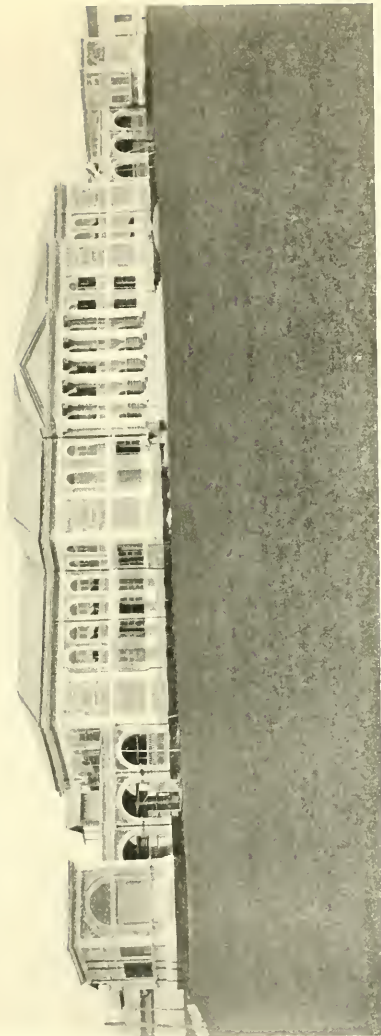
THE Ministry of Justice is quite a recent creation, as previous to the year 1892 there were as many jurisdictions as departments, and each department frequently tried cases concerning themselves either as defendants or plaintiffs. Old System. There were restrictions on their arbitrary powers, but these restrictions were often overridden by a powerful head of a department. The board in whose hands the decision of an appeal was supposed to lie were not strong enough to enforce any judgment affecting the department of a strong minister or against an influential nobleman. Besides the courts there existed what might be called the germ of a Ministry of Justice in the board named Lukkhun. This board dealt with cases which were not directly concerned with the departments and with any appeals which the departments were pleased to send to them. But they had no real power.

The work of deciding cases was divided amongst different sets of officials. The actual recording of evidence was done by the Talakarn (or judges); the guilt or responsibility of the parties was decided on the records by the Lukkhun. The Pooprap, or officials, who were supposed to know the law, fixed the punishment or amount of judgment.

All judicial officials received only nominal salaries, and it can be well understood that chaos reigned supreme, and that justice was only likely to be done when money and influence were on the side of the plaintiff.

In the provinces the executive officers acted as judges, and could do pretty well as they pleased.

In 1892 the Ministry of Justice was established, and all the judicial functions of the various departments, with the exception of the military and naval courts and the palace court, were consolidated under the control of a Minister of Justice. This change was confined to Bangkok at first, but in 1895 all the central provinces were brought under the same control. The outlying provinces of Petchaboon, Udawn, Isarn, and parts of the Malay States still remain as before, but appeal from the courts in these districts are now forwarded to the Appeal Court at Bangkok. It is



THE MINISTRY OF JUSTICE



intended to incorporate the whole of the interior gradually, as time and money will permit.

At present every province is divided into Muangs with a District Court (*San Muang*) capable of trying cases up to five thousand ticals in value and criminal cases involving punishment

Courts.

not exceeding ten years' imprisonment. An appeal lies to the Circle Court (*San Monthon*), established in the capital of each province. This court is capable of dealing with every kind of case, both civil and criminal, and the cases from the District Court and those entered originally in the Circle Court are subject to appeal to Bangkok. The Bangkok Appeal Court is in two divisions, one of five judges dealing with appeals from the provinces, and one of three dealing with appeals from Bangkok and from the provinces not yet incorporated under this ministry.

A final appeal lies to His Majesty the King, who has delegated his duties to the tribunal composed of five members commissioned under the Royal Sign Manual. This tribunal may be termed the Supreme Court of Appeal (*San Dika*).

The procedure, both civil and criminal, was promulgated in 1896. It was based on the procedure then in force in the British Consular Court at Bang-

kok, and is essentially English in form. In the criminal procedure it is noteworthy that the accused generally makes his statement as soon as the charge is read over to him, and the statement taken at that stage of the proceedings helps immensely to have the truth brought to light, as the accused generally proffers a complete narrative of all that happened from his point of view, and, if guilty, he frequently incriminates himself.

The law is, of course, Siamese, and, thanks to the labors of H. R. H. Prince Rajburi, the present Minister of Justice, it can be consulted in a handy and convenient form. He brought out an edition of the ancient laws in two volumes with footnotes and a full index showing which sections have been modified or repealed, and has also edited recent enactments up to the year 1901. The principal decisions of the Supreme Court of Appeal since the year 1899 have also been published under his superintendence. These form the law reports of Siam. The student of Siamese law can thus easily ascertain all the written law on any subject, and has a fair amount of judge-made law for his guidance in addition to lectures delivered in the law school by the minister and other Siamese judges on special branches of law.

The ancient laws of Siam are fortunately worded in very wide terms, and are elastic enough, with the exercise of a little ingenuity, to meet nearly all the requirements of modern conditions in this country. In civil cases where the law is silent new paths can always be struck out, but in criminal cases this is not quite so feasible. The importation of brand-new codes would doubtless make the work of the judges easier, but the advantages of working on a system known to the people for centuries are obvious. As substantial justice can always be meted out if the judges display ordinary intelligence and impartiality, the changes of the future are likely to be confined to the gradual amendment of the present groundwork.

One of the most striking features of the judicial system of this country is the facility and cheapness of appeal, and the systematic way in which it is made use of by most litigants.

Appeals.

When this department was first established the minister rightly considered that as most of the judges were new and untried men and generally youthful, appeal should be made as easy as possible. Appeal by post from the provinces is the result. It costs only two and a half per cent. on the amount involved, and in criminal cases nothing at

all. It is not necessary to appear personally before the Appeal Court nor to engage counsel. The consequence is that the Appeal Courts are overwhelmed with work. Last year the two divisions of the Appeal Court disposed of 3100 cases, of which 414 were arrears from the previous year. Of these appeals 1175 were sent up to the Supreme Court of Appeal.

One of the most important institutions under the Ministry is the law school. This is only in its infancy yet, but on the attention and money spent on the training of the future judges depends to a great extent the successful administration of justice.

The first object that has been steadily kept in view in regard to judicial appointments has been to eliminate those of the old-fashioned officials whose ideas as to progress, punctuality, and rapidity of work are not abreast with the times. The result is that already a large proportion of the judges are young men.

The law school was started in 1897, and the average number of students has been annually increasing. The number on the books last year was 375, and the previous year 292, so that it is evident that the judicial career and practice in the Siamese courts is becoming more attractive. The present lecturer





THE ROYAL PALACE



is the judge of the Court of Foreign Causes, and as his court is by no means a busy one, he can give the best part of his time to the school. He is an old student and received his final education in England.

The examination, which this year was conducted under the supervision of H. R. H. the Minister of Justice, the Under Secretary, and two other examiners, is pretty stiff. The papers, in fact, bear a marked resemblance to ordinary bar examination papers in England, turned into Siamese with, it must be said, additional puzzles peculiar to Siamese law. The number of students who succeed in passing this examination is in very small proportion to the number going up. Since 1897 only fifty-four candidates have received the title of Advocate, or an average of nine per cent.

Provision has been made for the training in Europe of three of the best students who know a foreign language. There they remain three or four years, receiving first general education and latterly tuition in law.

The sum allowed this year for the total administration of justice in Siam (exclusive of the outlying districts already mentioned) was 1,204,194 ticals or, roughly speaking, about £60,000. This includes all expenditure on

Staff.

the law school, new buildings, repairs, etc. It seems at first sight a very inadequate sum with which to run a department of this size. The whole estimate would, in fact, only provide salaries for a dozen judges in England or India, but it does not bear a very unfair proportion to the general revenue of the country, which is only 40,000,000 ticals, or say £2,000,000. In any case no matter how necessary a larger sum may be, it could not be obtained without great difficulty.

There were on the list of the staff at the end of this year 168 judges, of whom 41 are stationed in Bangkok province, and 773 other officials, or a total of 941 on the pay-sheet of this Ministry.

The officials in the Ministry itself, or the controllable branch, number fifty-two. It is satisfactory to be able to note that the judges receive very fair pay. They begin at 240 ticals a month (say £150 a year) and rise to 800 ticals a month (£500 a year). The executive branch of the Government service is, however, better paid than the judicial; the position is more honorable and the work entails less drudgery. A judge in Siam has in the past been looked upon as a very subordinate kind of official, and he is just now beginning to lose the stigma of belonging to an inferior service. The best men in this country are

attracted to the Ministry of the Interior or the executive.

There is provision in the estimates for eight assistant legal advisers, but at present the staff is reduced to three, one of whom is on leave. The assistant legal advisers have, with the exception of one Japanese, who is a graduate of Yale University, been drawn from Belgium.

Assistant  
Legal  
Advisers.

The Minister of Justice has issued at various times instructions to judges which have been collected and form a small volume of about fifty pages. They explain in a clear and definite way many points which have proved a source of doubt to the judges, and also lay down regulations for the carrying out of details of court work.

Instructions  
to Judges.

The Bangkok prisons only are under the control of the Ministry of Justice. The Central Prison contains an average of 1500 prisoners and the short-sentence and under-trial prison about 600. The total cost of these two prisons last year was 230,850 ticals, or say £11,500.

Prisons.

The provincial prisons are under the control of the Ministry of the Interior.

The penalty of death is carried out by beheading, and during the year twelve criminals were executed.

One died before the death penalty could be inflicted.

**Death Sentences.** These criminals were all convicted of more than usually atrocious murders.

**General Remarks.** It is satisfactory to note that the registers and other books of the courts are well kept, and the returns are made with praiseworthy punctuality.

The returns of cases for the whole Bangkok province were received at the Ministry within fifteen days of the close of the year. Typewriters, both Siamese and English, are extensively used in the courts, and this accounts to a great extent for the dispatch with which the general work of the courts is conducted.

#### STATISTICS

The following statistics are for the province of Bangkok. A short summary of the statistics for the provinces is added at the end.

**Cases in Bangkok Province.** The total number of cases before the courts in the Bangkok province during the year was 11,470, a slight increase on last year (11,242). Most of these cases arose in the city of Bangkok, the five district courts in the province accounting for 1881 only. Of this total of 11,470 only 229 were pending at the end of the year.

Of the total number of cases 8140 were criminal. There were 57 convictions for homicide (26 being manslaughter), a decrease of 27. The previous year seems to have been much above the average. For theft there were 1479 convictions, nearly double the year 120, but about the same as the year 119.

Criminal  
Cases.

There were altogether a total of 3418 cases which ended in conviction and 2637 in acquittal. The convictions were forty-two per cent. of the cases disposed of, a proportion which is very much the same as last year. This result, however, is unsatisfactory.

Percentage of  
Convictions.

The percentage of sixty-two in the central criminal court was fairly satisfactory, and the Attorney-General's Department, which is concerned almost entirely with the serious crimes dealt with in the central criminal court, obtained ninety-four per cent. of convictions out of the 857 cases they took up. This percentage includes cases which they appealed and were successful with in the Appeal Court.

In the police courts the police act as prosecutors, and the percentage of convictions in the chief police court in Bangkok (Borispah No. 1) was fifty-five. The average percentage of convictions in the district

courts was thirty-four and in Nontaburi twenty-three.

The magistrates can only deal with the evidence put before them, and should any prosecutor think he has not obtained justice he has the remedy of appeal, which costs nothing except some trouble. Out of the 3801 cases before the Borispah Court No. 1 there were only 73 appeals, which tends to show that dissatisfaction with the judgments does not account for the large percentage of acquittals.

Three persons were sentenced to death, 12 to imprisonment for life, 47 to upwards of ten years, 93 to a term not exceeding ten years, 465 **Punishments.** to periods varying from six months to three years, and 1813 to less than six months. These punishments are all heavier than during the previous year, and in that year penalties were heavier than in the year 119. The courts are beginning to deal much more severely with crime than in past times, and this tendency is in the right direction.

The number of civil cases shows a decrease from 4119 to 3330. The most numerous cases were for damages in assault, which is freely allowed **Civil Cases.** by Siamese law. There were 965 of these cases. There were 387 land cases, 386 proceedings



for divorce, 154 cases of malicious injury to property, 338 on commercial contracts, 51 actions against persons who are termed co-respondents in English law, 97 cases regarding deceased estates, 60 of deposit for safekeeping, and many other miscellaneous actions.

The amount of work in the Court of Foreign Causes, the court in which foreigners are plaintiffs, is very small in comparison with the ordinary work of the courts. There were only forty-seven cases this year, but this does not include petty cases in the police courts, of which there are not separate returns. Twelve of these cases were appealed, and judgment reversed in one only; British subjects form the majority of plaintiffs, but suits forwarded by seven other different consulates were also disposed of.

The division of the Appeal Court dealing with Bangkok had before it 1179 cases, of which 10 only were carried forward as arrears, and the division for the provinces had 2394 cases of which 463 had to be carried forward.

Appeal  
Courts.

The division for the provinces is being reinforced by two additional judges this year, and this will relieve the strain considerably.

In the Appeal Court were confirmed seventy-five

per cent. of the judgments, amended six per cent., and reversed nineteen per cent. Last year seventy-two per cent. were confirmed.

The Supreme Court of Appeal (Dika Court) is not under the control of the Ministry of Justice.

**Supreme Court of Appeal.** The judges are appointed by His Majesty, and the expenses are paid out of the Legislative Council budget. There were 1175 cases before the court for adjudication, of which 443 were arrears from the previous year.

The Japanese Legal Adviser was permanently attached to the court during the year, and the Minister of Justice and the Judicial Adviser also hold commissions. The Minister of Justice and the Judicial Adviser, however, only sit, as a rule, in more than usually important cases, or where decision is to form a precedent for the application of Siamese law to modern conditions.

Of the 1175 cases 827 were disposed of (as compared with 350 last year), but still leaving 348 to be carried forward. The number of appeals from Bangkok and the provinces were about equally divided. There were 12 cases from the Special Land Commissioner's Court. The number of really difficult cases is comparatively small.

The total number of cases before the provincial

courts was 17,726, or 923 less than last year. The number of arrears at the close of the year was 1005. Cases in the Provinces.

Criminal and civil cases were about equal in number, 1000 of the former and 8143 of the latter. Including the returns for Bangkok already commented upon, the total number of cases in all courts under the Ministry of Justice during the year was 29,196. Of these, 27,962 were disposed of, carrying forward 1234, or four per cent., as arrears. This percentage of arrears is very satisfactory, and is due to the stringent orders that were issued by the Ministry of Justice some time ago.

The number of appeals disposed of by the circle courts (*San Monthon*) was 3210. Of these, Appeals. 2175, or sixty-eight per cent., were confirmed.

The district courts (*San Muang*), whose appeals were thus dealt with, are on the whole fairly satisfactory, judging from statistics. It has to be remembered that some of the cases reversed in the circle courts (*San Monthon*) may have been upheld in the Appeal Court at Bangkok and that only nineteen per cent. of the total number of cases dealt with were appealed from the district courts.



CHAPTER XIV  
EDUCATION





## CHAPTER XIV

EDUCATION, BY THE DIRECTOR OF EDUCATION

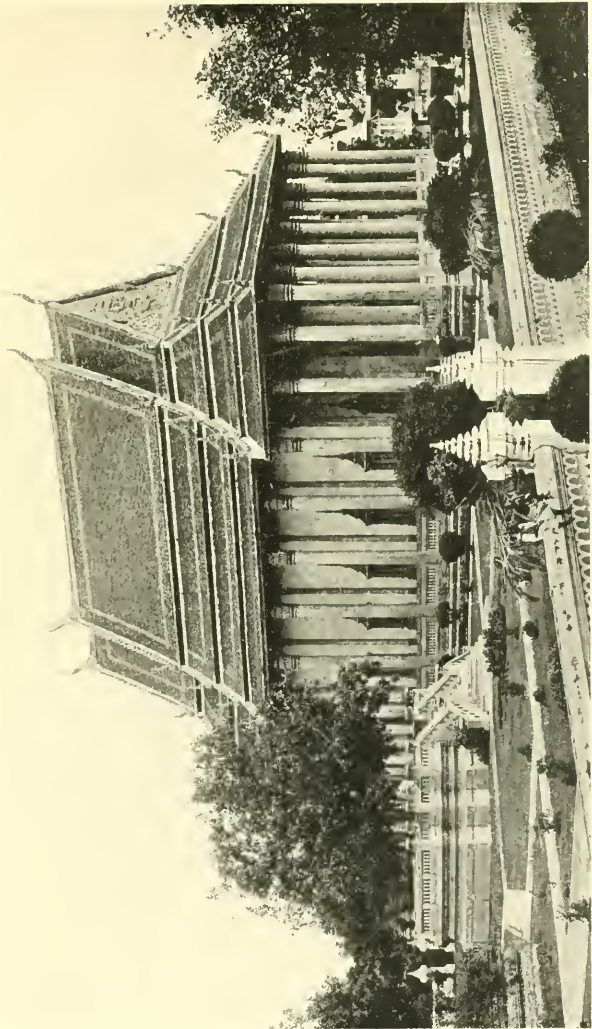
ALTHOUGH education on modern lines is a thing of quite recent introduction into Siam, the temple schools have provided a certain amount of instruction from time immemorial. True, it was of a primitive kind, but its graduates were able to read and write their own language, and in some cases acquired more or less knowledge of the sacred language, Pali. Instruction was given by the priests attached to the temples in which the schools were held. Before the great movement of the Siamese nation seaward had begun, when Sukkothai was the capital of the state, in the twelfth and thirteenth centuries, there were schools and scholars in Siam. In this respect the condition of Siam was very much the same as that of the great Western nations. Education centred in the Wat (temple), as it did in the monastery in Europe, and Pali took the place of Latin to the studiously inclined. It is only within

the last hundred years that Siam has fallen so far behind Western nations. Probably even fifty years ago the percentage of illiteracy in the capital was not much greater than in many capitals of Europe; but whereas Europe has forged ahead with amazing rapidity Siam has until recently been content to stand still.

That attitude has now gone and for ever, and the people themselves are qualified to attain to any standard. Naturally quick and retentive they have a genuine love and desire for knowledge and respect for the possessor of it. To this has latterly been added an appreciation of the benefits, moral and material, likely to accrue from it.

The zeal for education has been a part of the general quickening of the nation that the last few years have witnessed, and has met with the approval and encouragement of His Majesty the King and of all in high places. The first-fruits of this zeal was the establishment of an Education Department. Formed at first as a separate department, it was afterwards enlarged into a Ministry of Public Instruction, taking cognizance of education in general, ecclesiastical matters, the superintendence and upkeep of hospitals, and text-book compilation. In this form the Department of Education has had





BUDDHIST TEMPLE



an existence of about fourteen years. At certain periods of its history it cannot, perhaps, be said to have been particularly active, but of its progress in the last few years there can be no question.

The work of education is always gradual, and it is impossible to point to immediate results such as can be produced by effort directed in most other ways, but there are already many tangible evidences of the work done.

Primary schools have been established in every part of the capital and are attended by ten thousand scholars. In these a four-years course of instruction is given in the ordinary subjects, much the same as in all primary schools the world over. After completing this course the scholar who wishes to continue his studies may enter one of the secondary schools. Here, in addition to the ordinary subjects, instruction is given in English, higher mathematics, practical geometry, and the knowledge of Pali terms and words necessary to the correct writing and understanding of official letters, documents, and Siamese literature. A thorough knowledge of the Siamese language is in itself an achievement of no mean order, and the various additional subjects included in the code justify the description of secondary schools.

Three years spent in one of these schools give a boy the necessary mental equipment for ordinary departmental work. And here it may be pointed out that a very large proportion of the scholars are destined to enter the Government service. The educational system of a country must always be framed in accordance with the country's requirements. The Siamese are distinctly a governing race. Thus for the nation's needs a civil-service college is a more practical institution than a technical school. This college is one of the special schools which a scholar may enter after completing his course in the secondary schools; here future administrators are given some idea of the duties and responsibilities that will in time devolve upon them. The pupils mostly enter the service of the Department of the Interior and will carry new methods of organization into the provinces.

There are various other special schools into which the scholar may pass on the termination of his secondary course. The English schools, of which there are at present three under the department, one residential and two day-schools, give thorough instruction in English. Here the students are further incited to work by the prospect of being sent abroad to continue their studies. His Majesty

the King has donated two scholarships to be competed for annually by any bona-fidê Siamese subject under the age of nineteen. The fortunate winners of these scholarships, worth three hundred pounds a year for four years, are sent to Europe and permitted to take up any line of study which they choose, the sole condition being that at the end of their course they place their services at the disposal of the Government. Others chosen from the list may also be sent to be trained as teachers, on their return to spread the knowledge they have acquired, as teachers, or compilers of much-needed textbooks in the vernacular. The number so sent might well and probably will be increased in future. In addition to the Government schools there are also several private institutions, of which special mention may be made: of the Assumption College (staffed by the Reverend Brothers of St. Gabriel) and the High School of the American Presbyterian Mission. They are both residential and day-schools combined and do much good work. "Wang Lang," also under mission control, performs a similar service for girls and has an excellent record of work and service. Of special schools attached to the different departments there are many. These take scholars from both primary and secondary schools, but in the

latter case the special course is shortened. Mention may be made of the Law School, the Military and Naval Colleges (especially popular with the sons of nobles), and the Medical School and College, which is doing much real if quiet work, sending out qualified men into the provinces to fight against the epidemics that have in the past sometimes decimated the population.

From these schools promising students are selected from time to time to be sent abroad, there to continue and to perfect their studies.

The Survey School (residential) trains men for use in its own department, giving a thorough practical training both in the schoolroom and in the field.

There are in addition schools for training men for work in the railway department, the police, the provincial gendarmerie, and in sericulture, this last being under Japanese instruction and supervision.

Lastly and most important of all, as being those on which the success of the others depends, come the two normal colleges. One trains teachers for both the primary and secondary schools of the capital; the other, recently established but already very full, is intended primarily to supply the needs of the provinces. Upon this school the future of education in the provinces will largely depend. In edu-



A SCHOOL FOR GIRLS





cation, as in most other things, the capital is far in advance of the rest of the country. True, there are schools in every province and in communication with the department, but the control over them is more nominal than real. This year two organizing inspectors have been sent out to near provinces, whose work it will be to raise the provincial schools to the same standard as those of the capital. This will be the work of the future: to establish a uniform national graded system of education, and while perfecting the system in the capital to extend its workings to every town and village in the country.

It is a work of great magnitude, but its accomplishment is only a question of time. The desire for education is rapidly spreading, and the provincial authorities are as eager as the central department for the work to be started.

There are many difficulties in the way, the chief being the want of money and the scarcity of suitable teachers. But these will be lessened in time, and there are many cheering features, not the least of which is the manifest enthusiasm and self-sacrificing work of the Buddhist priests. These form a considerable part of the teaching staff of the primary schools.

They are for the most part keen teachers, full of

their work and excellent managers. Temples and priests figure very largely in the work of education, and it is well that this is so.

Little progress has as yet been made in the work of educating girls, and in the higher branches of education much still remains to be done. At present the foundations are being laid, and if the more ornamental part has not yet appeared it is not altogether a bad sign for the future.



CHAPTER XV

ARCHÆOLOGY





## CHAPTER XV

SIAMESE ARCHÆOLOGY—A SYNOPTICAL SKETCH BY  
COLONEL GERINI

SCARCELY any of those neolithic implements typified in the shouldered Celt, which have been traced in a continuous and homogeneous series all from Chutya-Nagpur in India through Assam, Burmah, the Yun-nan borders, Laos, Kamboja, and the Malay Peninsula, to the Archipelago, have so far been discovered in Siam proper. The last find recorded is the head of a stone hatchet dug out a few years ago at some thirty feet below the surface of the ground on the railway works, at a point about six miles to the west of Korat. It is now in the Royal Museum at Bangkok. Although there is ample evidence to show that the ethnic element characterized by such implements must have been in the early days also in occupation of the Menam valley, for some reason or other, chiefly, perhaps, on account of as yet

Quasi-total  
Absence of  
Prehistoric  
Remains.

insufficient and systematic exploration of the country, such prehistoric and presumably aboriginal relics have hitherto failed to come to light in this region, except in exceedingly rare dribblets. Accordingly, the archæology of Siam must needs start, for the present, with the Brahmano-Buddhist period.

From several centuries before the Christian era a double system of traders and adventurers began to flow into Indo-China from, respectively, northern and southern India, reaching the upper parts of the peninsula by land through Burmah and its southern coast by sea, and founding there settlements and commercial stations. Brahminism and later on Buddhism (third century B.C.), with most other achievements of Indian culture, followed in the wake of these pioneers; and thus it is to ancient India that Indo-China owes her early civilization. At the dawn of the Christian era, as I have elsewhere demonstrated, Buddhism had already gained a firm foothold on the east coast of the Malay Peninsula, near the head of the Gulf of Siam, whence it advanced and soon spread all over the country of the Menam delta. On the other hand, Brahminism had established itself in central and northern Siam, where Swankhalok and Sukhothai formed its principal foci. Not more than about

The Indu  
Influence.

flow into Indo-China from, respectively,  
northern and southern India, reaching the



RUINS AT AYUTHIA





four centuries later we begin to hear of Nagara Sri Dharmaraja, or Ligor, as the chief centre of both Buddhism and Brahminism on the east coast of the Malay Peninsula; while on the Menam delta we find both faiths prevalent, but more especially Buddhism, in the territory of Phrah-Prathom in the present Nakhon-Chai-Sri province.

In the sixth century A.D. no less than three cities already existed in central Siam, to wit: Swankhalok (95 B.C.), Sukhothai (*circa* 70 B.C.), and Kampheng-phet (A.D. 457); and in the north, not far from the headwaters of the Menam, another one, Lamphun, had just been founded (A.D. 527). The two first-named were alternately, for the next eight centuries, the capitals of the famous Swankhalok-Sukhothai State, which so long held hegemony over central Siam. The last one became the capital of the first Thai kingdom in the Menam valley, holding its own until A.D. 1281, when it was supplanted by the newly rising Lao power that established soon afterwards its seat at Chieng-Mai (A.D. 1296). In southern Siam we find at the same remote period the cities of Sri Vijaya, on and about the site of the present Phrah-Prathom village; and the then but recently founded Lopburi (A.D. 493), which was soon to

Siam's Most  
Ancient  
Cities.

become the chief centre of power for southern Siam. All these, conjointly with Ligor, already referred to, are Siam's most ancient cities. Accordingly, it is on their sites and in the adjoining territory that the oldest monuments and about all that remains of Siamese antiquities of that early period are to be found.

The influence of Indu civilization was not slow in making itself felt in the centres above described and to perpetuate its own memory in monuments whether epigraphic or otherwise. It is, however, as naturally follows, in edifices devoted to worship that it began to make itself manifest.

The oldest of these structures are to be found at Swankhalok in the shape of gloomy shrines and hermit cells, erected mostly on the tops and flanks of the hills, and carefully oriented according to the cardinal points.

In Central and Northern Siam. They are characterized by massive cyclopean walls surmounted by gable roofs, all built of laterite blocks excavated near by, and laid throughout in horizontal courses without any cement; their unique entrance, which faces the east, curving towards the top into a pointed, often lancet-shaped arch. The style quite resembles that of the ancient central and

northern India temples, thus evidencing that their planning, and perhaps construction, was due at least in part to immigrants and settlers from those quarters. The shrine, apparently Sivaite, erected on the summit of the Laong Samli Hill, near the centre of old Swankhalok city, is no doubt one of the most ancient of these structures, for by tradition it is almost coeval with the foundation of the city itself (*circa* 95 B.C.).

Later on follow more elaborate creations, characterized by the same massive style of building, but embellished with portals, railings, and symbolical decorations, devoted to Brahminic worship; and further Buddhist spires and pagoda-shaped reliquaries; royal palaces and city walls, and smaller monuments, some of which are of an exceedingly graceful architecture, which may be seen in considerable numbers all over the sites of old Swankhalok, Sukhothai, Kampheng-phet, and other ancient cities of central and northern Siam. The masterpiece of all, and the best-preserved specimen, is undoubtedly the spire of Wat Phrah Prang, at the southeastern corner of old Swankhalok city, dating from the latter part of the eleventh century. Notable also is the Brahminic temple of Sri Swai in old Sukhothai, with its three finely ornamented,

Develop-  
ments.

tapering domes, built somewhat after the style of the Angkor Wat and the Mi-bun shrine in Cambodia.

The material exclusively employed in the oldest monuments of central and northern Siam is laterite

**Building Materials.** hewn into fair-sized blocks. Later on, but not before the eleventh century, this becomes associated with gray or greenish-gray sandstone, used for statues, doorways, railings, and decorative sculptures. A striking example of its employment in huge monoliths occurs in the gateways of the walled enclosure surrounding Wat Phrah Prang at old Swankhalok. From the twelfth century A.D. brickwork comes into evidence and soon prevails, forming in after ages the characteristic of Thai architecture, which elaborated and developed in brick, plaster, and mortar the old architectural motives just described.

This being a deltaic country where neither laterite nor other natural building materials are to be found

**In Southern Siam.** except at the foot of the hills flanking both sides of the Menam valley, stone structures do not occur except on the eastern borders on the one side, and in the province of Rajburi on the west, and then but very sparsely and of very diminutive sizes. The prevailing material is brick, and it is accordingly of this that we find the oldest



TEMPLE RUINS



monuments built, though not unfrequently coarse-textured sandstone, either yellowish or reddish, more rarely gray, in color, occurs associated with it in terminals, wall crests, stelæ (Wat Maha That at Rajburi), in statues (gray, Phrah Prathom), and even in square blocks (Wat Na Phrah That at Lopburi).

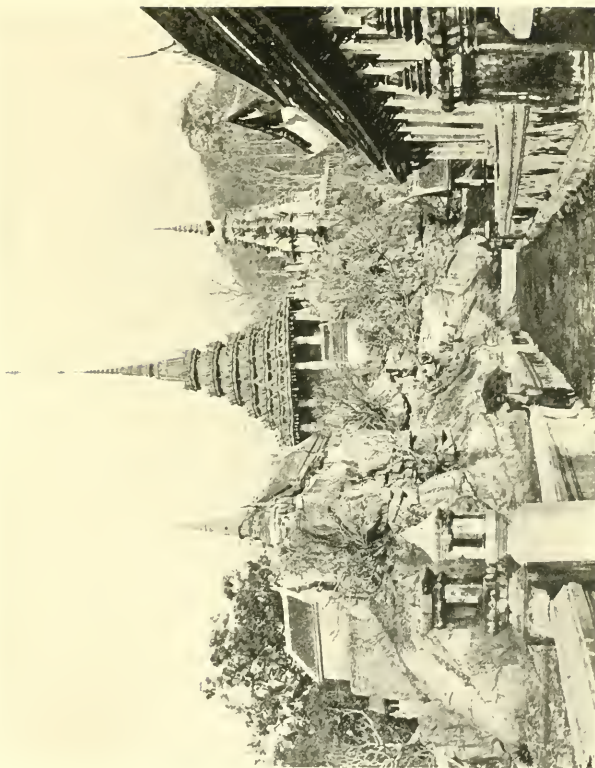
The oldest monument of southern Siam appears to be the original Phrah Prathom spire, now encased in a recently erected and far more imposing one of over three hundred feet in height. Nearly co-eval with it is the neighboring Phrah Thon pagoda, also in brickwork (A.D. 656). Then follow the remains of ancient temples at Lopburi, on the sites of which Buddhist Wats now rise; and the ruins of primitive hermitages with debris of statues and stelæ on the flanks of the Sabab Hill near Chanthabun, a city dating from the eighth or ninth century A.D., if not earlier. At Ligor, Wat Na Phrah That, in the centre of the city, and Wat Maheyong (Mahiyangana), on its outskirts, are undoubtedly very ancient foundations; and ruins of considerable antiquity, never yet brought before this to the notice of the public, with statues of deities, etc., occur on the western side of the Malay Peninsula at the Phrah Maria (*i. e.*, Visnu) Hill, on the upper course of the Takua-pa (Takopa) River. A thorough examination

of the as yet archæologically unexplored adjoining districts is sure to reveal the existence of many more ancient remains. All early structures on this region are in brick, the material generally employed all over the east coast of the Bay of Bengal as far north as Pegu, Arakan, and the delta of the Ganges.

The chief characteristics of the old monuments of southern Siam are, besides the almost exclusive employment in them of brickwork, their more general Buddhist destination than in the north, where Brahminism was the prevailing form of worship in the early days. Moreover, their style of architecture is, as may easily be inferred, more southern India, *i. e.*, Dravidian, in type, thus most closely approaching that of the latter Cambodian monuments. Nowhere do we find, however, in Siam, whether north or south, any sublime creations equalling in grandeur and artistic perfection those of Angkor Wat and Angkor Thom, which are, indeed, unique in that respect not only in Indo-China or even Asia, but perhaps in the whole world.

Limestone caves, many of which are stalactitic, abound in southern Siam, especially in the Rajburi and Phejburi provinces, but nowhere  
Caves. more than on the Malay Peninsula. These, as in Cambodia and Pegu, have been mostly





AN OLD TEMPLE



utilized as Buddhist sanctuaries and places of pilgrimage; but beyond some decorations and statues, generally in brick or plaster, they offer nothing remarkable in the way of architectural achievement, compared with, for instance, the rock-cut temples of western India or even Ceylon. Buddhist clay tablets, bearing Sanskrit legends of the tenth and eleventh centuries, have, however, been dug out of the caves to the northeast of Trang, on the west coast of the Malay Peninsula. They greatly resemble those from Pagan and Tagoung in Burmah.

Although no such fruitful harvest of ancient inscriptions has been gathered in Siam as in Cambodia and Champa, owing, no doubt, to the lack of thorough and systematic archæological exploration, the petroglyphic monuments thus far brought to light are of sufficient historical and palæographic importance to deserve more than a passing mention. Their chronological range extends for the districts on the Malay Peninsula as far back as the fifth century of the Christian era, while in southern Siam it borders upon the sixth or seventh. No inscription has, strange to say, so far been discovered in either central or northern Siam earlier than the fourteenth century, *i. e.*, than the period when Thai supremacy had already firmly established

Epigraphy.

itself over the whole of the Menam valley. Ancient manuscripts are extremely scarce, and the oldest ones so far known are on palm leaves, and do not, as a rule, go back more than three centuries. No coins with inscriptions or monograms dating earlier than the fourteenth century have as yet come to light.

Leaving aside the already well-known inscriptions of Kedah and province Wellesley (*circa* A.D. 400),  
On the Malay Peninsula. and proceeding up the peninsula, we feel bound to notice the Pali and Sanskrit inscribed stelæ of the eighth century A.D. from Wat Maheyong in the province of Ligor, a Pali inscription on a brass plate from the Takua-thung district (*circa* ninth century A.D.), and, what will be welcome news to scholars, a petroglyphic monument of about the same age as those of Kedah and province Wellesley just discovered at old Takua-pa (Takopa), within the precincts of Wat Na-Muang, in the middle of a former bed of the river. This last find is of the highest importance, as evidencing that Indu influence had established itself, not merely at one or two isolated points on the west coast of the Malay Peninsula, but practically over the whole length of that littoral, whence it crossed overland to the Gulf of Siam.

In the country of the Menam delta the oldest

epigraphic records hitherto discovered are those in Pali on terra-cotta tablets, dug at Phrah Prathom some fifty years ago (A.D. 1857). In Southern Siam.

They contain the Buddhist profession of faith, and the shape of their characters (of a southern Indian type closely identical to the Vengi and western Chalukya) argues their age to be the sixth or seventh century A.D. Then follows a gap stretching down until the Khmer inscription from Lopburi, which bears two dates corresponding to A.D. 1022 and 1025. At Chanthabun, however, both Sanskrit and Khmer inscriptions dating from the ninth and tenth centuries occur, as well as at Battambang and in the province of Korat, on the outskirts of the Cambodian epigraphical zone. These are all the records so far discovered of the age of Cambodian domination over southern and central Siam, which extended, with but few interruptions, from the middle of the seventh to that of the thirteenth century.

The following period, that of independent Thai rule, is first marked by the Sukhothai inscription of about A.D. 1300, this being the earliest epigraphic monument extant worded in the Thai language, and engraved in the Thai characters that had then just been invented. After this, Thai inscriptions become numerous in

The Dawn  
of Thai  
Epigraphy.

both central and northern Siam, as well as in western Laos (Chieng-Mai), and we enter upon the phase of national Thai history, centring at first in Sukhothai (A.D. 1257-1350) and then in Ayuthia (A.D. 1350-1767) as successive capitals.

Most of the inscriptions alluded to above are carved on finely grained sandstone slabs of either Palæographic Peculiarities. a gray or greenish-gray color. At old Swankhalok and Sukhothai, dark-blue slate and phyllades have also been at times employed. Inscribed bricks and tiles are common on the delta, as well as all over the Malay Peninsula, where also occur the stamped clay-tablets bearing Buddhist images and inscriptions already referred to.

Until A.D. 1500, such epigraphic records as bear dates are invariably dated in the Saka era, beginning A.D. 78, which has been the one in general use, until comparatively modern times, and, with but rare and sporadic exceptions, all over Indo-China and the Archipelago. This fact, as I have elsewhere more fully pointed out, proves the pretended foundation of the Chula era in A.D. 638 at Swankhalok to be a pure myth absolutely unworthy of credence.<sup>1</sup>

<sup>1</sup> Gupta era in Burmah (fifth century A.D.), also Buddhist era (from A.D. 1084 downwards), and Sakaraj (Culla Saka) era at about the same period (from A.D. 1017 downwards). In Siam the Bud-

In the Swankhalok and Sukhothai monuments from the eleventh century downwards, glazed tiles, statuettes, friezes, terminals, and other decorations in glazed pottery occur. A ceramic industry turning out products in imitation of the crackled ware of the Chinese Sung dynasty was started at Swankhalok towards the close of the eleventh century. Iron I found employed in the walls of Wat Sri-chum (old Sukhothai), a temple dating from the end of the thirteenth century and built of square blocks of gray sandstone carefully fitted and clamped inside. Bronze castings of considerable dimensions also begin to appear at about the same period, as well as Buddhist statuettes carved out of jade, quartz, alabaster, ivory, and other prized materials. More ancient, however, appears to be the establishment of the art of niello-ware-making at Ligor, where it soon attained a high degree of perfection. With the advent of brickwork structures, wood finds

Other  
Noticeable  
Features in  
Connection  
with Ancient  
Monuments.

dhist era occurs at times on purely religious inscriptions, but not before A.D. 1357, when it is but cursorily mentioned in the Thai inscription from Wat Sri-chum at old Sukhothai. Its first direct employment is in the Pali inscription on the model of Buddha's footprint from Sukhothai (now in the former second king's temple, Bangkok, dated in the year 1970 from Buddha's Nirvana, or A.D. 1426).

wide employment in buildings, where it is inserted into the masonry and utilized separately in the shape of pillars and supports for the roof, with great detriment to the solidity and durability of the constructions. On the other hand, however, its extended use gives an impetus to the art of wood-carving, which soon attains marked excellence in ornamental pieces, but above all in door frames and panels, of which several highly finished specimens are still extant (doors of the Phrah Then sanctuary at Thung-yang, and of Wat Suthat at Bangkok, brought thither from Sukhothai, both dating from the fourteenth or fifteenth century). Later on this industry is superseded, especially in door and window panels, by the more modern one of lacquered, gilt, and mother-of-pearl inlaid work, of which perhaps the most perfect early specimen extant may be witnessed in the massive door panels of the Phrah Chinaraj sanctuary at Phisnulok (made to the king's order in A.D. 1755).

With these developments we enter upon the phase of modern Siamese art, at the threshold of which the province of archæology—forming the object of the present cursory sketch—must, as a matter of course, end.



CHAPTER XVI  
TRANSPORTATION AND MEANS OF  
COMMUNICATION





## CHAPTER XVI

### RIVER AND LAND TRANSPORT, BY THE SECRETARY- GENERAL

THE chief means of communication and transport in Siam is by water. This is due to the configuration of the country and to the bulky nature of its staple exports, rice and teak.

A glance at the map of Siam shows that the river Menam Chow Phraya forms the main artery by which nearly all the produce for export reaches Bangkok and by which naturally the imported goods are distributed over the country.

In addition to the Menam there are the Pachim, Tachin, and Mekong rivers, which are connected by canals with the Menam, and also the whole of Lower Siam is intersected by canals opening into the main river.

Though roads exist in the towns and in Upper Siam, where the country is hilly, they would be practically useless in Lower Siam, where the greater

part of the country is under water during the wet season.

Very few data can be given respecting the number of boats in Siam, but the following figures show the great extent of this means of communication. During the past year, a five days' reckoning of the number of boats passing certain given points was made with this result :

Tamnearn Saduak Canal.....	3163 boats
Prawete Canal.....	2291 "
San Sep Canal.....	5302 "
Rangsit (lock gate).....	2978 "

An average of about 683 per day at a given spot. A point taken on a canal joining two rivers, the Pase Charoen Canal, gave the number of 9851 boats in seven days, of which 7830 were small. The highest average number of boats passing a given spot in Europe is said to be 200 per day, and the figures for the Rhine where it enters Holland are 160 average per day for 1898.

Another proof of the great extent of transport by boat is shown by comparing the returns of the railways to Bangkok with the export returns; these show that ninety-seven per cent. of the total rice exported reached Bangkok by boat and ninety-three and a half per cent. of the other exports.



RICE BOATS



This enormous boat traffic has resulted in the evolution of many interesting forms of boats suitable for special requirements, varying from the miniature canoe, just sufficient for one person, up to the heavy rice-boat which brings the harvest to the capital.

Boats are propelled in Lower Siam by three ways—chowing, poling, and paddling. To “chow” is the Siamese name for propelling a boat much like the way a gondola is propelled—that is, the rower stands facing the bow, and the oar swivels on a small upright fixed on the edge of the boat. The great advantage of this method is that, with a single oar, the rower always sees ahead and steers the boat by the manipulation of the oar.

The long boats which make the journey to the north, a journey varying from three weeks to three months, according to the state of the water, are generally towed by launches where there is sufficient water, then rowed in European fashion till the shallows are reached, where they are poled or punted. In the dry season it is frequently necessary to dig channels and drag them through the sand-banks stretching across the river, hence these boats have to be built with a massive keel to stand the strain; similarly when descending the river there are rapids

to be shot and rocks to be avoided. Persons travelling under the most favorable conditions in the best season can do the journey from Bangkok to Chiang Mai in three weeks, goods in six. The wages of a boatman are from £1 to £1,10 a month. The overland trade is carried on chiefly by means of caravans of carriers, mules, and bullocks. Elephants are not much used in trading, being generally employed in working teak and occasionally in carrying baggage and rice. Large numbers of elephants are bred in captivity and wild ones are captured.

The carriers are mostly Shans. Mules are not bred in Siam, but come over from Yunnan carrying goods. The cost of mule transport is 1s. to 2s. per load (150 lbs.) for ten miles.

Bullock transport is much slower than mule transport, but about half the cost per load of ninety pounds. A bullock caravan has about one hundred animals.

Siam entered on her career of railway construction in 1891.

The policy then adopted has been adhered to since and still controls the spirit in which  
Railways. railways were originally decided on.

The three chief points of this policy are: (1)



Construction by the state of all main lines. (2) Construction out of revenue. (3) Concessions given for smaller lines.

The state has now built and works 456 kilometres of main line, and is steadily pushing the line through to the north. This main line leaves Bangkok and proceeds almost due north until it has passed the old capital; it then bears to the northeast, but divides into two branches, the one terminating at Korat, the other, the main line to the north, is open for 42 kilometres beyond the junction, while 160 kilometres are under construction, and work is being pushed forward as rapidly as possible.

The second main line connects the west of Siam to the capital and reaches the head of the Malay Peninsula. Some day it will probably be extended to meet the line which runs up the Malay Peninsula from Singapore.

Lines built by concessionaires. There are two short lines terminating in Bangkok, one of which has been working since 1893, the other is still under construction. Another line connecting with the main northern line has been recently opened. Owing to most of the lines being recently opened it is impossible to give statistics.

The Government lines, 306 kilometres of which

were open from April, 1901, to March, 1902, carried 850,525 passengers, and the profit earned, after placing eight per cent. of the net profit to a special improvement fund, amounted to two and a third per cent. on the total capital expenditure.

The Paknam (concession railway), which was opened in 1893, has paid a steady and increasing dividend since its opening. It now pays over ten per cent. interest on its capital.

Except in the capital there are no tramways in the country. The tramway in Bangkok is owned and managed by a Danish company under a concession from the Government.

The line started as a horse tramway, but was afterwards electrified and was then amalgamated with the electric light company, and power is now supplied both for the tramway and lighting from the one generating station.

The length of line at present open is 17.3 kilometres, and in contemplation 16 kilometres. The fare per kilometre is 1.1 atts (0.5 cent gold) second class and 2.2 atts (1. cent gold) first class.

The number of passengers carried per annum is over 10,000,000. The capital of the combined companies is about 3,000,000 ticals, including debentures say about £160,000 sterling, and the profit earned



CENTRAL POST OFFICE



by the tramway for the past six months was about £9000 sterling.

POST AND TELEGRAPHS

Siam entered the Postal Union in 1885. The collection, transport, and distribution of letters is a state monopoly.

The post and telegraph department, which includes the Government telephone department, is organized under a director-general and forms part of the Ministry of Public Works.

The receipts for the year 1901 amounted to fr. 177,315 and the expenditure to fr. 489,227, the excess of expenditure over revenue being fr. 311,912.

This heavy excess is due to several causes. In 1901 Siam was still working under a silver standard, and the postal and telegraph department was compelled to make remittments in gold to pay its share of the international charges. The population is small compared with the size of the country, but widely spread; the cost of transport is therefore extremely heavy, whilst the charges are light.

Inland letters pay a minimum of 4 atts (8 centimes), and foreign letters 14 atts (28 centimes).

STATISTICS, 1901

Letters.....	777,380
Post Cards.....	101,441

Printed Matter.....	470,413
Samples.....	5,827
Postal Order.....	2,080
Postal Orders (value in fr.).....	L49,097
Post-offices.....	154
Letter Boxes.....	330
Staff and Employees.....	705

The annual number of post cards and letters per person is 0.12.

(Values are given in francs and centimes to compare with those issued by the International Bureau at Berne.)

Siam is linked to the telegraph system of the world at three points, viz., Tavoy, Saigon, and Penang.

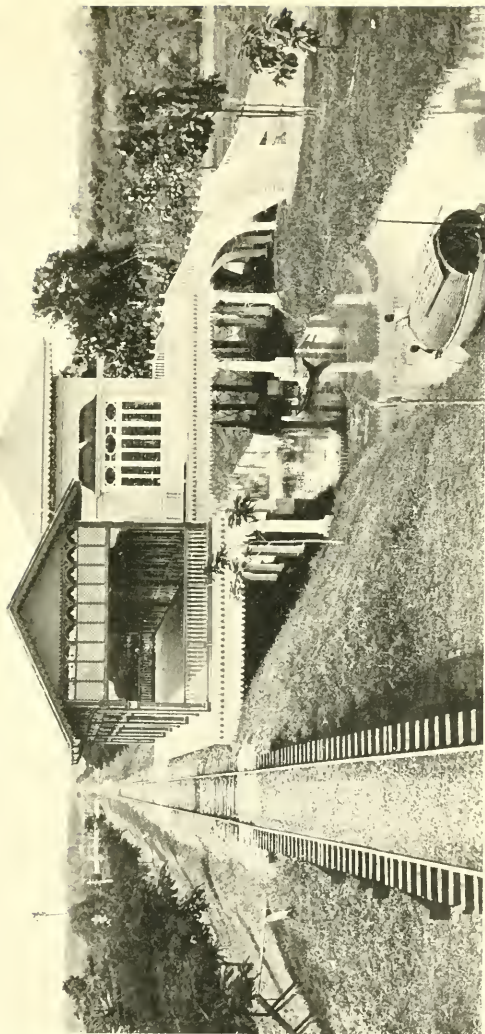
Telegraphs.

The length of line is 4710 kilometres and the number of offices 71.

The upkeep of the lines is costly and difficult; the rapid growth of vegetation, the tropical thunderstorms, and the insidious insects are all factors which cause rapid deterioration of the lines. The cost of inland telegrams is 64 centimes for the first ten words and 8 centimes for each additional word.

Bangkok is well supplied with telephones and also is linked to some of the neighboring towns. The length of line open is 596 kilometres.

Telephones.



THE KING'S PRIVATE STATION, BANGKOK





## CHAPTER XVII

### MINING





## CHAPTER XVII

MINING, BY THE DIRECTOR OF THE DEPARTMENT  
OF MINES AND GEOLOGY

**M**INING in Siam is practically confined to tin, gems (sapphires and rubies), and gold, their relative importance being in the order given.

The mining industry is under the control of the Royal Department of Mines and Geology, which was created in 1890. The Siam Mining Act of 1901 is now in force for most parts of the country, and prospecting licenses and mining leases may be obtained without difficulty. In this article the different minerals mined for in Siam are referred to in the following order: gold, copper, lead, iron, tin, gems, coal, oil, saltpetre.

Gold is very widely distributed in Siam, and is washed out of the alluvium by the natives in several districts. The chief of these are Pu Kiriu, Gold.  
Bangtaphan, Kow Suplu, and Tomoh.

In the last district Chinese workers carry on lode

as well as alluvial mining. The native gold-mining industry is, however, a very unimportant one, the total number of persons regularly employed probably not exceeding one thousand.

Gold-mining according to modern methods has been far from successful in Siam. Many concessions have been granted by the Government, and much capital has been expended, but in no single instance have mining operations met with any success. This may be accounted for partly by the difficult nature of the country for carrying on mining by modern methods, and partly by bad management, but it remains to be seen whether the future will bring forth better results.

Copper is known to exist in small quantities in several districts, the best known being at Chan Tuk.

**Copper.** In former days the deposits at Chan Tuk were worked to a small extent by the Siamese, and during the last few years a European syndicate has attempted to open up the mines, but so far the results have not been satisfactory. There are no records of copper-mining ever having been attempted elsewhere.

Lead is not known to have been worked in Siam except in the Malay state of Jalar, where large veins of argentiferous galena are found in the lime-

stone. Some thirty years ago these were worked by a Singapore firm with considerable profit, but the enterprise had to be abandoned when the fall in the price of lead turned the profit into a loss.

Lead.

In ancient times there was probably a considerable amount of iron-mining and smelting, sufficient at all events for the manufacture of weapons and other articles in common use, but the opening up of the country to trade, and the consequent import of foreign iron, have practically killed the industry, and at the present time there are only a few places where iron is worked, and in them the industry is quite insignificant.

Iron.

Tin is the only metal the working of which is of any great importance in Siam. Tin is found in small quantities in the valley of the Nam Sak River and in various places in northern Siam, but all the deposits of importance are derived from, and lie adjacent to, the great line of granitic upheaval which forms the boundary range between central Siam and Tenasserim and is the backbone of the Malay Peninsula; it may be traced down to the Dutch islands of Billiton, Banca, and Singkep. This great line of granite is the source of practically all the vast alluvial deposits of tin which

Tin.

are found in the British, Dutch, and Siamese possessions in the East Indies. The Siamese territory is probably as well off in this respect as either the British or Dutch, and the deposits are very widely distributed. Tin is at the present time being worked in the following provinces: East Coast—Ratburi, Bangtaphan, Langsuan, Chaija, Bandon, Lakon, Jalar, Rangeh, Rahman, Kelantan, Tringanu. West Coast—Kra, Renong, Takupar, Panga, Takuatung, Puket, Trang, Stul, Perlis, Kedah.

In some of these provinces the works are small and unimportant, but the total annual production is little short of five thousand long tons, of a value of \$3,000,000 (gold), taking the price of tin at \$600 per long ton.

Generally speaking, all the mining is in the hands of Chinese; the labor is Chinese, and the smelting is done locally by Chinese methods. The only exceptions to these generalizations are that one British and one Dutch company are working in Kedah, and an American company is making a small commencement in Bangtaphan, and a British smelting company is establishing an ore-buying agency in Puket. The number of Siamese and Malays engaged in tin-mining is very small.

There is an enormous field for the expansion of



THE MINISTRY OF THE INTERIOR





the tin-mining industry in the Siamese possessions in the Malay Peninsula, and considerable activity in prospecting, on the part of European and American capitalists, has lately been shown.

At present, Puket Island (on the west coast) is the most important tin-mining centre in all the Siamese states; but Kedah, Takuapar, and Renong (also on the west coast) have a considerable mining industry. On the east coast, Nakon Sri, Tamarat, and Jalar (Port Patani) are the chief centres. The most promising districts for future developments are in Kedah, Rahman, Jalar, Takuatung, and Renong.

Sapphires and rubies are the only gems the working of which is of any importance, though spinels, zircons, garnets, and topaz are also produced to a small extent. Of the two forms of corundum, sapphires are very much more abundant and more largely worked than rubies. Siamese sapphires form a considerable proportion of the world's supply of this gem. Statistics, however, are not available, as there is no duty on the stones, and the work is carried on by numerous small parties of men and even by individuals, who dispose of their findings to a number of travelling traders. Siamese rubies do not command a good price, as those of good color are mostly very small,

Gems.

whilst those of good size are of poor color. It is believed that any really good stones which are found are sent overland to Burmah and sold as Burmese rubies. As regards statistics, the same remarks apply as have already been made about sapphires.

Practically all Siamese sapphires come from the district of Phailin in Battambang. Rubies are worked in a small way in the same district, but the chief ruby workings are in Chantabun and Krat.

The deposits are all alluvial, work being usually carried on by digging numerous small pits in the neighborhood of streams, the gem-bearing earth being washed by hand in the streams.

Most of the work is in the hands of Burmese and Shans, who, however, employ a considerable number of Laos as laborers.

The gem buyers are Burmese, Shans, Singalese, and natives of British India, and some European firms in Bangkok take a share in the trade.

The gem-mining districts are, for the most part, exceedingly unhealthy, this fact being a great bar to European enterprise in this line.

No true coal is known to occur in Siam. A lignite or brown coal is found in the Malay Peninsula in various places, of which Bandon, Gerbi,

Plien, and Trang are those best known. There is considerable prospect of these lignite deposits being successfully exploited in the near future, but it is as yet too early to say anything more definite. Real coal has lately been reported from Nakon Sawan, but confirmation is lacking.

Coal.

Petroleum is found in Muang-Fang, in the extreme north of Siam. The amount of oil produced is quite insignificant. The oil may be collected by skimming the water which collects in shallow pits dug for the purpose. The oil thus collected is black in color and very viscous. It is supposed that this occurrence is geologically connected with the oil-fields of Burmah.

oil.

This oil is not likely to become of any importance until communications have very much improved. At present it would be practically impossible to open the district so as to be able to work the deposits, even if they have any value, which at present is an open question.

Oil has been frequently reported in Kedah, and experts have pronounced it to be there, but it is very doubtful whether there is any truth in these assertions, and no samples have ever been obtained. It appears that people have been misled by the

presence of considerable quantities of marsh-gas in some undrained ground.

In the limestone hills of Lopburi, Saraburi, Buachum, and the Prabart district there are numerous caves, many of which contain thick deposits of bat guano. From time immemorial these have been worked for potassium nitrate, for the manufacture of gunpowder and medicine. At the present time it is still worked intermittently for the same purposes, and within the last few years some has been sold in Bangkok for the manufacture of fireworks. Quite recently attempts have been made to work it on a considerable scale and export it to Japan. The difficulties to transport are, however, great, and success is not yet assured.

The native method of procedure is to boil the crude guano with wood ashes in pans. The liquid is skimmed and allowed to crystallize. The crystals thus obtained are extracted and again treated in the same way. The resulting saltpetre is of a slightly brown color and assays about ninety-five per cent. potassium nitrate. Sodium nitrate is almost entirely absent.

## CHAPTER XVIII

### COMMERCE





## CHAPTER XVIII

### COMMERCE, BY THE ASSISTANT DIRECTOR OF CUSTOMS

**S**IAM has ranked herself amongst commercial nations for nearly four centuries. As early as 1511 it is recorded that the Portuguese traded at Bangkok, and subsequently the Japanese, the Dutch, and the British all entered more or less into commerce with her. It was not, however, until 1856 that its present trade with almost all the commercial peoples of the world took definite root. In this year Sir John Bowring, on behalf of the British, entered into a treaty with Siam, and was followed during the succeeding years by the representatives of the other commercial nations, until now there are no fewer than fourteen distinct countries which complete the circle of Siam's treaty friends.

Trade for many years appears to have fluctuated from various causes, but during the last twenty years it has steadily grown.

The total export for 1902 was valued at 87,401,-889 ticals; five years ago (1897), it was 57,689,792 ticals. The total value of imports for 1902 amounted to 65,420,231 ticals, and in 1897 it was 40,973,403 ticals (5 ticals = \$3 Mex., or 17 ticals = £1 sterling approximately).

The principal productions of Siam are rice and teak-wood. There are at present in Bangkok thirty-six mills and in the Patriew district east of Bangkok four others, whilst eight new ones are in course of erection. The mills are more than sufficient for the handling of the crop, and the result is great competition amongst the millers when buying from the farmer or middleman. This has a detrimental result upon the growers, who are growing careless as to quality, or the manner in which the paddy is prepared for the market. The soil is, however, rich, and the price of the finished product has held its own as compared with the Burmese or Indo-China rice on the Singapore, Hong-Kong, and occasionally the European market. With care and with an extension of the irrigation system which at present exists, the quality of the paddy could be much improved and its production largely increased. Attention is now being devoted to these matters under the supervision of the Agricultural Department.



Year by year more rice is being exported, principally due to the fact that more land is coming under cultivation, the quantities shipped for the past three years being as follows: 1900, 6,962,476 piculs; 1901, 11,506,736 piculs; 1902, 13,414,441 piculs. Picul =  $133\frac{1}{3}$  lbs. avoird.

The trade in teak depends each year on the rainfall. The wood is felled far from the rivers and is floated down the creeks until it meets the

Teak.

main stream, where it is gathered into rafts and sent on its way down the Menam to Bangkok. Here it is exported to the principal countries of the world, India and Europe, however, being Siam's best customers for this article. The quantities exported during the past three years are as follows: 1900, 45,261 tons; 1901, 43,735 tons; 1902, 56,075 tons.

Siam has a considerable export trade in marine products—bêche-de-mer, dried and salt fish, fish maws, prawns, sharks' fins, turtle shells, and ray skins.

Other Goods.

Pepper is exported largely from Bangkok, it being first removed in coasting steamers from the Chantabun district, where it is grown. Black pepper is no longer exported. White pepper—that is, the pepper with the outer husk removed—is sent year by year

to London, Liverpool, ports on the continent of Europe, and to New York and San Francisco. On the west coast of the peninsula pepper is also grown and finds its way, via Penang, to the various markets of the world. The export value of pepper for the year 1902 was equal to nearly one million ticals.

Various sorts of wood are produced and exported, such as agilla, sapan, padoo, yellow-wood, box, ebony, and rose, but the trade in these woods does not seem to increase, as no effort is made to grow them systematically. Jungle products, such as hides and horns, are gradually being worked out, and will in time disappear unless efforts are made to preserve the deer in the interior. Rubies and sapphires are exported in a rough condition for sale on the London market. This trade, however, seems to be gradually diminishing. The silk trade looks to be entering on a more prosperous future. Under Japanese instructors the Siamese are developing the production of this article, and it is hoped that in time it will become one of Siam's most important industries.

Bullocks are exported to Singapore. This trade is not improving, for various reasons. Disease has unfortunately year by year prevented the exportation for some months at a time. The trade is a profit-



A TIDAL CANAL



able one, and every effort is made by the dealers to secure animals, but up to the present cattle-breeding is not sufficiently organized to create a permanent supply, hence this branch runs the risk of extinction by the exhaustion of the supplies available.

The imports of Siam cover the whole field of manufactured articles, and they are drawn from almost every part of the globe. Cotton goods bulk largely in every imported cargo of general goods. They come principally from England, India, Switzerland, Italy, Holland, Germany, France, and Denmark, being almost invariably transhipped at Singapore, and from America and Japan, coming via Hong-Kong. Cotton goods are amongst the most valuable imported. The people are year by year demanding more clothing, as the fashion for wearing foreign cloth extends gradually over the whole interior. The printed cottons for nether garments, called by the Siamese "palais" or "patas," come principally from India and Switzerland, while the plain woven patterns in one color come from Britain and Switzerland, India not competing. Singapore seems to be the market for Siam to buy its gray and white shirting in; ninety per cent. of the importation comes from that port.

Imports.

The countries of production vary, but Manchester and Indian goods seem to predominate, Holland and Germany being the only two countries to compete.

Silk piece-goods are imported mostly from Hong-Kong and are used for clothing by the local Chinese. Half the importation is exported after being dyed black. This dyeing trade in Siam has been going on for years. A berry which grows in the jungle produces the dye, which does not keep in fit condition for any length of time, and it is therefore necessary to bring the cloth to the place where the dye is made.

Books and printed matter are supplied mostly from England.

Denmark sends Siam her cement. Chemical products come from Singapore, Hong-Kong, and Britain.

China sends her earthenware. Electrical goods are equally supplied by the United States, Britain, and Germany.

Fifteen different countries help to supply the Siamese market with hardware and cutlery, Germany, Britain, and China taking the lead.

Hats and caps and household furniture are supplied from Hong-Kong and China.

Lamps and parts are imported from Hong-Kong, Germany, and the United States.

Machinery is supplied by Germany, Britain, and the United States.

Oil (burning) is now almost exclusively supplied from Sumatra.

Provisions, vegetables, etc., come from Hong-Kong and China.

Though tobacco is locally grown it still takes over seventeen different countries to supply the Siamese with his tobacco; Hong-Kong, however, furnishes by far the largest portion, but this Hong-Kong tobacco comes in great part originally from the United States.

The Siamese, though great smokers, do not drink so much spirit as the people of the West. Germany, France, and England supply beer, whiskey, and brandy, but the rice spirit, known as "samshoo," is supplied exclusively from Hong-Kong and China. The balance of trade lies entirely with Siam, whose exports exceeded its imports in value by no less than thirty per cent. in 1902. This varies, of course, year by year with the rain supply, but it never has gone the other way so far.

The number of vessels entered at the port of Bangkok during the year 1902 was 727, five of

which were sailing vessels. The tons of shipping represented by the above amounted to 631,458. Besides the above, fifty-three junks entered with cargo from China. The German vessels hold the lead in Bangkok shipping. The two principal lines to Singapore and to Hong-Kong sail under that flag. Two Chinese-owned steamers trade between Bangkok and Singapore under the British flag, but latterly that flag has dropped to the third place in the customs statistics, as the number of Norwegian steamers has increased greatly during the past two years. This is due to the Chinese exporters of rice desiring to have steamers under their own control so as to take every advantage of the market when favorable either in Singapore, Hong-Kong, or any other neighboring port. As many as twenty vessels have been in the Menam at one time during the past year, and as they discharge and load by means of cargo boats the river is at times alive with craft and presents a most busy appearance. The vessels do not load up at Bangkok. They must cross the bar light and fill up at the outer anchorage—Kohsichang Island or Anghin Head, according to the monsoon. Lorchas or large sailing lighters with a few steam tug-barges are engaged in carrying cargo to those anchorages, to be there transshipped. A French





MAKING RATTAN ROPES



liner runs regularly between Bangkok and Saigon carrying the mail. Its trade is, however, insignificant.

The caravan trade in the interior was at one time a large and flourishing one. Latterly it has dwindled away until now it is really of no importance. The route from Moulmein to Raheng is the busiest one, but the total import by that route last year did not amount in value to more than 100,000 ticals. About 60,000 of these were for cotton goods generally, 20,000 were for gold leaf and jewelry, and the remainder brassware, etc. In return there were exported by this route bullocks and ponies to the value of 12,000 ticals, and native-made dresses of silk and cotton, called "panungs," to the value of 40,000 ticals. The caravan route from China to Chieng Mai and Nan is of no importance. The travellers coming that way are mere hucksters who buy and sell as they travel along. They will soon have to give way before the importation of European goods, which in a short time, by means of the rapidly advancing railway, will spread far and wide over the northern parts of the country. Meantime it is a most expensive operation to move goods to the north by boat.

In conclusion it is evident that Siam has every

prospect of a great commercial future. The administration is being rapidly improved, each department getting its due share of attention. The security due to good government will help to encourage trade and enable European and American goods to be within the reach of all. In return Siam can feed the East and can supply the European market with rice of a very fine quality, with teak-wood, and with silk, each of which has hardly a rival. The tables shown hereunder will prove that it is no vain boast to predict an important commercial advance in the near future.

TABLE A.—VALUES OF PRINCIPAL EXPORTS

	1900	1901	1902
	Ticals	Ticals	Ticals
Rice .....	37,469,597	60,268,327	69,846,978
Teak .....	5,499,134	4,214,077	6,546,633
Tin.....	13,343	112,247	172,341
Bullocks.....	817,247	575,970	556,350
Fish (Fresh, Dried, and Salt), Mussels, etc .....	2,039,426	2,911,671	2,130,663
Birds' Nests .....	197,273	402,552	268,635
Sticklac .....	164,715	292,718	376,779
Gamboge and Gum Benjamin...	27,710	15,113	29,681
Teel-Seed .....	137,760	126,415	79,502
Hides and Horns.....	777,519	789,958	1,266,661
Woods Other than Teak.....	513,046	500,180	513,713
Pepper.....	785,525	1,435,120	990,266

TABLE B.—VALUES OF PRINCIPAL IMPORTS

	1900	1901	1902
	Ticals	Ticals	Ticals
Cotton Goods.....	5,831,961	8,347,904	10,497,623
Silk Goods.....	2,084,059	1,822,116	1,976,231
Gunny-Bags .....	1,539,902	2,345,963	2,888,703
Petroleum.....	1,648,622	1,108,133	1,136,060
Machinery.....	1,302,342	1,992,098	2,035,844
Sugar.....	1,714,833	1,449,630	2,061,257
Liquors.....	1,079,018	1,037,553	939,202
Opium .....	2,377,240	2,163,277	2,091,578





CHAPTER XIX  
THE INDUSTRIES OF SIAM







## CHAPTER XIX

### THE INDUSTRIES OF SIAM, BY THE SECRETARY- GENERAL

SIAM is emphatically an agricultural country and not a manufacturing one. This may be accounted for partly by its geological formation, partly by its climate, and partly by the scantiness of its population.

The greater part of Siam, in fact nearly the whole of Lower Siam, is alluvial, and up to the present coal has not yet been found in paying quantities in any part of the kingdom, the consequence being that the only native fuel, except the husks of the rice, is wood, the price of which as a fuel has steadily increased and is likely to still further increase. The climate being tropical is an important factor in the readiness of the people to submit to continuous manual labor, and the needs of a tropical population are so much fewer than those of a people to whom artificial warmth is an absolute necessity.

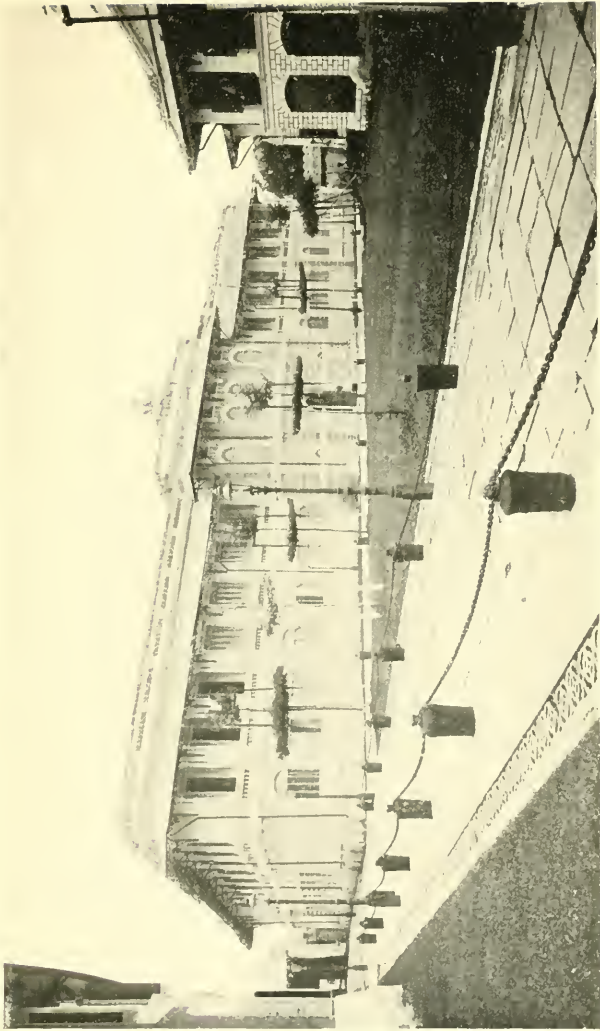
The vast extent of land suitable for agricultural operations offers to those willing to work a more attractive career than toiling for a daily wage.

The mills for rice and teak probably are the largest employers of day labor, the number of rice-mills in Bangkok being thirty-six and sawmills eleven. The steam rice-mills run continuously day and night, employing two shifts, but the sawmills work only by day.

The trained hands are employed continuously, but the number of unskilled laborers varies from day to day. A large proportion of these laborers are Chinese, particularly those employed in shifting the grain from the boats to the mill and back again, all of which work is performed by hand. The estimated number of hands, skilled and unskilled, employed in the mills is about ten thousand.

Fishing is another industry of great importance. The greater part of the fish caught is dried or salted, and a large export is done in various kinds of preserved fish to Singapore and Hong-Kong.

The favorite method of catching fish is by gigantic traps. These traps are constructed of bamboos fixed upright in the shallow water; a long V-shaped neck, with an opening sometimes extending to a quarter of a mile, leads into a compartment some



THE MINISTRY OF FOREIGN AFFAIRS



sixty feet square by a narrow aperture. The fish, guided by the walls of the V, are caught in the trap, which is netted every two or three days.

The amount of fish caught annually is enormous; not only is it eaten fresh or dry at every meal by the inhabitants of Lower Siam, but there is a large surplus for export.

Boat-building is perhaps the most widely extended industry, being carried on over the whole country, each district building the boats adapted to the local needs. In the capital a large number of steam launches and small sailing lighters are built. Ship-building, which was formerly an important industry, has disappeared with the introduction of iron steamers.

The manufacture of spirits is a state monopoly and is farmed out to the spirit farmers in every province. Licenses to conduct a distillery are issued to any one applying, but the spirits must be sold at a rate fixed by the farmer, who usually takes the whole output.

Sugar of a coarse quality is also largely manufactured from the sugar-cane; there is no direct tax on its manufacture, but it can only be sold in pots supplied by the government manufactories.

Salt is extracted from sea-water at various places

along the coast. These salt farms are situated on low lands near the coast, which are flooded at high tide; each field is surrounded by a bank of earth which retains the water. The sea-water is admitted at high tide and allowed to evaporate by the heat of the sun, and the field filled up with fresh sea-water from time to time till the brine is sufficiently strong to crystallize.

A large amount of coarse, unglazed earthenware is made—large jars of fifteen to twenty gallons' capacity for storing water, pots for boiling rice, small charcoal stoves, tiles for roofing, etc. Except the large jars, known as Siam jars, few of these articles are exported.

Weaving exists only as a home industry; the silk is produced in Siam (see sericulture), but the yarn is imported, chiefly from India.

Two minor industries are the collection of gum benjamin and gamboge; gum benjamin is indigenous to the north of Siam, and gamboge grows only on the coast. These valuable resins are obtained from their respective tree by making incisions in the bark and allowing the resin to ooze slowly out, where it is collected in hollow bamboos and sent to Bangkok for export.

Although silkworms have always been cultivated

in Siam and a large amount of silk produced for home use, there has been but little export, and the value of raw silk exported has seldom been over 20,000 ticals per annum.

The Government have now taken the matter in hand, and a special department of sericulture has been organized under the Ministry of Agriculture. Japanese experts have been engaged to introduce the latest scientific methods and two experimental farms have been started.

The native grains or eggs are of a flat, ovoidal shape and a light yellow color, which turns to grayish-blue when they begin to hatch. The average weight of the grains is 0.04527 gr. per hundred, and their average length and breadth 1.15 mm. and 0.98 mm., respectively.

Eggs.

These grains are smaller than either Japanese or Chinese grains, and in consequence produce smaller worms.

When hatched, the worm is about 2 mm. in length and reaches maturity in about one month.

Worms.

Compared with foreign varieties their growth is very rapid, while the weight of leaves consumed is about one half. They are extremely healthy and the amount of disease small.

The average number of eggs deposited by a native moth is from 260 to 350.

The cycle of the Siamese variety is as follows :

Egg Stage.....	10 days
Larva.....	25-32 "
Pupa.....	10-12 "
Moth (Image).....	3-4 "
Total.....	48-58 days

It is thus possible to rear these worms seven to eight times a year, provided a sufficient crop of mulberry leaves can be obtained.

According to the results obtained at the Government Experimental Station, it requires twelve to sixteen kilos of leaves to produce one kilo of silk.

The cocoons of the Siamese varieties are long, ellipsoidal, tapering and pointed at both ends, and surrounded by much floss.

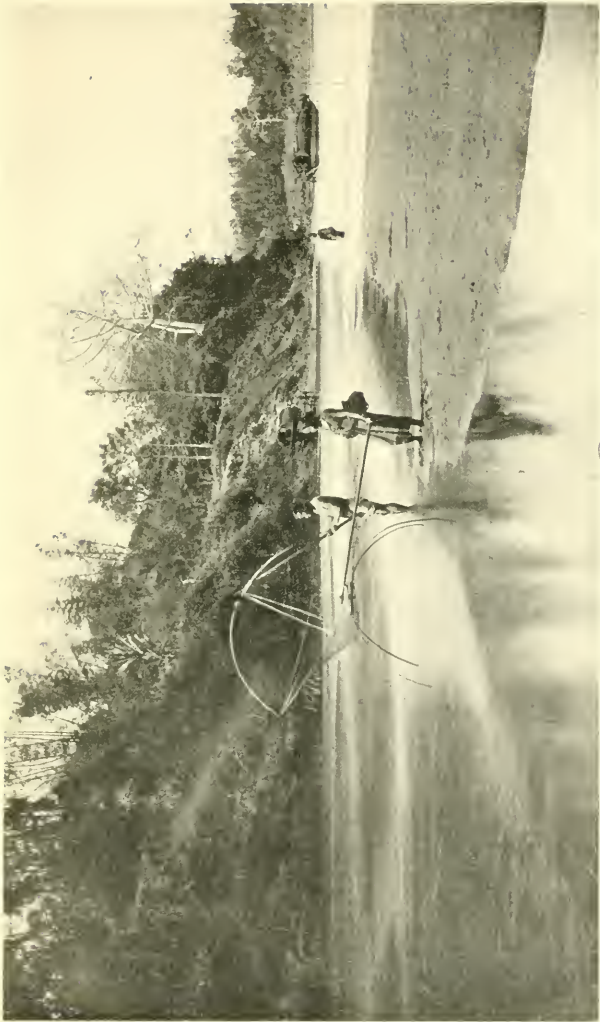
The length of silk per cocoon is from 200 to 250 metres, and the yield of silk is as follows :

370 grams silken matter
630 " non-silken matter
<hr/>
1000 grams cocoons

One kilo of fresh cocoons yielded

75 grams good raw silk
40-45 " inferior raw silk
4-5 " waste silk





A FISHING SCENE



Under scientific methods the amount of good raw silk has already been increased by thirty per cent.

The two known kinds of native worms are (1) plain white; (2) vers tigrés.

The first (plain white) is the better variety and yields silk twenty-seven to forty-five per cent. longer per cocoon than the latter variety.

The size of the bave is smaller than that of foreign varieties and yields a fine raw silk, which has a higher market value than larger-sized raw silk.

The Bave.

In Siam it is found that one rai of land (1600 square metres) will yield about 2000 kilos of mulberry leaves, and 14 kilos of leaves produce one kilo of cocoons, yielding 75 to 78 grams of good raw silk, hence one rai of land will give between 10 and 11 kilos of raw silk per annum, valued at 200 to 300 ticals.

Rearing.

The cost of reeling the silk on a large scale is about nine ticals per kilo.

It is the intention of the Government to foster the silk industry in every possible way among the farmers, who will be encouraged to plant mulberry-trees and rear the worms under scientific methods, in which they will be instructed either at the experiment stations or by travelling instructors. If

found desirable, the Government will erect a large central station for reeling the cocoons in order to obtain silk of fixed qualities.

Formerly a large amount of paper was made in Siam, but owing to the import of cheap foreign paper this industry has greatly declined and only a small quantity is now produced.

Paper-  
making.

The paper is made from the bark of the koi-tree (*Streblus aspera*), which grows wild in Upper Siam, and from there is brought down to Bangkok. The bark is first dipped in a strong solution of lime and allowed to drain, exposed to the air; is then steamed for twenty-four hours, and the soft fibre collected in jars; from them it is taken out and beaten to pulp by mallets on a flat board; when completely pulped it is made into balls, each about the size of a cricket-ball.

The paper-maker takes one of these balls and places it in a bucket made of woven bamboo, which he dips full of water and stirs up the pulp with his hand. This work is generally done on the edge of a stream or pond. He then floats in front of him a wooden tray, the bottom of which is coarse canvas. By a dexterous movement he pours the bucket of liquid pulp into the tray so as to cover it evenly with pulp; he then lifts out the tray, drains it, and



A RUINED TEMPLE



presses the superfluous water out of the pulp with a bamboo roller. The pulp adheres to the canvas, and the tray is set up on end and allowed to dry for twenty-four hours. The paper is then stripped off, covered with fine rice starch, polished with a smooth stone, and made into long, folded books.

Should the paper be required to have a smooth black surface the starch is mixed with fine charcoal made from the *Acschynomeme aspera*; the paste is then spread over the rough paper and polished.

The casting of bronze figures has been an art in Siam from time immemorial. The process followed is always that of *cire fondu*. The artist first models the figure in clay coated with wax, then coats it again in clay, and by the application of heat allows the wax to run out; separate tubes are made to allow the metal to find its way to the smaller parts of the figure. The founder, who is generally the artist himself, then pours in the molten metal, and when cool the mould is broken and the figure cleaned and polished; each figure is thus an original work, and a new wax model is made by the artist for each. A few years ago, Phra Prasiddhi cast a figure of the Buddha for the Wat Benchamabophit, the base of which was nine feet six inches and the height twelve feet, which is one of

Bronze and  
Terra-Cotta  
Work.

the finest modern statues of Siam. Terra-cotta figures are made by the artist, who also superintends the burning, assisted by his pupils. Unfortunately sufficient care is not taken in the selection and cleansing of the clay so that when baked the color of the figures is not even.





## INDEX





## INDEX

- Abattoirs under government control, 113  
Administration, 11  
Advisers, number of legal, 193  
Agriculture, chapter on, 153;  
cost of Ministry of, 136  
Alphabet, similarity of Sanskrit and Siamese, 90  
Altitude, average of, in Siam, 30  
American Presbyterian Mission, school of, 207  
Ancient cities of Siam, 215  
*Annals of Bangkok*, historical value of, 83  
*Annals of the North*, historical value of, 80  
Appeals, ease of taking, 187, 189  
Archæology, chapter on Siamese, 213  
Army, equipment of, 69; organization of, 69; improvement of, 65  
Artillery, equipment of, 70  
Assumption College referred to, 207  
Awakening of Siam, 84  
Ayuthia, ancient capital, 81  
  
Bangkapong River described, 36  
Bangkok, chapter on, 105; establishment of capital at, 83  
  
Banks in Siam, names of, 147  
Betel leaf, cultivation of, 167  
Betel nut, growth of, 166  
Bhanurangsi, brother of the King, 5  
Boat-houses referred to, 109  
Boats, building of, 29, 265; description of, 47; number of, 30; propulsion of, 231  
Brahminism, beginnings of, in Siam, 214  
Brick, early use of, in Siam, 218  
Bronze, casting of, 27, 271; early examples of, 225  
Brothers of the King, 5  
Buddhism, beginnings of, in Siam, 214; religion of Siam, 95; form of, 99  
Budget of Siam, 129  
Building materials in ancient temples, 218  
Business, aggregate volume of, 148  
  
Cambodian people, description of, 53  
Caravans, extent of, 232, 257  
Cases, number of trial, 195  
Cattle, trade in, 113  
Cavalry, limited use of, 70  
Caves, early use of, as temples, 22  
Chantaboon, rainfall at, 41  
Chieng-Mai, journey to, 30

- Chulalongkorn, birth of King, 3  
 Cities of Siam, 46  
 Civil service, school for, 206  
 Coal, absence of, 244  
 Coconut, growth of, 168  
 Coins, names and values of, 145  
 College, Royal Military, 71  
 Commerce, chapter on, 249  
 Commissioners, duties of, 14  
 Communication, means of, 54  
 Convictions, percentage of, 195  
 Copper, extent of, 240  
 Cotton, cultivation of, 164  
 Council of Ministers, 9  
 Courts of justice described, 187  
 Criminal procedure, method of, 188  
 Criminal statistics, 126  
 Crown Prince, born, 4; educated, 4; Inspector-General, 72  
 Currency, chapter on, 143  
 Customs, rate of, 132  
 Cyclones rare in Siam, 42
- Death, Buddhistic idea of, 100  
 Death sentences, number of, 196; execution for, 199  
 Description of Siam, 19  
 Dignitaries of the ecclesiastical order, 96  
 Diseases, prevalent, 31  
 District, composition of, 14  
 Divorce, rarity of, 45  
 Dockyard facilities, 73  
 Doi Sutep, height of, 30  
 Drainage system at Bangkok, 117  
 Dress, national, 46  
 Dusit Park described, 108
- Eastern Siam, climate of, 52; description of, 49  
 Education, chapter on, 203; form of military, 70; naval, 73  
 Elephants, home of, 37; use of, 232  
 English schools, number of, 206  
 Epigraphy, little evidence regarding early forms of, 221  
 Eras, number and names of, 80, 224  
 Exchange, rate of, 144  
 Expenditures, amount of, 129, 134  
 Exports, total, for 1902, 250, 258
- Family, Royal, 3  
 Farms, size of, 48  
 Fauna of the Malay Peninsula, 61  
 Finance, chapter on, 129; expenditures of the Ministry of, 136  
 Finger print used for the detection of criminals, 125  
 Fish, prevalence of, for food, 24  
 Fishing, methods of, 264  
 Flora of Malay provinces, 61  
 Foreign causes, court of, 191  
 Forestry Department, 15; chapter on, 173; cost of, 135  
 Forests, extent of, 50; of Upper Siam, 22  
 Frankfurter, O., author of Siam from an Historical Standpoint, 79; Language of Siam, 89; Religion of Siam, 95
- Gambling, suppression of, 132

- Gendarmerie, cost of, 135;  
described, 74; schools for,  
75
- Geology of Upper Siam, 22
- Gerini, Colonel, author of  
chapter on Siamese Ar-  
chæology, 213
- Gold, distribution of, 239;  
methods of mining, 240
- Government, 8
- Guru, order of priesthood, 96
- Hamlet a political unit, 13
- Health, state of, 31
- Health department of the  
port, 112
- History of Siam, sources of,  
80, 82
- Houses, types of, 47
- Illiteracy rare, 45
- Imports, character of, 253;  
extent of, 259
- Indu influence traceable in  
Siam, 214, 216
- Industries, chapter on, 201
- Inscriptions, importance of,  
223
- Interior, Ministry of, 15
- Iron, early use of, in con-  
struction, 225; production  
of, 241; working of, 27
- Irrigation, importance of, 47,  
162
- Irrigation department, 15
- Justice, chapter on Ministry  
of, 184
- Kamoo people, home of, 32
- Karen people, home of, 32
- King, born, 3; European  
tour, 3; highest supporter  
of Buddhism, 95
- Korat plateau, description of,  
55
- Kra isthmus described, 21
- Lacquer, manufacture of, 27;  
early use of, 226
- Land, laws relating to tenure  
of, 46
- Land record, department of,  
15
- Language of Siam, chapter  
on, 89
- Laos people, description of,  
53
- Latrines, use of, in Bangkok,  
118
- Law school, value of, 190
- Laws of Siam, codification  
of, 84, 188
- Lead, distribution of, 240
- Legal advisers, number of,  
193
- Life, Buddhistic view of, 100
- Local government, cost of,  
135
- Lower Siam, described, 33;  
temperature of, 38
- Lu, home of, 31
- Magistrates, limited func-  
tion of, 196
- Maize, cultivation of, 163
- Malay Peninsula, Siamese  
provinces of, 56; physical  
features of, 57, 60; popu-  
lation of, 59
- Manuscripts, ancient forms  
rare, 222
- Markets referred to, 110
- Meat inspection rigid, 115
- Medical officers in sanitary  
service, 112
- Medicine, school of, 208
- Mekawng River described,  
20, 36
- Menam River described, 20,  
34
- Meow, home of, 31

- Meteorology of Bangkok, 116  
 Migration of early Siamese, 81  
 Military education, form of, 70  
 Military service, nature of, 66  
 Millet, cultivation of, 163  
 Mines, department of, organized, 239  
 Mining, chapter on, 239  
 Mining act in force, 239  
 Mining revenue, amount of, 133  
 Ministers, council of, 9  
 Ministries, location of, 106  
 Mint, receipts from, 133  
 Mongkut, reference to King, 84  
 Monk, functions of, in priesthood, 98  
 Monsoons, time of, 38  
 Monthon, administration of, 12  
 Monuments, ancient Siamese, 216  
 Mother-of-pearl, early examples of, 226  
  
 Nam Ping River described, 34  
 Nam Po River described, 35  
 Narratives of travellers unreliable, 85  
 National banks under consideration, 149  
 Naval education, form of, 73  
 Navy described, 73  
 Negritos described, 59  
 New Road described, 107  
 Nirvana explained, 100  
  
 Octroi, effect of, 134  
 Official gazette, value of, 85  
 Oil, evidences of natural, 245  
 Oxen, breeding of, 28  
  
 Paknampo, location of, 36  
 Palace, reference to Royal, 106, 108  
 Paleographic peculiarities, 224  
 Pali, study of, 205  
 Paper, making of, 270  
 Paper currency, issue of, 146  
 Pasak River described, 35  
 Patrols, stations for, 75  
 Pawn shops supervised by police, 123  
 Pepper, growth of, 167; amount exported, 251  
 Petroleum, evidences of, 245  
 Police, Bangkok, 120; Puket, 75  
 Police courts, procedure in, 195  
 Poll-tax paid by Chinese, 134  
 Polygamy permissible, but not general, 45  
 Poppy, cultivation of, 26  
 Population, character of, 31; Bangkok, 111; Lower Siam, 43; Upper Siam, 33  
 Port, health department of, 112  
 Postal affairs, statistics of, 235  
 Pottery, first examples of glazed, 225; manufacture of, 28, 266  
 Premane grounds described, 107  
 Priesthood, organization of, 96; induction into, 99  
 Priests, educational services of, 45; great influence of, 99; under state control, 99  
 Primary schools, wide distribution of, 205  
 Prince Royal serves as priest, 99  
 Prisons, control of, 193  
 Privy Council referred to, 11

- Procedure, method of criminal, 188  
 Products, list of principal, 250  
 Property, possession of, 46  
 Province, administration of, 13  
 Public works, divisions of, 10; expenditures for, 138  
 Puket, special police force for, 75  
  
 Quarantine, duration of, 113  
  
 Railroads, appropriation for construction of, 138; extent of, 233; revenue from, 133  
 Rainfall, average, 31; at Bangkok, 116; in Lower Siam, 40  
 Religion, chapter on, 95; influence of, 45  
 Resin, manufacture of, 29  
 Revenues, of Bangkok, 119; of Siam, 129, 131; reasons for increase, 130; sources of, 131  
 Rice, cultivation of, 156; importance of, 153; kinds of, 23, 160; number of mills for, 264  
 Rifle practice encouraged, 76  
 Rinderpest, absence of, 115  
 Rivers of Lower Siam described, 49  
 Roads, extent of, in Bangkok, 107  
 Royal Family, chapter on, 3  
 Rubies, extent of, 243  
  
 Salt, extraction of, 29, 265  
 Saltpetre, manufacture of, 29, 246  
 Samsen Road described, 108  
  
 Sanitary service described, 112, 119  
 Sapphires, extent of, 243  
 Scholarship esteemed and encouraged, 204  
 Schools, frequency of, 205; topics taught in, 205; value of law, 190  
 Sentence unit of speech in Siamese, 90  
 Sericulture, organization of department of, 137  
 Sesamum, cultivation of, 165  
 Sewerage system at Bangkok, 117  
 Shipping, statistics of, 230, 256  
 Ships of the navy, names of, 74  
 Siam, historically considered, 79; civilization of, 44; derivation of the word, 79; gendarmerie, 75; general description of, 19; language of, 89; physical characteristics of the people of, 44  
 Silk, manufacture of, 26, 266; improvements in, 137  
 Silver, cessation of coinage of, 143  
 Silverware, manufacture of, 27  
 Slavery, abolition of, 45  
 Soil, character of, 22  
 Sons of the King, European training of, 5  
 Souls, reference to migration of, 100  
 Spirits, manufacture of, 265  
 Staff, organization of army, 72  
 State Council, referred to, 11  
 Statistics, criminal, 126; judicial, 194  
 Statuettes, examples of early forms, 225

- Sticklac, manufacture of, 28  
 Sugar, limited production of, 28, 166  
 Sulphur springs, existence of, 22  
 Supan River described, 35  
 Supreme Court, decisions of, 188  
 Surplus, annual, 129  
 Survey department, referred to, 15; school of, 208
- Talesap plain described, 50  
 Tea, cultivation of, 25  
 Teachers, lack of, 209  
 Teak, amount exported, 251; importance of, 173; output of, 177; regulations regarding, 174  
 Telegraph, statistics of, 235  
 Telephones, use of, 236  
 Temperature, mean, 30; at Bangkok, 116; in Lower Siam, 39  
 Terra-cotta, manufacture of, 272  
 Text-books, compilation of, 207  
 Thai, name given by Siamese to themselves, 79  
 Tiles, manufacture of, 28  
 Tin, importance of, 241  
 Tobacco, cultivation of, 24, 163
- Tones in the Siamese language, number of, 90  
 Trade, rapid development of, 249; of Upper Siam, 33  
 Traffic, increase in railway, 133  
 Tramways, extent of, 234  
 Transportation, means of, 229  
 Treaties, commercial, 249
- Uniforms of police, 121  
 Upper Siam described, 21
- Vegetables, growth of, 26  
 Village as a unit of government, 13  
 Vocabulary, origin of Siamese, 90
- War of the Polish Succession*, written by Crown Prince, 5  
 Wars, early Siamese, 83  
 Water systems of Upper Siam, 22  
 Wind, force of, in Siam, 42  
 Woman, high position of, 45  
 Wood, early use of, in temples, 226; kinds of, in Siam, 174, 178, 181  
 Written Siamese characters, derivation of, 89
- Yao people, home of, 32













UNIVERSITY OF TORONTO  
LIBRARY

---

Do not  
remove  
the card  
from this  
Pocket.

---

Acme Library Card Pocket  
Under Pat. "Ref. Index File."  
Made by LIBRARY BUREAU

-7

Digitized by Google