BURMA

First Edition 1906
Second Edition 1911

Frontispiece]

STIFF-NECKED PADAUNG BELLES:

A Study in Oriental Coquetry.

The extraordinary neckbands of these women are of solid brass rod. They vary from five coils to twenty-five. The idea of the band is to keep the neck always on the stretch.

BURMA: A HANDBOOK OF PRACTICAL INFORMATION

BY

SIR J. GEORGE SCOTT, K.C.I.E.

With Special Articles by Recognised Authorities on Burma

NEW AND REVISED EDITION
WITH NUMEROUS ILLUSTRATIONS
BY THE AUTHOR AND OTHERS

ALEXANDER MORING LTD.

THE DE LA MORE PRESS

32 GEORGE STREET, HANOVER SQUARE, W.

1911

PREFACE

THERE have been many books written about Burma lately, but the publishers think there is room for one more. Of those existing, some are too sumptuous for the traveller, and others are too bulky; some are too emotional, and some too sketchy; some ignore the fact that Burma has any geography, and others are mere inadequate guide-books. Finally, a very great proportion show how much may be accomplished by industry and the use of volumes in the ship's library.

It is believed that the book now offered is of a handy size, and gives much information about most subjects of interest in Burma. It is at any rate certain that the sections of Mr Oates on the Fauna, of Captain Gage on the Flora, of Mr Bruce on the Forests, of Mr Richard on Means of Transport, and of Mr Mariano on Music, could only be excelled by those who might have larger space allowed to them, and by very few even then.

Several of the views reproduced are from the photographs of Messrs Beato and Co., or of the older firm of Messrs Watts and Skeen. The author's thanks are due for permission to use these, and still more to the gentlemen named above for their admirably condensed papers.

The book is of the nature of a skeleton, or of a painter's study for a large work. It is certain that it can be greatly improved, and the author hopes that the critics and the public will unite to show how this may be done rather than indulge in mere carping and fault-finding.

J. G. S.

PUBLISHER'S NOTE

For convenience of reference most of the corrections and additions in the second edition are contained in the following list. Appendix II has, however, been entirely reprinted.

ADDITIONAL ALTERATIONS IN SECOND EDITION

Page 14, line 2 from foot: *for* "Thayetungo" *read* "Thayetmyo."
" 17, " 24: *add* "This bore seems now to be disappearing."
" 19, " 3: *for* "have" *read* "had."
" 57, " 16: *for* "north-west" *read* "north-east."
" 59, " 19: *add* "A rich field has since been found in Karen-nî."
" 94, " 6 from foot: *after* "Chinese" *add* "but others consider it mainly pure Shan."
" 146, " 27: *for* "the province" *read* "Lower Burma"; *for* "justice" *read* "judge."
" 147, " 4: *read* "The Burma forests, under the general supervision of a Chief Conservator, are divided into four circles."
ib. " 8 from foot: *for* "tohsit" *read* "tahsil."
" 152, " 13 from foot: *for* "fifteen" *read* "sixteen": *for* "fourteen" *read* "thirteen."
ib. " 3 from foot: *for* "eleven" *read* "twelve."
" 153, " 7 and line 19: *after* "Kangs" *add* "Kyaws."
" 159, " 25: *add* "The total cost of the Police, Military and Civil, amounted in 1904 to £639,800."
" 163, " 26: *before* "knowledge" *add* "secular."
" 177, " 10 and p. 203, l. 7: *for* "Toungoo" *read* "Taungu."
" 278, " 4: *add* "Petroleum is a quite recent export, but it has already taken the second place, and it is three times the value of teak."
" 284, " 7: *after* "England" *add* "and Colonies."
" 286, " 10 from foot and p. 287, line 13 from foot: *before* "rice" *add* "petroleum."
" 288, " 3 from foot: *add* "But the Rangoon Oil Company now makes and sells enormous quantities."
" 306, " 14: *for* "now under construction" *read* "most recently completed."
" 455, " 29: *for* "Kaunghumdaw" *read* "Kaunghmudaw."
" 463, " 18: *add* "There is also railway communication with Hanzada and the Prome line."
" 464, " 11 from foot: *add* "Motor cars now run to Mogok from Thabeitkin on the Irrawaddy."
" 468, " 1: *after* "Headquarters" *add* "formerly."
ib. " 2: *add* "now Magwe, on the other side of the river."
ib. " 17: *add* "now the divisional headquarters."

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BURMA

PART I

THE COUNTRY AND CLIMATE

Burma is a sort of recess, a blind alley, a back reach. The obvious road to the country is by way of the sea, and the only alternative to leaving it by the same route is to climb range after range of heart-breaking mountain wastes. If there were any virtue extant the original inhabitants would still be going forth to their work and to their labour till the evening, visited at intervals by the trader and the adventurous. But the burglar will climb walls, and the fugitive, making room for intruders in his own country, will fly anywhere, and stay where he may. Consequently the first inhabitants of Burma are not known, and probably do not live in it any more, and the country has been a cockpit for the greater part of its history.

Burma is the most easterly province of the British Empire in India. It is also by a good deal the largest of the Indian provinces. It lies in a bight of the Bay of Bengal, on its eastern shores. Three-fifths of the frontier is formed by a series of mountain ranges, and the waves of a wide sea wash the remaining two-fifths. It is away from the main water-ways of the world, and no great land route passes through it. The country was, therefore, much less frequently visited by the early voyagers than other parts of the East, notwithstanding the tales of its wondrous wealth in rubies and in gold.

The coast-line stretches along the Bay of Bengal from Taknâf, the estuary of the Nâf River, in about 20° 51′ north latitude, to the Pakchan River estuary at Victoria

Point, in 9° 55′ north latitude, a distance of about 1200 miles. Victoria Point is the most southerly extremity of the province. The most northerly point is not on the sea-coast, but in the interior, and has not been exactly determined. It depends upon circumstances and ambition, but it may be placed at least in 28° 30′ or 29° north latitude.

Boundaries.—The boundaries of the province are: on the north-west Bengal, Assam, and the dependent state of Manipur; on the north the Mishmi Hills and the various tribes in the region where India, Tibet, and China meet; on the north-east and east the Chinese Tai, or Shan States, the province of Yünnan, and the French province of Indo-China; on the south the Siamese Tai, or Shan States, Siam, and the Siamese Malay States.

It is only on the north that the limits of the province are not definitely fixed. A considerable portion of the Kachin or Chingpaw Tract is still unadministered and only partially explored, so that the boundary is in a very fluid state. The Wa States are also not administered, and not very thoroughly explored, but the boundary has been mapped and notified to the Chinese Government.

The extreme length from north to south may be placed at 1200 miles. The broadest part of the province is in 21° north latitude, where, between the Bay of Bengal and the Mèkhong River, the limit of the dependent Shan States on the east, it measures 575 miles.

Area.—The total area of Burma is estimated at 238,738 square miles, something like 30,000 square miles greater than the German Empire. Burma proper has an area of 168,573 square miles, roughly 17,000 square miles larger than the next Indian province, that of Bengal. The Chin Hills cover 10,250 square miles, and the area of the Shan States is 59,915 square miles, about the same size as England and Wales, with the Channel Islands and the Isle of Man.

Coast-line.—The coast-line from the Nâf to the Sandoway River is broken into a number of low islands by a network of estuaries and creeks, communicating with one another and with the sea, and mostly with

wide, muddy channels. The mountains come down close to the sea, leaving only a narrow but varying strip of flat land. From Sandoway to Cape Negrais the hills reach the shore, and present a rugged and rocky barrier, with formidable headlands and dangerous reefs. Here and there are sandy bays, usually at the mouth of mountain torrents, rushing down from gently undulating downs. From Pagoda Point, hard by Negrais—the Burmese Sunium as Yule called it — flat, sandy beaches run due east as far as Moulmein, only broken by the trumpet mouth of the Sittang. Mud flats and sand-banks stretch out to seaward, and render the whole coast unapproachable within 9 or 10 miles by vessels of any size, except where main streams keep a channel open. The most important of these banks are the Baragwa Flat and the Krishna Shoal, both marked by lightships.

From the sandy beach of Amherst, below Moulmein, which it nearly supplanted as our first seat of Government in Tenasserim, the coast as far as Pakchan is fringed by a belt of mangroves, a mass of soft, and often fœtid, mud, supporting and protected by a maze of fantastic aerial roots. It is intersected by numberless small creeks, through which the tide enters and recedes, inundating the whole area at high water, and enabling oysters to live on the trees. To the southward of the mouth of the Tavoy River there lie scattered off the shore the multitudinous islands of the Mergui Archipelago. Indeed, the coast itself is cut into islands by the tortuous channels into which the rivers divide as soon as they leave the higher ground. These inner islands are mere lush-grown morasses of mangroves and slime, but the outer islands rise well from the blue sea, some of them to the height of several hundred feet, many of them of considerable size, some mere beehives or birds' nests, and all clad to the top with evergreen vegetation. The sail between them is as picturesque as anything in the Inland Sea of Japan, but, except for a stray Selung in his dug-out, it lacks the interest of man and man's works.

Land Frontier. — The external land frontier in most places runs along desolate, or scantily inhabited, mountain ridges, or follows the bed of wild hill torrents, but in

some parts of the Northern Shan States, the boundary with the Chinese Tai States, and in the Southern Shan States, the frontier, with the Lao possessions of Siam, meanders through paddy plains, with a vagrant, capricious stream as a quavering landmark. The Mèkhong River for about 120 miles forms the frontier with France, and would require a convulsion of nature to make it vary by a span.

General Divisions.—Broadly, Burma might be divided from a physical point of view into three parts: the Western, the Central, and the Eastern. The Western, besides the narrow strip of Arakan, includes the Chin and Kachin Hills, and so, running to the north, overlaps the basin of the Irrawaddy after it flows out of the gorges. The Upper Chindwin Katha, Myitkyina, and Bhamo districts fall into this domain, since, physically, they certainly belong to the Chin and Kachin Hills area.

The Central portion is made up of the basin and delta of the Irrawaddy River, together with the basin and flat lands at the mouths of the Sittang and Salween Rivers.

The Eastern portion is made up of the Shan and Karen-ni States and the province of Tenâsserim. Physically, the Ruby Mines district belongs to this area.

A more common division, which has a specious but illusory air of accommodating itself both to the administrative and ethnological distribution, is into Arakan, Northern Burma, Burma Proper, and the Shan States. If we accept the former division, the West would have the subdivisions of Arakan, the Chin Hills, and the Kachin Hills; the East the Shan and Karen-ni States and the province of Tenasserim; and Burma Proper the subdivisions of the Dry Zone on both banks of the Irrawaddy, the Irrawaddy Delta and the Sittang drainage system.

Arakan. — Arakan, Rakhaing, or Yakhaing as it is called by the inhabitants, is a narrow strip of country on the slopes of the hills falling away from the Arakan Yoma to the Bay of Bengal. The Arakan Yoma is a thinned-out tentacle from one of the many ranges that start from the waning spurs, clad with eternal snow, of the Eastern Himalayas. It sweeps down past the Brahma-Kund, with a height of from 12,000 to 14,000 feet, and from the Assam Chain gradually contracts from a chaos of wooded

spurs and ridges, with grassy, undulating tablelands here and there, into a defined range. In the Northern Arakan Hill tracts it is a wilderness of broken parallel ridges of sandstone hills, covered with dense forests and drained by countless streams. To the west and south it fades away into rich alluvial plains, the most fertile in the province, and then again in the south fills the whole face of the country, substituting upland downs for teeming flatlands, and stretching out seaward in dangerous reefs and detached rocks. The length of the division is about 400 miles, with a greatest breadth in the north of 90 miles, fining away very much to the south, so that near Hmawdēng, the golden pagoda on its last bluff, it is not more than 15 miles across. There are many islands on the coast, the most important of which are Cheduba (Manaung), Ramri (Yanpyai), and Shahpura. The division includes four districts: Akyab, Kyaukhpyu, Sandoway (Thandwè), and the Arakan Hill tracts. It has an area of 18,540 square miles. When Arakan was annexed in 1826 it did not have more than 100,000 of a population. In 1901 the numbers had risen to 762,102.

The Chin Hills. — The Chin Hills cover about 10,250 square miles. There are no plains or tablelands—nothing but a series of spasmodic hills, with a general range tendency of north and south, cut up by deep valleys. The hill tracts form a rough parallelogram, measuring 250 miles from north to south and from 100 to 150 miles east and west. The interior hills are nearly all bare, dotted with villages, and chequered with cultivation. The approach hills are steep, rugged spurs, with deep-furrowed, abysmal glens in between, covered with the densest jungle, and with only a few scattered villages. The ranges vary from 5000 feet upwards, and the highest peak is Liklang, about 70 miles south of Haka, which nearly reaches 10,000 feet. The bed of the Manipur River below Falam is only 1300 feet above sea-level.

The Chin Hills did not become an integral part of Burma till 1895, but they now form a scheduled district. The main Chin Hills had a population, according to the census of 1901, of 87,189. The Pakôkku Chin Hills, which form a separate tract, had a population of 13,116.

The Kachin Hills.—The Kachin Hills cover the north-west, north, and north-eastern front of Burma, with a ravelled skein of mountains rising from 1000 or 2000 feet on the edge of Northern Burma to the neighbourhood at anyrate of the successive ridges which run like the ribs of a fan into the snowclad fastnesses of Tibet. Probably the territory extends to 28° 30′ or 29° north latitude, and the moraine of hills is unbroken by any flat land, except the torpedo-shaped plain of Hkamti Lông, and the densely forested Hukawng Valley, perfectly flat, 54 miles long and 35 broad, through which the Tanai flows, later to be called the Chindwin. The greater part of this tangle of hills is, if not pathless, at anyrate untrodden by us. The 3000 or 4000 foot ridges, which begin north of the confluence of the Irrawaddy, rise steadily to the north, but we have made few incursions into them. So far we have taken nothing under administration north of 26° 30′ north latitude, and the country south of this has been divided into forty tracts. The mass of hills has a general north and south arrangement, intersected by valleys, all leading to the Irrawaddy, which drains the country with its two main streams, the Mali and the 'Nmai Valleys, nearly as regular and numerous as the spines of a fish. The country within the forty administered tracts is roughly estimated at 19,177 square miles. Only 64,405 Kachins were enumerated in the 1901 census, but the number of our technical subjects is probably treble that total.

Northern Districts.—The four districts of Myitkyina, the Upper Chindwin, Bhamo, and Katha form the approaches to the hills, and are cut up into strips by parallel ranges, forming the underfalls of the Chin and Kachin Hills. They are either a screen, or a barrier, or a ladder to the savage hills, according to the point of view. The population is mostly not Burmese, or at anyrate not pure Burmese. There are Kachins, Shans, Kadus, Burmese Shans, Chinese Shans, and some settlements of of Assamese. The area of the four districts extends to 40,842 square miles, of which the Upper Chindwin claims nearly one-half. They contain some valuable teak forests, and enclosed in the Upper Chindwin are the two Shan statelets of Hsawnghsup and Singkaling Hkamti.

The Dry Zone.—The first subdivision of Central Burma is the so-called Dry Zone, which extends from the Arakan Yoma to the foot of the Shan Plateau. It includes the districts of the Lower Chindwin, Shwebo, Sagaing, Mandalay, Kyauksè, Meiktila, Yamèthin, Myingyan, Magwe, Pakôkku, and Minbu, and is practically bisected by the Irrawaddy River. It is a country of long slopes and gentle ridges, covered with a scrub jungle of thin, stunted trees and prickly bushes. Everything is in a minor scale: the hills are comparatively mere undulations, except where the Pegu Yomas rise to the south, and the one considerable peak, Pôpa Hill, which is volcanic; the trees do not exceed a height of from 10 to 30 feet, and the driest of dry bamboos cover long stretches. Still, it is very different from the vast levels which stretch away from the base of the Himalayas in India. It is rather a rolling upland, with broad, shallow, sandy channels to represent the rivers, always without running water except after heavy rain, and discharging themselves into the Irrawaddy and the Sittang, called the Paunglaung in this part of its course. The Dry Zone begins immediately north of the old frontier of Lower Burma, and covers from the twentieth to the twenty-second parallel of latitude. The districts included in it have an area of 36,367 square miles.

The Irrawaddy Delta.—The Irrawaddy Delta extends from the Arakan to the Pegu Yomas, from Prome as an apex, to the sea. There are a few swelling grounds, such as the Pegu Yoma, but otherwise it is a vast, level, monotonous plain. The undulations run north and south, and are covered with dense forest, intermingled with bamboos, fading away into elephant grass and cane brakes, but otherwise it is a stretch of rice-land, or land which might and will be rice-land. Burmese, Môn, and Hkmer traditions all represent the deltas of the Irrawaddy, Sittang, Salween, Mènam, and Mèkhong as having been under the waters of the sea. Thatôn was on the seashore when it was founded, and Prome is said to have been raised out of the waves. The ocean is represented as having retired so recently as two or three centuries after the commencement of the Christian era. The Irrawaddy

Delta districts are Tharrawaddy, Hanthawaddy, Pegu, Rangoon, Henzada, Maubin, Bassein, Myaungmya, and Thongwa. The districts of Thayetmyo and Prome are really outside of the Delta, and lie between it and the Dry Zone, but they may be conveniently included in this subdivision. With this addition the total area is 33,214 square miles. It is the marrow of the country, the treasure-house of the province.

The Sittang Tract.—To the east of the Pegu Yomas lies the Sittang drainage system. Geographically this is part of the Irrawaddy basin, but it is separated by natural features as well as administratively. The area is hilly in the north, sloping gradually down to broad, fertile plains towards the mouth of the Sittang and the confluence of the Salween, Gyaing, and Attaran. In includes the districts of Toungoo, Shwegyin, Thaton, Salween Hill tracts, and the northern parts of Amherst, with an area of about 25,500 square miles.

Tenasserim.—Like Arakan, with which it shares the distinction of being the first portion of Burma to become British territory, Tenasserim is a narrow strip of territory between the Bay of Bengal and a range of hills, the range which divides Burma from Siam. Like the Shan States to the north, of which Tenasserim is a seaward prolongation, it is very hilly, in some places almost mountainous, and is scored with the deep-scooped channels of many streams. The chief islands of the Mergui Archipelago are Maingy, St Matthew's, Kissering, and King's Island, sheltering Mergui town. A very few are cultivated, some not so much as formerly. There is nothing to compare with them as a cluster of islands, except Halong Bay, in Tongking. Perhaps there is less that is fantastic, but there is no yielding in contrast and striking beauty; wooded holms, rocky craigs, great, broad-shouldered hills half submerged for a bath; bays, bights, coves, kyles like those of Bute; forelands, bluffs, hummocks, blank rock faces; cascades leaping sheer from the rocky brow; cataracts drawing a line like a chalk mark on a billiard cloth down the hillside; silver beaches and granite precipices; deep-furrowed sandstone or conglomerate capes and promontories on the inner islands, and bold, porphyry walls to

meet the stronger seas outside—all covered with a garment of every shade of green. They would be visited by streams of sightseers if they were not off tourists' routes and these did not all flock to Japan.

Tenasserim includes the districts of Mergui and Tavoy, with the southern portion of Amherst, and has an area of about 18,200 square miles. The population is largely Môn, or Talaing, but there are many Burmese, Karens, Shans, and not a few Siamese, while the Selungs cling to the islands.

The Shan States.—The Shan States broadly form a triangle, with its base on the plains of Burma and the apex on the Mékhong. In this subdivision the Ruby Mines district geographically is included on the north and the Karen-ni States on the south. The physical features of the Ruby Mines or Mogôk district are precisely those of the Shan States. The population is largely Danu, Kachin, Palaung, or Shan. The district has an area of 5476 square miles. The area of the Karen-ni States is included in the 59,915 square miles of the Shan States. The five states have a separate area of a little more than 3000 square miles. The hill ranges are crushed in here between the Salween and the plains of Burma, and, except for the level plain of north-western Karen-ni, there is no flat land in the Red Karen country.

Although the Shan States, broadly speaking, present the appearance of a ploughed field—north and south ranges alternating with valleys, the main ridges and the chief rivers alike descending fan-wise from the high steppes of Tibet—yet there is enough variety to prevent the monotony of the curry-comb or the nutmeg grater. The tendency of the mountain ridges is to spread themselves into spurs and excrescent ledges, and to fade away as the ribs of a leaf fade into the texture, but this is checked first of all by the Salween and by the Mékhong, and later, when these edge away from one another, by the various large affluents. Wherever there is room, however, they expand, and tend to create a plateau. The main Shan Plateau begins on the north about the middle of old Hsenwi State, extends westward, roughly speaking to the hills above Mandalay, and narrows in towards the south on

the borders of Mong Nai and Mawkmai States. It has thus roughly the semblance of a knobkerry or a misshapen jargonelle pear. In addition to this there are everywhere old lake beds. The abundant streams at first could not form channels, and so gnawed out spaces for themselves. In the course of ages they burst their boundaries, cut gorges through the hills, and left flat-bottomed valleys and plains behind, which now form the most fertile and prosperous states. Some of these are round, some oval, or torpedo-shaped, some indented like a string of sausages or a daisy chain. The process may be seen in miniature during the course of a march up the course of many a mountain stream. The Yawnghwe Lake is the only important sheet of water remaining, and it is gradually shrinking. Möng Nai and Kēngtūng have some tarns lingering as vestiges of the old great inland meres, and the Deluge traditions among most of the hill tribes bear testimony to the existence of the others. The Salween alone, like the arrowy Rhone, flows main south down a gorge which might have been cleft by a giant's ploughshare.

The majority of the parallel ranges have a height of between 4000 and 5000 feet, rising to peaks of 6000 or 7000. The highest peak is that of Loi Ling, in South Hsenwi, which rises to 8842 feet. The hills between the Salween and the Mèkhong are higher, and the country more cramped, than on the hither side of the Salween.

The whole face of the country, without distinction, where it is left to nature, is covered with vegetation, sometimes so dense that nothing but an elephant can force a way through it, sometimes scanty where the roots cleave rocks asunder and clamp stones together in the struggle to hold on till the rains enable them to creep farther afield and gain new size and strength. There are no marshes, no sandy plains, no bare steppes, no Southern Atlantic savannahs, nothing like what we should call a pasturage, except where the hand of man, with infinite labour and toil, has won the soil for his own purposes, chiefly by calling fire to his aid. The valleys are chequered with the ridges of the paddy fields, the lower slopes are cut into terraces and irrigated by streams, the higher

slopes are shorn clean for the cultivation of hill rice, or cotton, or poppy. But the proportion of cultivated land is vastly smaller than that of the primitive forest, and the jungle creeps back in a few years over all land left fallow. It is only in the main plateau and in the Myelat, where there has been regular cultivation for hundreds of years, that there is any appearance of grassy downs. There persistence has killed the tree roots, the wide clearances have dried up the springs, and forced the streams below the ground. In the more hilly country this is impossible. There is an infinity of torrents—some flowing in dark, densely wooded ravines; some zigzagging between hills set like cogwheels; some racing down hillsides with a slope like that of a toboggan slide—but all causing vegetation to grow with the rapidity of the mushroom. In the dry season they dwindle to brooklets or shrink to easily fordable streams, wandering over sandy beds dotted with massive boulders, or over wide expanses of shingle or jagged rocks, or gathering in deep crystal pools, but in the rains they become foaming torrents, dashing high up slippery rocks, or raging floods carrying away trees and bushes, full of eddies and whirlpools, and absolutely impassable till the flush has passed. Along such stream beds, between beetling crags and densely wooded slopes, the Shan in former days loved to make his roads, shaded by gigantic forest trees, covered to their top with flowers, or gemmed with orchids clinging to their stem. Even now he often would rather plash along their uneven beds in the cool, clear water with his bullocks than follow the smooth but dull monotony of the roads cut along the banks.

Mountains.—The mountains which wall in Burma on three sides, start from the tableland of High Asia, and roughly assume the form of a pitchfork, with the basin of the Irrawaddy between the prongs. The base of the pitchfork is the lofty range, due east of Sadiya, in north-eastern Assam, from which the Irrawaddy takes its rise in the shape of a number of streams of considerable size and no great length, uniting to form the Mali and the 'Nmai Hka. The western prong, beginning from the alps of Zayul, the land of the earthen pots, runs south-

west fairly regularly along the Nam Kin Mountains, the hills of the Singpho and the Patkoi Range, the Naga Hills, Angoching Range, east of Manipur, the Chin Hills, and so to the Arakan Yoma. The eastern prong starts very slim on the lofty ridge which divides the Salween from the 'Nmaika, curves west somewhat, to be cut by the valley of the Taping and Nam Mao (Shweli) Rivers, and then in revenge, sweeping east, overpasses the Salween-Mèkhong Watershed, so that in this portion the prong is like a barbed fishing spear, to return again to the Salween Watershed, which runs down the Malay Peninsula.

The highest known peaks are those of Sabu and Warang, in the Salween-'Nmaika Range, which are 11,200 feet above sea-level, and the general altitude here and in the Namkiu (Irrawaddy Mountains) is not far short of this. Liklang, the highest peak of the Arakan Yomas, nearly reaches 10,000 feet. Mount Victoria, a sort of detached outwork of the Arakan Yoma, ends in three peaks 10,400, 10,300, 10,000 feet above sea-level. It is 76 miles west of Pakôkku, and close to, but detached from, the main Yoma Range.

Loiling, in South Hsenwi State, a similar out-feature of the Irrawaddy-Salween Watershed, reaches 8842 feet. In the Ruby Mines district there are several peaks which exceed 7000 feet, and, in the Wa Hills, Loi Mu, and, to the south, Loi Ang Lawng, are 1000 feet higher. The ranges gradually fall away in size as they stretch farther to the south, until they wane into such trivialities as the Pegu Yoma, or the comparative insignificance of the range which forms the backbone of the Malay Peninsula, or the minor feature of the Karen Hills, which cuts off the Sittang. In Burma proper, beyond the great outwork of Mount Victoria, the only considerable hill is Popa, a detached peak in the Myingyan district, which reaches 5000 feet. It is an extinct volcano, a very conspicuous landmark, and an object of superstitious reverence to the whole of Central Burma on account of the Golden Heads of Mahagiri, or Māgayi, and the spirits of the fell.

There are many cave temples, especially in the limestone hills. The best known of these are the so-called Farm Caves, near Moulmein, one of them full of images, some carved in the rock, some deposited in niches by

the pious. Other caves in the neighbourhood are the Saddan-Ku and the Payôn-Ku. The Powindaung Hill, in the Lower Chindwin district, is honey-combed with these cave temples, which Burmans declare to contain not less than 446,444 images of the Buddha. The lower slope of the Mènètaung Range, near Pindaya, in the Myelat, has a celebrated cave temple of the kind. Long covered ways lead up to it, and the vestibule cave is crowded with images, some carved in the face of the rock, some deposited in niches, some of great size carried in and set on pedestals built for them. Arms of the cave burrow far into the hillside. The annual festival here attracts thousands, not only from the Shan States, but from Burma The mud volcanoes of Minbu are not in any sense hills: they are mere salsettes, little craters of mud gradually formed, hardened, and raised by the intermittent discharge of soft, greasy mud, which occurs whenever there is a bubbling up of gas. In the similar volcano, on the extreme north-west of the island of Cheduba (Manaung), the gas is very inflammable, and occasionally bursts out in flames. A variation of the same phenomenon is the occurrence of hot springs, which are found all over the country, and are especially common in the Shan States.

In Burma proper, and in the wealthier Shan valleys, most knolls and many hill faces form the sites of pagodas of all kinds and sizes, some glistening white like a yacht's sail, some blazing like a beacon fire when the sun strikes the gilding.

Rivers—Irrawaddy.—The Irrawaddy, the chief river of Burma, is one of the finest in Asia, and in the world. Notwithstanding its size, it is probably much shorter than the Salween. It is like the tropical darkness, which comes at one stride. The Irrawaddy is an imposing river, in the compass of a day's walk from its beginnings. A number of streams rising in the Zayul Range, the possible northern boundary of Burma, join at the foot of the hills, to form the Mali and the 'Nmai Hka, the western and eastern branches of the Irrawaddy. The 'Nmai and all its affluents are savage torrents. The Mali Hka, comparatively early in the Hkamti-Lông Valley, becomes a river, and, so far as is known, it keeps up this modified

sobriety to the confluence of the two streams in latitude 25° 45′. Nevertheless, from such soundings and measurements as have been taken, the 'Nmai has the greater volume of water. Not much is known of either river, but it seems possible that the Mali may prove navigable, at anyrate in reaches. By the Hkamtis it is called Nam Kiu, a name given to the whole river by the Shans. From the confluence to Bhamo, a distance of 150 miles, steamers can ply during the dry weather, when the water is not too violent in the Upper Defile. From Bhamo to the sea, a distance of 900 miles, river steamers travel throughout the year.

Just below the confluence the Irrawaddy is from 420 to 450 yards wide, and in January is about 30 feet deep at the deepest point. It flows south as far as Bhamo, at first through hills, and later in more open country, where the channel widens in one place to as much as 1000 yards. At Sinbo the river is half-a-mile wide, and immediately below the Third Defile begins with a mouth of only 50 yards. At "the Gates of the Irrawaddy" it again narrows to this width. Swift rush of water, whirlpools, beetling rocks, and intrusive hills characterise this defile. It is like parts of the Salween on a small scale. Below the defile the channel widens again into broad reaches with numerous islands, near Bhamo, and narrows again at Sinkan into the Second Defile. This is shorter and not so constricted as the Upper Defile. The narrowest part is over 100 yards, and the current is not so headlong; on the other hand, the scenery is more imposing and less savage.

Below the defile the river runs west as far as the confluence of the Kauk-kwè, and then turns south, and keeps this general direction throughout Burma. Not far above Mandalay is the First or Lower Defile. Here there are simply high banks, covered with dense vegetation, growing in some places on slopes, in others on almost perpendicular heights. The First Defile may be called pleasing, the Second striking, the Third savage. Below the picturesque, pagoda-studded Sagaing Hills the Irrawaddy steadily widens, and at Thayetungo, south of the old frontier, is about 3 miles wide. At Akauktaung or Yegin Mingyi, a

few miles below Myanaung, it commences the Delta, and at this point drains an area of 32½ square degrees. The tide is also felt thus far. The first branch thrown off is the westernmost, the Bassein River. Including this, the Irrawaddy enters the sea by nine different mouths; the others are: the To, or China Buckeer, the Pyapôn, the Kyun-tôn, the Irrawaddy, the Pyamalaw, the Pyinzalu, the Ywe, and the Rangoon River. The river divides and subdivides, recommunicating on each side with streams which have already left it, and converting the whole of the lower portion of its basin into a network of tidal creeks. The eastern and western mouths are the only two used by sea-going ships, but a portion of the To, or China Buckeer, is used by river steamers and large boats going from Rangoon to the main Irrawaddy during the dry season. The river steamers from Rangoon to Bassein cross all the mouths.

The waters of the Irrawaddy are extremely muddy, and the silt is carried many miles out to sea. New sand-banks and mud flats are continually formed and old ones removed or shifted. The maritime delta is steadily, by inches every year, pushing out to sea. The river has a first rise in March, some months before the rains set in, but whether this is due to snow water or to heavy rains is not yet clearly known. There are several rises and falls until June, when the steady rise begins, and attains its maximum in September. At this time at Prome the rains level is from 33 to 36 feet above that of the dry weather. The discharge has been calculated at 75,000 cubic feet per second at the head of the Delta, and the flood maximum at Myanaung at 1,442,007 cubic feet, and the mean velocity 6451 feet. The average annual discharge in metre tons, calculated over a period of nine years, is 418,945,381,942.

Chindwin.—The chief tributary of the Irrawaddy is the Chindwin, which itself is navigable for small river steamers for 300 miles from its junction with the main river near Pakôkku. The Chindwin in its upper stretch is called the Tanai. It rises in the Kumôn Range, north of Mogaung, runs north and north-west across the Hukawng Valley to the hills on the north-west, where it turns due

south, and takes the name of the Chindwin. The Tawan and the Turông join it, and research may prove that one or other of these is really the greater stream. Both of these rivers rise in mountains that are covered at least with winter snows. All three are swift and clear, but the lower Chindwin is as muddy as the Irrawaddy. At the point where the Uyu comes in on the left bank, at Homalin, the steam navigation of the Chindwin begins, but communication is interrupted in the dry weather. From Kindat, 150 miles lower down, weekly steamers ply all the year round. Below Kindat the only considerable affluent is the Myittha, which brings the Chin Hills drainage. The Chindwin enters the Irrawaddy by several mouths. The extreme outlets are 22 miles apart, the interval forming a succession of long, low, partially inhabited islands. The southern mouth of the Chindwin, tradition says, is an artificial channel, cut by one of the kings of Pagān. The Chindwin is the Ningthi of the Manipuris. Other chief tributaries of the Irrawaddy are: the Mogaung River, which rises in the Chindwin-Irrawaddy Watershed, and has a length of 180 miles before it enters on the right bank. It is navigable as far as Kamaing for about four months in the year. The Indaw River brings in the overflow of the Indawgyi Lake.

The Taping, and the Shweli, or Nam Mao, are considerable affluents on the left bank. Both rise in Northern Yünnan, and are torrents until they reach the narrow strip of plain-land — the Taping just above Bhamo, the Shweli some distance below. Klaproth, at his desk, with a number of Chinese annals, satisfied himself that the Taping was the main Irrawaddy River.

The Nam Tu or Myit-ngè, also known as the Dôktawadi, enters on the left at Amarapura, below Mandalay. The Nam Tu rises within a few miles of the Salween, in the northern Shan States, but it is only navigable for a few miles to the foot of the hills east of Mandalay.

The only other affluents of any size are the Molè, on the left bank; the Kauk-kwè, Mèza, Mu, and Môn, on the right bank.

Rangoon River.—The Hlaing, in the Delta, is a true river. It receives great assistance by the Panlang and

other creeks from the Irrawaddy, and with the Pegu River and the Pazundaung Creek forms the Rangoon River.

The Sittang.—The Sittang is known in its upper course as the Paunglaung, rises in the Shan Karen Hills, and runs due north for over 50 miles, till it gets to the Burma plain, when it turns south, and for over 300 miles twists and writhes in its progress to the Bay of Martaban. There it opens out into a wide, funnel-shaped mouth, like the gape of a young bird. This estuary crushes in two currents of the great tidal wave of the Indian Ocean, and these, uniting and struggling, form the huge tidal wave which sweeps at the rate of 12 miles an hour up the Sittang. This bore, or Macareo as it was called by the old writers, reaches a height of 9 to 12 feet, and has a foaming crest of 20 feet. No boats can live in it except at certain known points. Following the crest of the wave is a heavy chop sea of sand and water, as dangerous almost to boats as the curling wave which precedes it. The winding course of the Sittang prevents the bore from being dangerous far up the river. Owing to the enormous quantity of silt carried down and driven back by the tide, shoals and sand-banks make the whole of the bay dangerous.

The Salween.—The Salween is the second river in the province in point of size, and it is one of the most strikingly picturesque in the world. It is believed to rise in the mountains of Tibet, north of Lhassa, probably the farthest off of the sheaf of rivers which take their source there. For a distance of hundreds of miles the Irrawaddy and the Mèkhong rob it of all affluents, except the mountain torrents from the ridges which wall it in on either side. Between these giant barriers it flows along in an abyss, which in some places the sun only strikes for a few hours in the day. Nevertheless, there are long reaches where the stream is as calm as the Irrawaddy, and as deep. Unhappily, a little to the south of the eighteenth parallel, below the mouth of the Thanngyin, are the Hat-Gyi, the Great Rapids, which extend over 10 miles, and make navigation impossible. Nevertheless, steam launches put on the river above could carry goods for 200 miles, and,

blasting the rapids beyond, might open up the river almost throughout the Shan States. There is no rift, no defile, no cañon on the earth's surface of equal length. The Yangtzu Gorges are a mere fragment in comparison, and the gorges of the Mènam, the Irrawaddy, and the Hudson Rivers no more than trifling samples. In the dry weather the channel banks are alternate stretches of blinding white sand and a chaos of huge boulders, masses and reefs of rock, with here and there at the mouth of a small tributary a waste of shingle. The rocks are furrowed and worn into holes by the sand and pebbles borne down by the floods, and they have a peculiarly glistening polish of oxide of manganese, which gives them the appearance of having been blackleaded. In the rains all these disappear, and the flood laps against the forest trees and the abrupt slope of the hills. The average difference between high and low water level of the Salween throughout the Shan States is between 60 and 70 feet, and in some places it is as much as 90. The tributaries of the Salween in Tibetan territory are unknown. In Yünnan there are none of importance, and in British territory the first of any size is the Nam Ting, which flows in a short distance below Kunlông, and takes its rise hard by the Mèkhong, in the neighbourhood of Shunning-Fu. On the left bank also are the Nam Hka, with the drainage of a great part of the Wa States and Northern Kēngtūng; while the Nam Hsim, rising in the Salween-Mèkhong Watershed, drains most of the remainder of Kēngtūng State. A little above this, on the right bank, enters the Nam Pang, and on the borders of Karen-ni the Nam Tēng. These two streams between them deliver most of the drainage of the great central Shan Plateau. In its lower course the Yônzalin enters from the west, and the Thaungyin from the east; while at its mouth the Gyaing and the Attaran enter together, and help to form Moulmein Harbour, the second seaport of Burma. The Salween is known to the Burmese as the Thanlwin, to the Shans as the Nam Kông, and to the Chinese as the Lu Kiang.

The Mékhong forms our frontier with French Indo-China for a distance of about 120 miles. It is a river of similar character, but neither so wildly picturesque nor

A WATERFALL ON THE SALWEEN.

THE SALWEEN IN KAREN-NI.
(The Peak is about 7,000 feet above sea-level.)

of so great a size as the Salween in the same latitudes. The French have done much to make it navigable, and even have a launch with fighting-tops, called a *canonnière*, in the reach which forms our frontier. We have no need or use for anything of the kind there, but it is not creditable to our enterprise or our energy that we have done nothing on the Salween. The Chinese call the Mèkhong the Lants'an Kiang, or the Chinlung Kiang.

Lakes.—The largest lake in the province is the Indawgyi, in the Myitkyina district. It measures 16 miles from north to south, and 6 miles from east to west at its broadest part. It is fringed all round by an expanse of marsh, except on the south-east and west, where there are two ranges of low hills. A dozen or so of small streams flow into the lake, and the Indaw River serves as its outlet on the north-east. It runs into the Mogaung River. Tradition says that the lake was formed by a convulsion of nature, and submerged a Shan town, of which remains on the eastern side are said to have been seen. The Indaw, in the Katha district, is also a natural lake, and covers about 60 square miles. The Meiktila Lake and the Aungpinle, near Mandalay, are to a very great extent artificial reservoirs, constructed as pious works for irrigation purposes. There are a number of similar smaller lakes in various parts of the country. The Paunglin, in the Salin township of Minbu, is a lake formed by a spill of the Irrawaddy into a large basin at the foot of low hills. When the river goes down, the water in the lake is allowed to sink to a certain level, and then all the creeks are blocked so that the remainder may be used for irrigation purposes. Great numbers of water-fowl frequent all these lakes.

The Inle, or Yawnghwe Lake, in the Southern Shan States, is the last of the great lakes which, no doubt, in prehistoric times filled all the Shan valleys. It is midway in size between the Indawgyi and the Indaw, and is steadily diminishing in area. The Nam Hpilu, or Bilu-Chaung, drains it, and itself sinks into the ground at Lawpita, in Karen-ni. The Möngnai Lake has shrunk to two sheets of water, the southern of considerable depth. All these lakes are surrounded by a fringe of marsh

covered with bulrushes and aquatic plants. On the Yawnghwe Lake many houses are built on piles over the water, usually on the edge of the open water. Scattered about the Shan States are a number of mountain tarns, but none of great size. The Nawng Hkeo Lake is situated on the top of a whale-back ridge some miles north of Möng Hka, in the heart of the Wa States. It forms the subject of a number of traditions and superstitions among the Wa and the Shans, and is said to have no fish in its waters. It seems not improbable that it is the Chiamay Lake of Fernão Mendez Pinto and other writers of the sixteenth and seventeenth centuries, and that their Gueos are the Wa.

The sheets of water in Lower Burma are hardly worthy of the name of lakes. The principal are the Inma, in the Prome district; the Du and Duya, in Henzada; and the Sha-Hkè Gyi and Inyègyi, in Bassein. The Inma has an area of about 40 square miles, and a depth of from 12 to 15 feet in the rains, but in the dry season it shrinks to a reedy marsh. The Du receives some drainage from the underfalls of the Arakan Hills to the north and west, and is steadily being silted up. The Shahkègyi is about 4 miles long and 600 yards wide, and always remains a lake, with from 8 to 10 feet of water at the southern end and half that depth at the north. The Inyègyi is a tidal lake communicating with the Daga River by a small channel. It averages between 15 and 30 feet of water.

Chief Towns.—If a town be considered a place with a population of over 50,000 inhabitants, then there are only three towns in Burma—Rangoon, Mandalay, and Moulmein.

Rangoon.—Rangoon, the capital of the province, is situated in 16° 47′ N., and 96° 13′ E.—21 miles from the sea on the left bank of the Rangoon, or Hlaing River. It was first occupied by a British force in 1824, and was restored to the Burmese. It was reoccupied in 1852, and then passed, with the province of Pegu, into British hands. At first Rangoon was very little more than a collection of monasteries and huts near the Shwedagôn Pagoda. Dalā, on the other side of the river, was the commercial part of the town. In those days it was known as Dagon,

THE SOUTHERN SHRINE OF THE SHWE DAGÓN.

MONASTERY AND CLUSTER OF PAGODAS, SHAN STATES.

and is so referred to by Gaspar Balbi and Mendez Pinto. The name of Yankôn, or Rangoon, was given to the town by Alaungpaya when he finally subdued the Môn (Talaing). At this time it was little more than a collection of bamboo huts on a marshy flat. At the beginning of last century the town stretched a little more than 1000 yards along the river front, and was about 600 yards wide at its broadest part. The centre, or town proper, was surrounded by a wooden stockade 12 to 15 feet high, with the river and a shallow ditch expanding to the west into a morass, as outer defences. To the north a dense jungle reached practically to the pagoda wall. A very liberal estimate of the population places it at 20,000.

The stockade disappeared immediately on our occupation; the swampy ground was raised with earth from the higher land behind; the river was confined to its channel. The Rangoon of to-day is as unlike the Rangoon of 1852 as the present-day Chicago is that of the earlier date. It is now the third seaport of British India, and is close on the heels of Bombay. Rangoon has the double advantage of easy access from the sea, and of a river navigable for 900 miles, running into the country behind. For a distance of 7 or 8 miles the river is over a mile in width, so that even in the busiest time of the rice season there is at least as much room for shipping as there is in the Hooghly. Practically the whole trade of the Delta is concentrated in Rangoon. In 1863 the population had risen to 61,138; in 1873 it was 80,096; in 1878 it was 110,700; in 1891 it had risen to 180,324; and the last census, that of 1901, showed a population of 234,881.

The Shwe Dagôn Pagoda stands on a swelling ground 168 feet above the town. From this pedestal it rises to a height of 368 feet, and so dominates Rangoon from whatever side it is viewed. It is not only the chief fane of the Burmese religious: it attracts pious Buddhists from Ceylon, Siam, Cambodia, Nipal, China, and Japan. Like all purely Burmese pagodas, it is a solid stupa of brick in the form of a cone, and it stands over a chamber containing relics of the four human Buddhas (Mānushi) of the present dispensation: the drinking-cup of Kawkathan (Kraku-Chanda), the robe of Gawnagông (Kanaka-Muni),

the staff of Kathapa (Kāsyapa), and eight hairs of Gautama. Another version gives the staff of the first, the water-filter of the second, and a portion of the robe of the third, but, since they are absolutely inaccessible, the precise ownership is of the less importance. After the annexation a passage was cut from the niche facing the east entrance to the centre of the pagoda, which showed that the original pagoda has had seven casings added to it. The *hti* (the "umbrella" at the top) was thrown down by an earthquake in 1888, and a new one, valued at six lakhs, was put up by public subscription and with gratuitous labour. For many years the Shwe Dagôn was merely gilt and regilt. Since the beginning of the twentieth century it has been covered with thin gold plates as far up as the top of the inverted begging-bowl, whence the columnar spire rises through the "twisted turban," the "lotos flower," and the "plantain bud." These were presented by individual pious from every part of the province, and even from beyond its limits. Except the Kaaba of Mecca and the Black Stone of the Kaaba there is no earthly shrine which has attracted, and still attracts, such multitudes with full-handed largess. The Shwe Hmaw-Daw at Pegu is larger and higher, so is the unfinished Mingôn, with its monster bell, opposite Mandalay; the Arakan Pagoda, the Mahā Myatmuni, in Mandalay, has a more sacred image; the Mahabodi at Gaya has more sacred associations; but none are so imposing in majesty of position or multitudes of worshippers as the Shwe Dagôn. The masonry buildings, the long, well-kept streets, the steam tramways, the multitude of rice-mills and saw-mills, the churches, temples, mosques, and synagogues, do not appeal to the Burman, and they are accepted as matters of course by the European visitor. Even the new Victoria Park, the extension of the Royal Lakes, and Dalhousie Park, which will be the finest park in the East, is regarded more as a place from which fine views may be had of the pagoda than as a feature in itself. Rangoon, for every one except those who make their living there, is the City of the Shwe Dagôn.

Mandalay.—Mandalay was the last capital of independent Burma, and is now the headquarters of the Mandalay

OUTSIDE THE CITY WALL, MANDALAY.

division and district. It stands a couple of miles away from the river, on the left bank of the Irrawaddy, in 21° 58′ N., and 96° 8′ E., and is 315 feet above mean sea-level. It is now divided into the town and the cantonment. The cantonment is the area inside the old city walls, and the town is what were called the suburbs in the king's days. Mandalay covers an area of 6 miles from north to south and 3 from east to west. The roads are now good, metalled, lightened, and lined with trees. In the king's time they were dust-heaps in the dry weather and bogs in the rains. On the other hand, many of the very fine monasteries have disappeared, burnt or fallen into decay. The pagodas, however, remain in great numbers; so also does a portion of the palace. Mandalay was commenced in 1857 and finished in 1860, so that the only archæological interest in its buildings is that they were all—city wall, palisade, and palace—built according to old traditional measurements for capital cities. In 1886, at the time of the occupation, there were 6000 houses within the city wall and 24,000 outside, and the population was estimated to be 186,000—considerably more than Rangoon at that date. The census in 1891 showed a population of 188,315, which in 1901 had fallen to 183,316 — a decrease of 3 per cent. in the decade. It is more of a Burmese town than Rangoon, where from a quarter to a third only of the population is Burmese. In Mandalay there are many and increasing numbers of Zerbadis (Burman Mohammedans born of Indian fathers and Burmese mothers), Mohammedans, Hindus, Suratis, Jews, Shans, Chinese, and Manipuris, called Kathè.

Moulmein.—Moulmein was the chief town in British territory in Burma from the time of the Treaty of Yandabu till the annexation of Pegu in 1852. The site was chosen by the military. The civil commissioner, Crawfurd, selected Amherst for his headquarters. Moulmein was then a mere spacious, irregular quadrangle, enclosed by an earthen rampart. All within and without was mere tangled tree and grass jungle. Now the town is one of the most picturesque in the East. For a time a good deal of shipbuilding went on in Moulmein. This has now been given up, but

a good deal of teak and rice is exported, and there are several steam rice-mills and saw-mills. The town has been practically stationary for many years. The earliest statistics available date from 1839. The population then was 17,022. In 1857 there were 23,683 inhabitants. In 1867 there were 65,566, and in 1877 only 51,607. At the last census, in 1901, the total was 58,366.

Other Towns.—When Akyab was occupied in 1826, at the same time as Moulmein, it was a mere fishing village. Now it is a flourishing town at the mouth of the Rivers Myu, Koladain, and Lemyu. It is the third port in Burma, and does a considerable rice trade. The population in 1901 was 31,687.

Bassein is a town of almost equal importance in point of size, population, and movement as a port. It has great capabilities, both from a mercantile and a military point of view, since it commands the great outlet of the Irrawaddy. It has been in British hands since 1852, and in 1901 had a population of 31,864. The river steamers of the Irrawaddy Flotilla Company ply between Rangoon and Bassein.

There are only two other towns with more than 20,000 inhabitants—Prome and Tavoy. The former is on the Irrawaddy, and is the terminus of the first railway built in Burma. It is the site of a famous old capital, and the Shwe San-daw Pagoda is interesting, and much venerated. Besides these there are only ten towns with a population over 10,000. Kēngtūng is the only Shan town which reaches 10,000. Most of the centres of districts have about this population. Interesting places are the old capitals—Tagaung, which is now dense jungle; Pagān, a marvellous collection of pagodas and temples; Amarapura, which is a suburb of Mandalay; Ava, which is more like a park than the site of a famous city; Sagaing, at one of the most picturesque points on the river; Thaton, Toungoo, Pegu, Bhamo, and Shwebo, which hardly suggest to the visitor nowadays that they were once famous, considerably beyond the limits of Burma. All of them repay a visit.

Weather and Meteorology.—There are only three seasons in Burma: the dry or cold weather, the hot weather, and the rains. They run into one another with very little margin. Very little room is left for doubt as to whether

THE KĒNGTŪNG BAZAAR.

SHAN RACING BOAT.
(Men in front paddling with their feet.)

WAT SAWM-TUNG, KĒNGTŪNG.

it is the cold season, the hot, or the rains. The cold season lasts, roughly, from November to February; the hot throughout March and April, and the rains from May till October. The coming and going of the south-west monsoon, which brings the rains, are usually marked by violent storms, with thunder, violent squalls of wind, and torrential rains, but cyclones take their course up the Bay of Bengal, and never enter Burma. Damage by lightning is also rare. Hailstones are commoner in the hills than in the plains, but do not occur very often there. When they do come the hail is not uncommonly like fragments of ice, and birds are killed, crops spoilt, and trees stripped of their leaves.

Just as there are three seasons, so it may be broadly said that there are three zones in Burma: the littoral and deltaic, the dry zone, and the montane and sub-montane. Between the deltaic and the dry zones there is a strip, which may be called sub-deltaic, where the annual rainfall is less than 90 inches. It includes the inland districts of Thayetmyo, Tharrawaddy, Prome, Toungoo, and Henzada. The rainfall in the coast districts of Arakan and Tenasserim ranges from 200 to 250 inches. In Rangoon and the greater part of the Delta the rainfall is between 90 and 100 inches. The Arakan Yoma and the Pegu Yoma deprive the south-west monsoon winds of their moisture, the temperature is higher, and in the Dry Zone the annual rainfall varies between 15 and 30 inches. In the hilly and wooded north the humidity again increases, and between 70 and 90 inches are received.

The temperature varies almost as much as the rainfall. It is naturally highest in the central zone, where the mean of the hot weather readings for the latter part of April and beginning of May is, roughly, 100° Fahr., and is almost steadily so in such towns as Mandalay, Myingyan, Pakôkku, Shwebo, and Kyauksè. In the coast and deltaic districts and in the sub-alpine region the mean maximum is about 10° less. The districts hottest in summer are also the coldest in winter, and the average minimum in December and January ranges from 55° to 60° F. In the Delta and coast districts it is about 10° more. The Shan States, Chin and Kachin Hills, have a temperate climate.

Temperatures much over 80° F. are uncommon, and in the coldest months there is a white frost at night, and the thermometer frequently goes down to 25°, and even lower. Snowfalls occur on the highest hills in the Chin Hills and the Shan States, but they are far from common. In the extreme north of the Kachin country, however, there are hills clad with snow for a great part of the year, and it is possible that there are even eternal snows in the farthest north. The narrow hill valleys are often extremely hot, with temperatures quite as high as the hottest parts of the central zone. On the other hand, on account of the condensation, 10° of frost are not at all uncommon during the night.

Earthquakes are of frequent occurrence in Burma, but they are rarely violent. The shock which split the Mingôn Pagoda in 1839 is the most serious recorded, and does not appear to have resulted in any considerable loss of life.

FAUNA

By Eugene W. Oates

The first attempt to compile an account of the animals of Burma was made half-a-century ago by Dr Francis Mason in his work "Burmah: its People and Natural Productions." Although little more than a catalogue, yet this account was accompanied by such interesting notes and remarks that it proved of great use to the residents of Burma for many years. A greatly enlarged edition (in two volumes) has been published under the editorship of Mr W. Theobald.

In 1881 representations were made to the Secretary of State for India, with the result that sanction was accorded to the publication of a series of volumes on the Fauna of British India, including Burma. Considerable progress was made with this work under the editorship of the late Dr W. T. Blanford. Eight volumes have been issued, dealing with the whole of the Vertebrates, and another eight with portions of the other sub-kingdoms—namely, four with the Moths, two with the Bees, Wasps, and Ants, one

with the Rynchota or Bugs, and one with the Arachnida, or Scorpions and Spiders. The work is still in progress.

In view, therefore, both of the immensity of the subject and our slight knowledge of many of the groups of animals, coupled with limitations of space, it appears advisable to restrict the present brief summary of the fauna of Burma to the Vertebrates. This sub-kingdom comprises the Mammals, Birds, Reptiles, Batrachians, and Fishes—animals of which our knowledge is more or less complete and satisfactory.

The Mammals.—The first Order of Mammals contains the Monkeys and the Lemurs. The Anthropoid Apes are represented by two Gibbons—one of which, the white-browed Gibbon, occurs in the north, and the other, the white-handed Gibbon, in the south, of the province. These monkeys are characterised by their very long arms and the absence of a tail. The old-world monkeys have shorter arms and a tail of variable length. The Macaques, of which there are six species, have a cheek-pouch; but in the Langurs, of which there are five species, this feature is wanting. A sixth species of these latter is doubtfully reported from Tenasserim and should be searched for. This monkey has the upper parts and tail black, portions of the head and neck white, and the lower parts bright ferruginous. The Lemurs have only one representative in Burma: it is widely distributed, and nocturnal in its habits.

The next order, the Carnivora, comprises the Cats, Dogs, Bears, and various small animals. The Tiger and the Leopard are found throughout the province. Five other species of Cats, all of smaller size, also occur. Of the Viverridæ, Civets, there are three species, and somewhat similar to them are the two Tiger-Civets and the three Palm-Civets. The Bear-Cat, or Binturong, is a curious animal with a long, prehensile tail. Of the well-known Mungooses three species occur, of which the so-called Burmese Mungoose is probably the commonest form.

Hyenas do not occur in Burma, and the Dog tribe is only represented by the Jackal, which is found in the neighbourhood of some of the towns in the northern part

of the province, and by one, or possibly two, species of Wild Dog.

There is also a single species of Marten, one Ferret-Badger, two kinds of Hog-Badger, and three species of Otters.

The Bears are three in number, of which the Himalayan Black Bear and the Malay Bear are commonly found. The occurrence of the third species, the Sloth-Bear, or Indian Bear, in Burma has not been fully established, but there are good grounds for supposing that it occurs.

The Insectivora consist of a number of small animals, mostly nocturnal in their habits, and probably a great number of species remain to be discovered. The Tree-Shrews are represented by a single species. The true Hedgehogs are absent, but the family is represented by two species of *Gymnura*—small creatures with smooth tails. Moles are not common. The white-tailed Mole occurs in the Sittang Valley, and a mole with white feet is found in the Shan States. Of the Shrews there appear to be four or more species. To this order is consigned that remarkable animal the Flying Lemur, which, however, must not be confounded with the true lemurs, already mentioned. This animal has the head, legs, and tail connected by an expansion of the skin of the body, and somewhat resembles the Flying Squirrels, in which animals, however, the tail is quite free, and not connected by membrane with the hind legs.

The order of Bats is an extremely numerous one, some forty species being known from Burma alone, and doubtless many more remain to be discovered. The large Flying Fox, so common in Rangoon and wherever there are large orchards, spends the day suspended from the branches of mango-trees, and issues at night to devour fruit. Of these fruit-eating Bats there are other five species, but they are not so large or so well known. Of the insect-eating Bats the Painted Bat is remarkable on account of its brilliant orange colour and small size. It is frequently disturbed in elephant grass, and when flying resembles a butterfly.

The Rodents embrace a number of small animals which are more or less familiar, many of them being pests in

house and garden. The large family of Squirrels is represented by four species of Flying Squirrels which have the limbs connected by a membrane, which enables them to pass from one tree to another in long flights or leaps. The ordinary squirrels, of which there are some fifteen species, range in size from that of a domestic cat to that of a small rat. The Rats and Mice are very numerous, some twenty Burmese species being known, and probably many more remain to be discovered. The Bamboo-Rats are heavy, clumsy creatures, burrowing in the ground, and raising heaps of earth like a mole. There are three species. Porcupines are fairly abundant, but seldom met with, owing to their nocturnal habits. The Bengal Porcupine appears to be the common species, and there is also a crestless Porcupine which has not been properly identified. The brush-tailed Porcupine is yet another species. The Burmese Hare is common in the drier parts of the country, and is the only species of the Hare tribe in Burma.

The important order of Hoofed Quadrupeds contains the largest living land animals. The Indian Elephant is found in all the hill tracts and many portions of the plains. Two species of Rhinoceros are met with—one with a single horn, and another with two horns. The Tapri occurs in Tenasserim. The Gaur, or Wild Ox, frequents the thick forests; and the late Mr W. Davison procured a single specimen of the Gayal, or Mithan, in Tenasserim, as recorded by Blanford. The Banting, another species of Wild Ox, is distributed over the province. The Wild Buffalo occurs in suitable localities. The Burmese Goat-Antelope is frequently shot on the hills, and the Himalayan species will probably be found in the extreme north of the province. One or two species of Goral appear to have been discovered lately in the Chin Hills. Two species of Barking Deer occur—one being of wide distribution and the other being restricted to Tenasserim. The Thamin, or Brow-antlered Deer, is common, as are also the Sambar and the Hog-Deer. Two species of Mouse-Deer occur in Tenasserim. Lastly, the Indian Wild Pig is universally distributed, and is the sole representative of the Pig tribe.

Of the curious Pangolins, or Scaly Ant-eaters, there are two species in Burma.

The last order of Mammals comprises the Whales, the Dolphins or Porpoises, and the Dugong. Two species of Fin-whales and two species of Sperm-whales have been taken in the Bay of Bengal, and may, therefore, be included in the Burmese fauna. Similarly, about a dozen species of Dolphins are found in the Indian Ocean, and may lay claim to being considered Burmese; while the Irrawaddy Porpoise is essentially local, occurring only, so far as is known, in the Irrawaddy River above Prome. That curious animal the Dugong has been taken on the islands of the Mergui Archipelago.

The Birds.—The Birds are better known than any other class of animal, and the number of species found in Burma is not far short of 1000.

The first order of the birds (*Passeres*) is by far the largest, and contains those birds with which we are most familiar. The formation of the foot is such that one muscle moves the front three toes, and another (a completely independent one) moves the hind toe, which is always of considerable size, and well adapted, in conjunction with the front toes, for perching and clinging.

Birds of the Crow tribe head this order, and comprise the true Crows, the Tits, and the Crow-Tits. The true crows are mostly very common, two species being found in every part of the country: the Jungle Crow, which is of large size, and entirely black; and the House Crow (*C. insolens*), which is smaller, with a portion of the plumage brown. Some of the Magpies are of handsome plumage. The Tits are nowhere very numerous, and the Crow-Tits are decidedly rare.

The next family (*Crateropodidæ*) is of enormous extent, and embraces a series of birds which have their greatest development in the south-east of Asia. They have short, rounded wings, and are of sedentary habits. Among them may be mentioned the Laughing Thrushes, which go about in flocks, and have a number of loud, joyous notes, frequently uttered. Other Babblers are well known under the name of the "Seven Brothers," from the circumstance that they are generally in flocks of this number.

and follow each other in their actions. The Whistling Thrushes have pleasant notes. The Green Bulbuls and the large section of Common Bulbuls are mostly familiar birds.

Nuthatches and Creepers are quiet, unobtrusive birds, and, though fairly common, are seldom noticed.

The Drongos are conspicuous birds, and some species, such as the Black Drongo, are extremely abundant. The beautiful and conspicuous racket-tailed Drongo is a charming songster and mimic.

The Warblers are well represented. Some, such as the Tailor-birds and the Grass- and Wren-Warblers are resident; others, like the Willow-Warblers, are merely winter visitors. Although the warblers are on the whole of plain plumage, the Flycatcher-Warblers form an exception, many of them being bright colour.

The Shrikes are numerous. The true shrikes are chiefly winter visitors. The Minivets, on the contrary, are resident, and are of very bright plumage, the males being scarlet and black and the females yellow and black. The Cuckoo-Shrikes bear a general resemblance to the Common Cuckoo in style of plumage. One species, the Jay-Shrike, has a long crest, and inhabits Tenasserim. The Swallow-Shrikes are birds of a bluish colour. They fly much after the manner of swallows.

The Orioles, the Grackles, and the Starlings are all numerous. The Mynas, belonging to the last family, are the best known and most familiar of all Burmese birds.

The Flycatchers and the Thrushes are extensive families, among which may be mentioned the Magpie-Robin, which affects houses, and has much of the same familiar habits as the English Robin, and the Shama, which is the best singing bird of Burma.

The Weavers construct elaborate nests suspended from the tips of branches of trees. The Finches are few in number if we except the Sparrows, which are as numerous as they are in England. The Swallows recall our English birds, and the Wagtails differ little from their European allies. The Larks are represented by a species which differs only from the English lark by its smaller size. Its song may be heard in all the plains of Pegu. The Sun-

birds and the Flower-peckers are very numerous, and the majority are clothed in very beautiful plumage. Lastly, the Ant-Thrushes, which come to Burma at the beginning of the rains (a few species are residents), are handsome birds, and have melodious notes.

The Broadbills are a small family of richly coloured birds, which are sometimes classed with the *Passeres* and sometimes treated as an independent order.

The next order of birds is usually known as the Picarian, and is of very large extent. In this group the hind toe is moved by a muscle which is always connected in some way or other with the muscles of the front toes. The feet are formed in various ways. In some sections the front toes are joined at the base. In others there are two toes in front and two behind, and in other birds the hind toe is reversible, and can be brought to point to the front.

The first section of this family contains the Woodpeckers, which are extremely numerous, and the Barbets, a noisy group of birds, of which the "Coppersmith" is the commonest example, and the monotonous note of which bird may be heard everywhere in the dry season.

The second section comprises a number of birds which have the three anterior toes connected at the base. The Rollers, the Bee-eaters, the Kingfishers, the Hornbills, and the Hoopoes belong to this section, and are for the most part common and well-known birds.

The Swifts form the third section. They have the hind toe reversible to the front. To this section also belong the Nightjars, or Goatsuckers, birds of soft plumage, and nocturnal in their habits. Allied to them are the curious Frogmouths.

The Trogons form a small section, with the toes in pairs. They are of most gorgeous plumage, and inhabit dense forests.

The Cuckoos form still another section with the toes in pairs. The common English cuckoo is abundant in the higher hill tracts of Burma, and its call may be heard throughout the spring. The Koel is distributed all over the province, as are also the peculiar Crow-Pheasants.

The Parrots form a well-marked order of birds. All

the Burmese species are of comparatively small size. They abound in all parts of the country.

The other orders of Birds are also well marked, but must be treated very briefly.

The Owls are very numerous, ranging from the huge Fish-Owls to the diminutive Owlets.

The diurnal birds of prey are also extremely numerous, and many familiar English forms occur, such as the Sparrow-Hawk, the Kestrel, and the Peregrine Falcon. The Osprey is often seen on the large rivers. House Kites abound during the dry weather.

Of the Pigeons and Doves there are upwards of twenty species. Some of the Fruit Pigeons are of very large size, and are excellent food.

The Game Birds comprise the Peafowl, the Argus and Peacock Pheasants, the Jungle Fowl, the Pheasants, the Silver Pheasants, the Tragopans or Horned Pheasants, the Bamboo Partridges, the Hill Partridges, the Francolins, and the Quails. To these must be added the Bustard-Quails, or Three-toed Quails.

The Rails and Cranes form a small group. Among these may be mentioned the beautiful Sarus Crane, common in the large plains of Pegu.

The Waders comprise a vast number of birds, mostly winter visitors. There are Glareoles, Jacanas, Plovers, Oyster-catchers, Curlews, Sandpipers, and Snipes. The last are very abundant from August to November.

The Gulls and Terns are common birds, not only on the coast but also far up many of the rivers. The curious Scissors-bill flies in large flocks about the sand-banks.

Of birds which have all the four toes connected by a web there are the Pelicans, which are seen chiefly in Lower Pegu; the Cormorants, which are generally distributed; and the Frigate-birds, the Gannets or Boobies, and Tropic-birds, which are entirely oceanic. To the open sea also belong the Petrels.

The Heron tribe is very numerous, and large communities of the White Herons, or Egrets, may be met with near every village, nesting in clumps of trees.

The Geese and Ducks mostly arrive in the winter, and afford good sport, especially in Upper Burma. Many of

the species are identical with the common English ducks; others are peculiar to Burma and India.

The last group of birds is the Grebes, of which there are only two species.

The Reptiles.—The Reptiles are well represented in Burma, and of the four orders into which they are usually divided one only is absent from the province.

The three orders that occur are: the Crocodiles; the Tortoises and Turtles (*Chelonia*); and the Lizards, Chamæleons, and Snakes (*Squamata*).

Three species of Crocodiles occur. The *Gharial* reaches a length of 20 feet, and feeds entirely on fish. The snout is extremely long, and there are twenty-seven or more teeth on each side of the upper jaw. The other two species have a much shorter snout, and less than twenty teeth on each side of the upper jaw. The first of these (*Crocodilus porosus*) is found chiefly in salt or brackish water, and grows to a length of more than 30 feet. The snout is about twice as long as it is broad. The second, the Common Mugger, frequents rivers and ponds, and attains a length of 12 feet or more. In this species the snout is about one and a half times as long as it is broad.

The Tortoises and Turtles are very abundant. The Snapping Tortoises have a soft shell, a very long neck, and claws on the three outermost toes only. They are purely aquatic, and bite fiercely. The Land Tortoises and Terrapins comprise a number of forms which are either terrestrial or in some measure amphibious, but none are found in the sea. They have a hard shell covered with shields, a short tail, and the limbs with either four or five claws. A rare species of tortoise (*Platysternum megalocephalum*) has a tail as long as the shell, the head extremely large, and all the toes provided with claws except the outer one. The Turtles are marine animals of large size, measuring from 3 to 8 feet in length. The fore legs are developed to form flippers for swimming, and there are never more than two claws on each limb. The Green Turtle, so valuable for food, is herbivorous. The horny shields of the shell in this species meet at the edges, and do not overlap. Large numbers of Green Turtles frequent Diamond Island, in the Bassein

River, for the purpose of depositing their eggs in the sand. The Hawksbill Turtle is valuable for tortoise-shell, but, being carnivorous, is not fit for food. This species has a strongly hooked beak, and the shields of the shell overlap one another. A third species of turtle, the Loggerhead, is of no value either as food or for tortoise-shell. This turtle is of large size, and has five shields on either side of the shell instead of four, as in the other species. The Leathery Turtle is yet a fourth species of turtle, which grows to a length of 8 feet. The shell is of leathery texture, without shields, and is furnished with seven longitudinal ridges.

The first group of the *Squamata* comprises the lizards, of which about sixty species have been recorded from Burma. The Geckos include the large, well-known House Geckos, or "Toukté," of the Burmese; the smaller House Geckos; and a curious species (*Ptychozoum*) which has the limbs and the sides of the head, body, and tail furnished with a membranous fringe. Another group (*Agamidæ*) comprises among others the Flying Lizards, and a number of beautiful Tree Lizards, many of which have the power of rapidly changing their colours. The Slow-worm, without legs, and resembling a small snake, also occurs. The Monitors are huge lizards several feet long, and common on the hills. The true lizards are hardly represented in Burma, but the Skinks are extremely numerous. They love dry spots, and many burrow in the soil. No species of Chamæleon is known from Burma.

The large group of the Snakes is strongly represented in Burma. There are some three species of small Blind Snakes, without teeth, and living in the ground. Of the Pythons only one species occurs (*Python reticulatus*). As is well known, this snake crushes and suffocates its victim by enveloping it in its coils. It is said to grow to a length of 30 feet. The Cylinder Snake is of small size, but, like its larger relatives the pythons, has vestiges of a hind pair of limbs. A fierce snake (*Xenopeltis*) feeds on small mammals.

The family *Colubridæ* contains a vast assemblage of snakes, some of which are poisonous and others harmless. To this latter category belong the snakes of the

first section of this family, the best-known species of which is the common Rat Snake, found in all thatched roofs of houses. It grows to a length of 6 feet. This same family contains a large number of snakes which are more or less aquatic in their habits, and feed on frogs and fish.

The second section of this group contains a small number of snakes which are either harmless or poisonous only in a slight degree. The best-known members of this section are the Whip Snakes, of great length and slenderness, and of a green colour. These are found on bushes or tall grass, with the tail tightly curled round a branch, and the head and body free, by which habit they are able to strike to a long distance.

The third section embraces snakes which are very deadly, and includes three species of Adder, of very bright coloration, seldom exceeding 2 feet in length; other allied species are the Banded Adder, which is common; and the Krait, which is rather rare. Both grow to a length of about 4 feet. The Indian Cobra is sufficiently common in Burma, as is also the Giant Cobra, which is very fierce, and grows to the great length of 13 feet. A large number of species of Marine Snakes, very poisonous, and easily recognised by their oar-shaped tail, abound on the Burmese coast. Another family (*Amblycephalidæ*) is represented by three small snakes less than 18 inches in length. Lastly, five species of Vipers are recorded from Burma, of which Russell's Viper is one of the most deadly. It is about 4 feet in length.

The Batrachians.—In this class are comprised the Frogs and Toads, the Salamanders and the Cæcilians, all of which are found in Burma.

The Frogs, with two other allied amilies, are numerous in species and individuals, nearly thirty species occurring in the province. *Rana tigrina* is the largest species, measuring more than 6 inches in length. There is also a genus of Flying Frogs, which have the feet expanded into large, webbed discs, thus enabling them to take flying leaps from tree to tree.

The Toads and allied families are not numerous, less than a dozen species occurring. *Bufo melano-stictus* is a

common toad of large size, nearly 7 inches in length. Besides these there is the common green tree-toad, and a genus containing some huge toads which have horns on their eyelids.

The Salamanders are represented by a single species, of a blackish brown colour, and about 6 inches in length. The writer found them very common at Bernardmyo on the road, after very heavy rain in April.

The Cæcilians are worm-like creatures living in soft mud. One species occurs. It is about 15 inches in length and half-an-inch in diameter.

The Fishes.—The Fishes of Burma are very numerous, both in species and individuals, and enter largely into the food of the people. In fact, fish, whether fresh, dried, or pounded with salt, is eaten by the Burmese at almost every meal. If the traveller who has not much time on his hands wishes to form quickly an idea of the fishes of Burma, he should endeavour to visit one of the large maritime markets, such as the one at Akyab, in the early morning, and one of the large inland fisheries, such as abound in Lower Pegu, and many of which are at no great distance from some of the large towns on the rivers or railways.

All fishes living at the present day are divided into four sub-classes. Two of these, the Lung-fishes and the Chimæroids, are not found in the Bay of Bengal. The other two sub-classes are largely represented both on the coast and in the inland waters.

The first sub-class that we have to mention (*Elasmobranchii*) contains the Sharks, Rays, and Skates. The two latter are so unlike sharks in general appearance that their relationship to each other is not very obvious. Nevertheless, the two groups agree in structural features. They have, among other characters, a cartilaginous skeleton, as distinguished from the bony skeleton of the next sub-class. They also have the apertures leading into the gill chambers formed in the shape of vertical slits, generally five in number, on each side of the head, and distinctly visible.

The dreaded carnivorous sharks, the Hammer-headed Sharks, and the smaller sharks, known in Europe as "Hounds," abound along the coast. The Thresher

is easily recognised by the great development of the upper lobe of the tail, which is nearly as long as the body itself. The huge, but harmless, Basking Shark attains a length of more than 50 feet. Another species of shark has only one dorsal fin, situated near the tail. The Dog-fishes with spotted bodies, and the Zebra-Shark with a striped body, are other species of sharks.

The Saw-fish, which attains a length of 20 feet, has the upper jaw produced into a flat, bony process, armed with lateral teeth. The Rays include the Beaked Rays, which have a projecting snout, and attain a length of 7 or 8 feet, and the Electric Rays, which are furnished with an electric organ, or galvanic battery, between the head and the pectoral fins. A shock from this is said to be sufficiently strong to disable a man. These Rays have the side fins greatly extended, and meeting in front of the head, and their form when viewed from above is rounded. The Sting Rays have a body which is rounded or triangular when viewed from above, and they are armed with a whip-like, serrated tail, with which a very dangerous wound can be inflicted. They measure as much as 6 feet across the disc. Besides these there are representatives of those huge and hideous fishes which are termed Devil-fishes, Bat-fishes or Eagle-Rays. They attain in some instances to enormous dimensions, as much as 18 feet across the disc. The lateral fins, although greatly developed, do not extend quite to the sides of the head, but reappear at the snout in the shape of fins or ear-like appendages.

The fishes of the second sub-class, which comprise the great bulk of the existing fishes, and which include what are popularly known as "true fishes," have a bony skeleton, and gill arches protected by a cover. The families into which this immense sub-class is divided are so numerous that only the more prominent can here be noticed.

Eels are common both in salt and fresh water, and some species attain a length of 10 feet. The Cat-fishes, so named from the presence of feelers or barbels round the mouth, are ugly creatures without scales. The spines on many species can inflict serious wounds. The Carps

have toothless, sucking mouths. The Mahseer belongs to this family. The Herrings are not numerous. The Hilsa is the best-known representative of this family. Besides these there is a small family, which contains the "Bombay Duck," or "Bummaloh." Of the Flying-fishes there are several species occurring in the Bay of Bengal.

The large family of Perches is well represented, but the Burmese species are mostly marine fishes. Another section (the *Chætodontidæ*) are, perhaps, the most gorgeously coloured of all fishes—the Emperor-fish, for example, being of a brilliant blue, ornamented with numerous gold stripes. The red Mullets are all excellent for the table, and the Sea-breams also furnish good food. Another group (the *Scorpænidæ*) comprises a number of fishes with heads and fins of very grotesque form, and sometimes with expansions of the skin resembling sea-weeds and leaves. A small family (the *Polynemidæ*) contains the celebrated Mango-fish, easily recognised by the presence of several filaments below the pectoral fin, which are about twice the length of the fish. Yet another group (the *Sciænidæ*) are for the most part fit for food, and isinglass is made from their air-bladders. Three species of Sword-fishes are found on the Burmese coast. The curious ribbon-shaped "Hair-tails" are often dried for food without salting. Besides these there are the so-called "Surgeons," fishes which are furnished with a lancet-shaped spine on either side of the tail; the Pilot-fish, usually seen in attendance upon sharks; the Horse-Mackerels; the Bat-fishes, with very deep body and greatly developed fins; and the Pomfrets, which are very excellent eating, and abound at Akyab. The *Coryphænidæ*, well-known fishes erroneously termed Dolphins by sailors, are noted for their lovely but fugitive colours. To the foregoing we may add the Mackerels, the Tunny-fish, the fishes known as "Seer" in India, and the remarkable Sucking-fishes, which have a disc or sucker on the upper surface of the head, by which they attach themselves to the under surface of a turtle or shark, and profit by the greater power of locomotion possessed by their bodies; and the Mud-skippers, which abound on mudbanks in tidal creeks at low water. These are small fishes, with very prominent eyes. They lie on the mud in

great numbers, on the watch for food, and when disturbed they jump into the water, or farther inland. The Spiny Eels resemble the true eels, but may be distinguished by the presence of a series of spines along the back. The fierce and voracious Barracudas grow to a length of 8 feet. The grey Mullets are numerous in species. The climbing Perch is common in Burma, and is able to live out of the water for a considerable period. Numbers of these fishes may sometimes be seen toiling painfully over the ground in passing from one piece of water to another.

The family of the Flat-fishes, of which the Sole is a familiar example, does not appear to be well represented in Burma.

Pipe-fishes and Sea-horses also occur, and the last group contains the Sun-fishes, the spine-clad Globe-fishes, the File-fishes, and the Coffer-fishes.

FLORA

By Captain A. T. Gage, I.M.S.

As the botanical exploration of Burma is still very incomplete—there being whole tracts the flora of which has either not been collected or not been studied—this account of the herbaceous vegetation of the province rather attempts to set forth our present knowledge than pretends to be an accurate picture of the vegetation in every part of the country.[1] The herbaceous flora is markedly different in different regions of the country and at different altitudes and different localities in the same region. The same factors of rainfall, altitude, exposure, nature of the soil, etc., which markedly affect the character of the forests of Burma, also influence in varying degree the more lowly forms with which this chapter is concerned. The shrubs and weeds of the

[1] In drawing up the following sketch of the herbaceous—as distinct from the forest—vegetation of Burma, the books and papers, which are cited in the appendix at the end of this volume, have been used freely, and to them the reader is referred for more detailed information than can be given here.

moist Sittang Valley or the Irrawaddy Delta present quite a different aspect to those of the dry regions of Upper Burma, and both differ still more from the homelike wild flowers of the Shan Plateau, than they do from each other.

The herbaceous vegetation may be considered under the following divisions, which are neither altogether artificial nor entirely natural, but are convenient for our purpose:—(1) The herbaceous vegetation of the coasts; (2) of the larger rivers; (3) of swamps and lakes; (4) of forests; (5) of the Shan Plateau.

The Coast.—The shores of the Irrawaddy Delta and parts of the coasts of Arracan and Tenasserim are fringed with tidal swamps, in which the Mangrove and kindred trees form on the mud a confused tangle of roots and submerged stems. On the mud amongst those roots several kinds of grasses, coarse sedges, and reeds flourish. Algæ grow attached in tufts to the roots themselves, or as Diatoms and such-like microscopic forms occur in the shape of brownish or yellowish patches of jelly-like matter on the muddy surface. Where—as along parts of the coasts of Arracan and Tenasserim—Mangrove swamps give place to sandy beaches, the goats'-foot Convolvulus (*Ipomœa Pes-Capræ* — so called because its divided leaves have a fancied resemblance to a goat's hoof—and *Spinifex* grass are the most conspicuous weeds, creeping over the sand, and helping to bind it. On the trees, whether of the Mangrove swamps or of the sandy beaches, orchids and ferns like the oak-leaved Polypody are common.

The Large Rivers.—Along the larger rivers, like the Irrawaddy and the Sittang, there extends, often for many miles on each side without interruption, an alluvial belt of varying breadth, covered with very tall, coarse grasses, and having trees sparingly scattered along it. These belts are called Savannahs, or elephant-grass jungles. The so-called elephant grass comprises several distinct species as known to the botanist, including a wild sugar-cane. These grasses grow to ten or twelve or even more feet in height, and form a dense jungle very difficult to get through. Mixed up with those gigantic grasses are small shrubs belonging to many species, while round their almost bamboo-

like stems species of *Convolvulus, Ipomœa,* Passion flower, Cucurbitaceous plants, wild yams, and climbing ferns twine in great luxuriance.

In some parts along the Irrawaddy, and probably other rivers also, the large elephant grasses are replaced by a much smaller white, feathery thatch-grass, which strangles out almost all other herbaceous vegetation. On the scattered trees which struggle up through the wilderness a few ferns find resting-places.

The river-face of the banks of such rivers as the Irrawaddy affords footing to a heterogeneous host of widely spread tropical weeds, comprising such plants as a species of crow's-foot, a water-cress, several species of wild Indigo, a crowd of composites, several docks, knot-grasses, spurges, and amaranths, and a great variety of sedges. On sandbanks tamarisk-bushes may be all that can be seen.

On the banks away from the river-face occur such plants as the prickly-leaved and yellow-flowered *Argemone,* or Mexican poppy, introduced from America, and now spread over the greater part of India and Burma; milkworts; a variety of leguminous shrubs and herbs, including the sensitive plant; several species of Heliotrope and Amaranths; a Speedwell; many kinds of grasses and plants like Tobacco, Cape Gooseberry, *Datura,* Castor-oil, etc., which have escaped from cultivation.

On fallow fields a host of grasses and sedges spring up, presently to wither away with the approach of the hot season.

In and about villages along the river-banks one comes across such plants as *Croton,* Castor-oil, Tapioca, *Poinsettia, Cereus*—a true Cactus often used as a hedge—and shrubby spurges which closely resemble true Cacti, but belong to a quite different order of plants. Common village weeds are Basil, *Datura, Solanum,* Cucurbitaceous climbers, *Oxalis, Portulaca,* etc.

Off the alluvial belt, and away from the influence of the river, the vegetation of the drier parts of Upper Burma is very scanty and ill-favoured. Most of the plants either possess villainous spines or prickles, or secrete an acrid milky juice, the use of both the spines and the juice

being to deter men or animals from molesting or making use of the plants as food or for other purposes.

In this dry zone Capers abound in great variety, while other very common plants are *Zizyphus Jujuba*—the so-called "wild plum" of the English residents in Upper Burma—the milky-juiced Swallow-wort (*Calotropis gigantea*), and a Cactus-like spurge, which may reach the dimensions of a tree. Common herbs are—a very prickly-leaved *Solanum*, lying close on the ground, with bluish flowers and a yellow berry; *Tribulus*, a creeping herb, with small spiky fruits like miniature calthrops; *Martynia*, not inappropriately named the Devil's Claw from the ferocious curved hooks which characterise its fruit-capsule. In the rainy season in many parts *Gloriosa superba* appears in abundance.

Swamps and Lakes.—The swampy hollows which occur along the Savannah tracts show a mixture of grasses—sometimes very tall sedges and creeping Convolvuli, or are sometimes almost entirely choked with *Polygonum* or a species of shrubby *Combretum*. The shores of lakes are fringed with an abundant growth of creeping Convulvuli, sedges and grasses, Reed-mace, and other aquatic plants. In the water, and often entirely covering its surface, occur in great abundance the Water-soldier, with its yellowish green rosette of floating leaves, water-lilies and the superb Lotus lilies; curious, stringy Bladder-worts, which live partly by entrapping microscopic crustaceans in their tiny bladders, and therein digesting them; *Vallisneria*, with its stem possibly coiled up into a spiral; the minute Duckweed, looking like dots of green on the water; and cryptogamic plants like *Azolla* and *Marsilea*. Beautiful microscopic algæ—mostly Desmids and Diatoms—also are plentiful.

Herbaceous Vegetation of the Forests.—In the evergreen tropical forests which occur in the moist, equable climate of Lower Burma at low elevations herbs are few in number, as the denseness and darkness of such forests are against them. Still, where the forest is more open, as along the beds of streams, a multitude of Acanthaceous herbs and small shrubs spring up, and terrestrial aroids, grasses, and sedges are common. Although ordinary herbs

are scanty in such forests, ferns of all sorts abound, both on the ground and on the trees—the tree-loving ones being mostly filmy ferns. Orchids also are fairly common, although they do not reach their greatest development in such forests. Mosses are present in fair amount, and Fungi, especially in the rains, are in great force.

Above 3000 feet elevation those evergreen tropical forests give place to evergreen temperate forests. These latter are, of course, found only in those parts of Burma where the necessary elevation and requisite amount of rainfall are both present. They are not found at all on the Pegu Yomahs, but occur on the ranges east of the Sittang Valley, and on the Arracan Yomahs and Kachin Hills.

In the moister forests occur such plants as Roses, Hydrangeas, Gardenias, Begonias, *Chirita*, Balsams, Honeysuckle, Jasmines, Clematis, Ivy, Royal Ferns, Selaginellas, Club-mosses, and, above 5000 feet, Rhododendrons, Violets, Strawberries, and such like.

In the drier forests, where the ground is fairly open, grasses and sedges abound, and along with them a host of other plants like *Polygonum*, Bed-straw, Sundew, *Lobelia*, many Composites, *Viola*, *Costus*, etc.—a curious mixture of tropical and temperate forms. Orchids in great abundance adorn the trees, the more conspicuous being Dendrobiums, Vandas, and Coelogynes, with their magnificent trusses of lovely flowers. Numerous ferns and club-mosses, scale-mosses, and ordinary mosses also clothe the branches. Loranthaceous parasites, and a mistletoe not unlike the European one, are frequent. The rocks are covered with lichens, mosses, Selaginellas, and small ferns, and the ground—in burnt-up parts—by mosses. In the moister hill forests grassy vegetation is absent, though here and there its place is taken by patches of sedges and other monocotyledonous herbs. Common plants in such forests, especially along the banks of streams, are Polygonums, a species of Solomon's seal, Snake-roots, and many other aroids, Begonias, Ferns, Peppers. Mosses and Scale-mosses cover the tree-trunks, but orchids are seldom seen.

In the leaf-shedding forests, which are characteristic of the drier regions of Burma, the herbaceous vegetation

differs considerably from that of the moist evergreen forests just described. In the Eng forests usually a scattered assemblage of grasses and sedges imperfectly covers the soil, with a mixture of common tropical weeds. During the hot weather showy bulbous plants like Crinums, Gingers, Curcumas, and other *Amaryllidaceæ* and *Scitamineæ* make patches of colour on the baked-up soil. The trees in such forests are covered with gorgeous orchids such as Dendrobiums, Vandas, Cymbidiums, etc. Ferns and Mosses are scarce.

In the mixed leaf-shedding forests growing on alluvium the herbage is scattered, and consists less of grass than of such plants as *Costus*, Ginger, *Curcuma*, and other Scitamineous plants, Malvaceous herbs, composites, Ferns, etc. Orchids are still frequent on the trees, as also parasites of the mistletoe order.

In the mixed leaf-shedding forests of the Pegu Yomahs and Martaban, the bulk of the herbaceous vegetation is made up of Malvaceous and Acanthaceous species, with a sprinkling of composites and grasses of various kinds. Orchids, of course, are in a fair abundance on the trees.

Practically the same sort of vegetation is found also in the open, dry, leaf-shedding forests of Upper Burma.

The vegetation of the rocky beds of hill streams varies according as to whether the latter flow through leaf-shedding forest or evergreen forests. Shrubs like willows, small figs, and other Urticaceous species are common, wedged in amongst the rocks.

The herbs are chiefly *Scrophularineæ*, and *Labiatæ*, while a large white Lobelia is often found.

In the evergreen forests the rocks and boulders are covered with Mosses, Liverworts, Selaginellas, and Ferns, while jelly-like masses of filamentous Algæ are also common.

The Shan Plateau.—The vegetation of the Shan Plateau is worthy of special mention as showing some remarkable features. It has been described by Collett and Hemsley in Vol. XXVIII. of *The Journal of the Linnean Society*, to which the reader is referred for fuller details than can be given here.

The evergreen forest which clothes the upper slopes of

the hills bordering the plateau gives place, at a height of almost 4000 feet, to open, breezy, rolling downs. The flora of those rounded grassy hills is almost European in some respects. Species of Crow's-foot, Clematis, Violet, Milkwort, St John's Wort, are quite common. A primrose (*Primula Forbesii*), which is also found in China, is very abundant. Other plants occurring on the plateau, and characteristic of a temperate climate, are Anemones, Larkspurs, Catch-fly, Balsams, Agrimony, Willowherb, Bed-straw, Louse-wort, Mint, Bugle, etc. Two species of wild Roses occur, one being a gigantic climber, with long, hanging branches covered with huge white flowers, probably the largest wild rose known. Another interesting plant is a honeysuckle, which has much the largest flowers of any honeysuckle, the corolla being about 7 inches long. Amongst the tropical forms of plants growing on the plateau — conspicuous and common is a dark-leaved rosaceous shrub resembling the English blackthorn in appearance, and covered in spring with small pretty white flowers.

Convolvulaceous species and Labiates are numerous. Amongst the former a dwarf Ipomæa is peculiar in growing only from 6 inches to 1 foot high. It lives amongst the grass on the level plateau or dry hillside, and has large flowers of a beautiful deep purple. Amongst the latter *Colquhounia elegans* is remarkable for its beauty, being a shrub of 8 to 10 feet in height, with dark red or pale salmon-coloured flowers. Other notable and common plants of this region are—a tall, bushy *Lespedeza* (a Leguminous shrub), bearing large, dense panicles of beautiful blue flowers; two composites—a *Vernonia* and a *Leucomeris*—which attain the dimensions of trees; and a Campanulaceous creeper, with beautiful dark blue flowers, which lives amongst the grass, twining round the stems like a convolvulus.

Epiphytic and ground orchids are common. Amongst the former two are peculiar. One, *Cirrhopetalum collettii* bears five or six dark purple flowers in an umbel at the apex of a scape 2 or 3 inches high. The sepals are extremely long and slender, very mobile, and wafted about by the faintest breeze. They are also furnished with

numerous little appendages, which wriggle about in every passing breath of wind. The whole plant presents a curious spectacle. The other, *Bulbophyllum comosum*, is remarkable for its bottlebrush-looking inflorescence, quite unlike any other species of the genus.

Affinities of the Burmese Flora.—The flora of Northern Burma north of the Irrawaddy River, and comprising the Kachin Hills and the Hukung and Taping Valleys, has strong affinities with the flora of the Assam Hills, and to a less degree with that of the Eastern Himalaya.

Western and Southern Burma, by which is meant the country between the sea and the crests of the Chittagong Hills, Arracan Yomahs, and mountains of Tenasserim, exhibits a flora which is Malayan in character, although it probably also contains many plants of the temperate regions of Northern Burma. The continuity of this flora is broken up by the interposition of the deltas of the Irrawaddy, Sittang, and other rivers, which have a characteristically estuarial flora of evergreen littoral forests resembling that of the Gangetic and Bramahputra Delta. The flora of Eastern Burma is so little known that nothing can be said with certainty as to its affinities with the neighbouring Chinese and Siamese floras.

The vegetation of Central Burma, between the Arracan Yomahs and the hills east of the Sittang River, is—particularly in the northern drier half of the country—akin to the Indian Deccan flora, with a considerable African element as well.

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GEOLOGY AND MINERALS

Our knowledge of the Geology of Burma remains very unequal. The chief general authorities remain Dr Oldham and Messrs Medlicott and Blanford, though detailed examination has been made here and there by Dr Fritz Nötling, and other members of the Geological Survey of India, too few of whom have been detailed to work in Burma.

The general parallelism of all the streams and hill ranges gives an appearance of simplicity to the physical geography of the country, but owing to the prevalence of jungle it has been found extremely difficult to determine the stratigraphy, and very little can be said to be really known about the formations occurring.

The greater portion of the Irrawaddy Valley is formed

of newer alluvium, older alluvium, and silicified wood and bones of mammals in sands and gravels of the Pliocene age. The Pegu Yoma consists entirely of the Miocene group, with beds of later Tertiary age, chiefly sandstone and shale. The Arakan Yoma, and the spurs to eastward and westward of the main range, are chiefly of earlier Tertiary age, resting on Cretaceous and Triassic beds, which rise to the surface on the western face of the range. The Carboniferous limestone, and its associated beds, together with the Mergui group, appear to run up the line of the Salween. The Mergui group consists of highly metamorphosed rocks resting upon granite, and showing every variety, from gneiss and mica slate to hard silicious slates, occasionally chloritic, and to black and earthy, but micaceous and glossy, slates. Numerous veins of granite run through these. Above this comes a great accumulation of beds of pseudo-porphyritic rock, which form the higher grounds of all the outer ranges in the south, but are less strongly represented towards the north. The total thickness cannot be less than 9000 feet. To the northward there are beds of hard sandstone, covered by a series of grey, shaly beds, and above this a 200-feet layer of fine, soft sandstone, on which rests the hard and thick limestone so largely developed near Moulmein. This has a thickness apparently of about 1000 feet or more, and extends northward, in large hills and ranges, into Karen-ni and the Shan States. The abrupt cliffs, full of caves, characteristic of the formation, are very noticeable near Möng Nai (Monè), and northward in the same latitude. The same formation is found east of the Salween, in Kêngma, Kokang, Chênkang, and probably far northward. It seems to belong to the Carboniferous series, and to be identical, in part at least, with the limestone found in the Mergui Archipelago. Until the fossils are better known it is impossible to say whether the Burma series exactly corresponds to the Carboniferous beds of the Himalayas and the Punjab. They are certainly of the same approximate age. The occurrence of marine fossiliferous rocks of the Carboniferous period at the two extremities of the extra-peninsular area of British India, and the complete absence of any marine Palæozoic

fossils within the peninsular region, afford the most striking illustration of the great divergence between the geological history of peninsular India and that of the surrounding countries. There is an abundance of these abrupt, precipitous limestone cliffs, but, so far as is yet known, they nowhere in Burma assume the extraordinary circular or elliptical basin formation found in North Tongking and in Kwangsi. There, especially near Caobang, are complete circular fortresses of jagged, saw-edged peaks, rising to a height of 1000 feet, with no road in, and no outlet for water except underground. From a balloon they have exactly the appearance of the mountains of the moon. They are supposed to be of animal formation, built up exactly like the atolls of the Southern Pacific, and, indeed, dating from the time when the coral sea covered this part of Continental Asia. In the Shan States they appear only in the form of punch-bowls and devil's cauldrons, covered with metamorphosed, sedimentary deposits. The Burmese gneiss series consists of more or less granitoid gneiss, hornblendic gneiss, crystalline limestone, quartz, and schists of various kinds. In many places the gneiss becomes a true granite. So far as is known, there are two groups—the gneissose formation and limestone—which have been supposed to be of Lower Carboniferous age, but, according to recent investigations, more probably belong to the Lower Silurian formations.

Metamorphic rocks cover a large but unexplored area in Upper Burma. They form all the higher ranges in the neighbourhood of Mandalay, and extend throughout a great portion of the country towards the Salween. Farther to the northward they extend from Bhamo to the neighbourhood of T'êngyüch (Momien), in Yünnan. The hills that skirt the Irrawaddy north of Mandalay are Silurian limestone, locally charged with crystalline limestone, which is the matrix of rubies, and metamorphic rocks, composed of gneiss and hornblendic schist, and opposite Kyaukmyaung greenstone and basalt are found. The Irrawaddy below Mandalay turns to the west, and flows through recent rock formations. The crystallines continue to the southward, forming a great part of the Shan States

and the Karen-ni country, and extending southward into Tenasserim.

On the west of the Irrawaddy the formation of the Segaing Hills is partly metamorphic and partly tertiary, composed of sandstones and shales of the Miocene period.

The gneissic rocks of Burma have more resemblance to those of peninsular India than to the crystalline formations of the Himalayas. In the Arakan Range, running up into the Chin Hills, the rocks of the main range consist of rather hard sandstones and shales, greatly contorted and broken, traversed by numerous small veins of quartz, often slaty, and sometimes schistose. The only characteristic beds are some white-speckled grits interbedded with shales and sandstones, 35 miles west of Thayetmyo; a band of dark blue shale with conglomerate, part of which is calcareous; and some thick-bedded shales, passing into massive sandy shales, with hard nodules interspersed. To the northward there is a thick band of very pure limestone.

The main outcrop of nummulitic rocks extends from north to south-east of the Arakan and Chin Hills and west of the Irrawaddy. The beds have a general dip to the eastward. There are occasional outcrops of serpentine. The surface rocks are generally shales and sandstones. Coal has been found, but has not yet been worked.

The Irrawaddy Valley, from the old frontier to the neighbourhood of Ava, where the metamorphic area is entered, consists of the same tertiary rocks as are traversed by the river in Pegu. About 50 miles north-north-east of Yenangyaung, and 25 miles east-south-east of Pagān, the extinct volcano of Popa rises to a height of 3000 feet above the rolling country, composed of Pliocene sands and gravels. The peak consists of ash breccia, but flows of lava, mostly trachytic, form the lower slopes and the surface round the base of the volcano. Amongst these flows are some of a beautiful porphyry, with crystals of pyroxene. The volcano is supposed by Mr Blanford to have been in action during the Pliocene period.

Here and there on the edge of the alluvial tracts laterite of the detrital low-level type is found, forming, as usual, a cap to other rocks, and having a very low dip towards the river from the sides of the valleys. The laterite seems to form the basement bed of the post-tertiary gravels and sands, and laterite gravels are largely dispersed through the older alluvial deposits. To the east of the Sittang River there is a well-marked bed of this formation along the base of the metamorphic hills. The laterite rock here forms a plateau, rising 40 or 50 feet above the alluvium of the Sittang Valley.

Along the margin of the Irrawaddy and Sittang alluvium there is a broad but interrupted belt of undulating ground, clearly distinguished from the flat alluvial plains near the river, both by the greater inequality of its surface and by its more sandy character. This tract is known as *Indaing*, or the country of the *In* tree (*Dipterocarpus tuberculatus*). This *Indaing* tract is composed chiefly of gravel, derived in a great measure from the neighbouring hills, but partly from a distance. A portion is washed from the top of the hills, and the rest is carried and deposited by the river. Large tracts of the same deposits are found in places isolated in the Delta, sometimes rising considerably above the flat country round about. One such tract, 20 miles long, from north-east to south-west, by 10 broad, lies east of Ngaputaw, to the south of Bassein. Another, of about the same area, lies to the south-west of Rangoon. These may be ancient *bhangar* (older alluvium) deposits, or may be caused by local upheaval.

There is no important expanse of alluvial deposits in the valleys of the Burmese rivers. The beds of all immediately above the deltas are formed in places by older rocks, and there is no such continuous alluvial plain as is found along the courses of the Ganges and Indus. The Delta of the Irrawaddy has been formed by elevation through subterranean forces, and not by the accumulation of fluviatile beds of recent origin. Some tracts of alluvium occur here and there, but the wide, undulating tracts in the neighbourhood of the rivers in Upper Burma are composed, not of river alluvium, but of the Pliocene fossil wood deposits. The hills which bound the Irrawaddy on

both sides are chiefly composed of sandstones and shales containing fossil wood and bones.

The mud volcanoes, or salsettes, of Minbu appear never to be subject to the violent eruptions of these at Ramri, on the Arakan coast, where stones have been ejected and flames are sometimes emitted. The Minbu salses are conical hills of mud, hardened on the outside, and formed by the decomposition of volcanic rock. The mud is forced up by the currents of gas escaping from the solfataric region below, apparently at a great depth. The central hollow is filled with liquid mud constantly agitated by bubbles of gas. The hillocks rise in some places to the height of 60 or 80 feet. The salses are most active during the rains, and the gas which escapes from them is easily ignited. There is so much oil in the surrounding soil that wells are quite useless for the purpose of obtaining drinking water. A similar phenomenon causes the "Spirit-fire" of Kāma, between Prome and Thayetmyo, on the Irrawaddy. Here there is a hillock with a heap of stones on the top, and from between the stones comes a continuous flickering flame, as well as from some cracks in the ground. The soil is gravelly, and when this is stirred the result has been compared to the stirring of plum pudding in which brandy is burning, to which the flames bear no slight resemblance.

Hot springs are found all over Burma and in very many parts of the Shan States. In some places the water is hotter than any on record out of volcanic regions, and reaches within 12° or 14° of boiling water, and in a few cases actually touches the boiling point. Not unseldom these hot springs occur in the beds of streams. They usually appear on the lines of geological disturbances or faults. The water in almost all cases is perfectly clear, with a beautiful blue tinge in any quantity. The pools are usually filled with grey mud, and no distinct openings are visible from which the water issues, but bubbles of steam rise continually from the bottom. There is frequently a strong smell of sulphuretted hydrogen. The salts consist of sulphate of lime and magnesia, with traces of alkalies, principally potash, and have in all likelihood come from dolomite. The

water would be highly beneficial in cases of chronic rheumatism and gout.

Gold.—Grains of gold are found in practically every stream in the country. Much is found in the Upper Irrawaddy, and the sands of the Salween are full of it. Every year in the intervals of agricultural work parties of the country people encamp, not only on the Salween, but on the banks of streams in every part of the country, and gather enough gold dust to have a festival in their village when they go home again. The gold is panned out in the crudest possible way in shallow, round wooden trays. There is, in fact, no doubt whatever of the presence of gold over very wide areas, and gold-bearing quartz even has been found in several places. Within the last few years a company for the extraction of gold by dredging from the Irrawaddy above Myit Kyina has been started, and enterprises of the same kind are likely to be begun elsewhere, particularly in the streams east of the Salween, which have the reputation of being the richest in dust. The Burmese always had a profound belief in the existence of nugget gold in the rivers of the Wa States, and sent an army to exploit them. The Wa and the climate, however, disposed of the force. The only British force which reached the famous Golden Deer Stream, however, failed to find anything. The only gold mine started in Burma was at Chaukpazat, in the Katha district. The results were very satisfactory for a time, but the quartz reef was soon worked out, and proved to be a mere pocket.

Silver is found in quite a number of places, and the mines in the Wa States are particularly rich, but, except at the Bawzaing lead mines, silver is nowhere extracted in the territory administered by Government.

Coal.—Coal has been found in a great many places in different parts of Burma—in the Shan States, on the Chindwin River, and near Mogaung—but the only place where coal was actually mined has been at Kabwet, or Lingadaw, in the Shwebo district. The coal was of fair but not of particularly good quality, and the enterprise suffered from want of capital. After reaching an output of over 20,000 tons in the year the mine was eventually shut down.

The coal deposits have been in most places only very superficially examined. In various parts of the Shan States where empirical experiments and analyses have been made the conclusion come to has been that the term lignite, or brown coal, would better express its composition. Seams have been found of a thickness of 30 and 50 feet.

In the Geological Survey Records of the Government of India for the year 1905, Messrs La Touche and Simpson report on the Northern Shan States fields. The coal in the Lashio field they describe as "a brown-black lignite with a semi-conchoidal fracture and a specific gravity of 1·53. It burns poorly in the open, with a dull flame and a sulphurous odour, and whilst burning decrepitates. As mined it is fairly hard and in largish lumps, but after a short exposure it breaks up into cubical fragments owing to the loss of moisture." Analyses of samples taken from out crops and from inclines and pits give proportions of carbon as 34·84, 30·60, 28·64, 29·72, and 37·40. The coal in the Nam Ma field is better. "In an open fire the freshly mined coal burns well, with a bright flame and a somewhat aromatic odour." It leaves also a very small amount of ash. "It is a lustrous lignite with a specific gravity of 1·37. In colour it is a bright black and the streak is brown. It is non-coking and appears to be free from any large intermixture of iron pyrites." The coal is very low in carbon and the percentage of moisture and volatile products is very high. Both coals are therefore poor fuel, and unless briquetted will be of little value for locomotive purposes.

In the Upper Chindwin, however, the prospects are brighter, though the inaccessibility of the coalfields, which extend to at least 75 square miles, is a drawback. Dr Nötling, who reported on the Chindwin coal about fifteen years ago, came to the conclusion that, "as regards the proportion of fixed carbon, which is the most important factor in the production of heat, the Chindwin coal is far inferior to English coal, a little inferior to the best Indian coal, the Karharballi coal, but nearly equal to the Raniganj coal. It is certainly superior to the latter, as well as to any Indian coal, except that of Assam, as regards the per-

centage of ash, which is less than half the quantity in the best peninsular coal. The average Chindwin coal, therefore, represents a high quality of fuel, and can compare favourably with any mineral fuel now imported into Burma." Dr Nötling calculates that the total amount of available coal above the level of the Chindwin would reach about 105,000,000 tons, and, taken at a daily rate of production of 1000 tons, would last for 290 years, or at the minimum, on a daily supply of 1000 tons, for 130 years.

Coal is also found in the southern part of the Mergui district and in Thayetmyo. This coal seems to be of much the same quality and character as the Chindwin coal. The Thayetmyo field, however, seems to be a mere deposit, or pocket. The Tenassarim fields, on the contrary, in some places form an anticlinal fold apparently, and, therefore, must be a thrown-down block.

Petroleum.—Two different sorts of petroleum occur in Burma. That in Akyab and the Kyaukpyu districts of the Arakan division is limpid, and is like sherry in colour and fluidity, varying from pale to dark, usually with a peculiar opaline tint. The oil from Yenangyaung is thick in consistency and dark in colour, and is very rich in paraffin wax. The Arakan oil has been worked for years, but has never been found in any very paying quantities. The oil from the Yenangyaung and Yenangyat wells, on the contrary, is well established, and the extraction is constantly increasing. It is thought that both varieties of oil are derived originally from the nummulitic group of rocks, through the subterranean distillation of their carbonaceous beds at great depths. Dr Nötling's view is that, by some chemical process, the nature of which is unknown, whether we call it dry distillation or decomposition, seams of coal formerly, and partly still, existing, were charged with it. The Yenangyaung field lies in a flat anti-cline, the axis of which, by variation in pitch, has produced a flat dome in the Kodaung tract. The deposits in this dome include a porous sand at depths of from 200 to 300 feet, covered by impervious clay beds, which have helped to retain the oil. The oil-bearing sandstone consists of a more or less soft, coarse,

or fine micaceous sandstone of a bluish-grey colour, which changes to a more or less yellowish-green, according to the amount of oil held suspended. There appear to be no natural reservoirs filled with oil. It is only to be found in soft, sandy beds, from which it slowly exfiltrates into the well or bore sunk into the beds. The working of the oil is described under the head of Mines in Part IV.

Rubies. — Next to petroleum, rubies form the most valuable mineral product in Burma. They are found in a variety of places—at Nanyaseik, in the Myitkyina district; in the stone tract of the Sagyin Hills, in the Mandalay district; and in small quantities in a few other places. The only place, however, where the returns are really profitable is the Mogôk area, about 90 miles north-north-west of Mandalay. The Ruby Tract proper, consisting of mines at work and those abandoned, extends to about 66 square miles. The area in which mines are in active operation covers 45 square miles. The rocks of the district are of Palæozoic age, and are composed of intimately associated gneiss masses, with interbedded granular limestone layers, which are the matrix of rubies. Portions of the gneiss and other similar rocks on the mountain crests have become entirely decomposed, whilst the limestone has been disintegrated and dissolved. The resulting hill wash is a clayey material of various colours, from dark red, through light red, to pinkish and white. In this clay are found the rubies and spinels, and occasionally the normal blue sapphire, with the rarer green, yellow, and white varieties. The stones are found sparingly in the red loamy clay, and more freely in the yellow and brown clays in the same deposit. In the alluvium of the larger valleys, covered over by a brown sandy loam, there is a bluish-grey clay mixed with gravel and sand and rounded gneiss blocks. This is the ruby-bearing portion, and is usually from 2 to 6 feet thick. The Ruby Mines Company had difficulties at first in getting machinery to the ground, but the industry has now entered a most encouraging phase (see Part IV.).

Jade.—The mineral found in Burma is not the true jade stone, or nephrite, and is properly called jadeite, but it has

the colour which is specially fancied by the Chinese, who are the real jade purchasers of the world. The jade-producing country may be described as lying between the twenty-fifth and twenty-sixth parallels of latitude, and enclosed east and west by the Uyu and Chindwin Rivers. The chief quarries are at Tawmaw (see Part IV.). At this place the jadeite forms a layer in the dark green serpentine, against which, on a fresh surface, it stands in striking contrast on account of its lighter colour. They are not, however, in direct contact, but are separated by a band of soft, clayey serpentine of light green colour. The serpentine pierces strata of probably Upper Miocene, but possibly of Lower Miocene, age. Jadeite occurs in masses of closely interwoven crystals, which account for its great hardness. The purest, though not the most valued, forms are white in colour, but more often there are various shades of green, and in the case of stones found embedded in the laterite of Upper Burma there is a red staining, often extending to considerable depths in the pebbles. This, in the eyes of the Chinese, greatly increases the value. The white jadeite with emerald-green spots, caused by the presence of chromium, is also valued greatly for the carving of bangles, thumb-rings, and stones for rings. Some jadeite —often the best material—is found in the form of nodules and pebbles in the gravels of the Uyu River. The most valuable jade, in a Chinaman's eyes, is of a particular shade of dark green. The colour, however, is by no means everything. Semi-transparency, brilliance, and hardness are also essential. Stone which satisfies these four conditions is very rare.

Amber.—Burmese amber, like Burmese jade, is distinct from the ordinary succinite, or Baltic amber. It is, in fact, different from any other form of fossil resin, and it has been suggested that it should be called Burmite. The Burmese amber-mines are situated in the Hukawng Valley, to the north of Myitkyina district. The substance is found in clays of probably Miocene age, and fragments of amber have been similarly found in association with beds of this age in other parts of Burma—as at Mantha, in Shwebo district, and at Yenankyat, in the oil-fields. Burmese amber is a little harder than that of Prussia.

It is easily cut, and takes an excellent polish, but many thin films of calcspar are included, and there is less variety of colour than in Baltic amber. There are, in fact, only three shades of one colour. The ground colour is a bright, pale-sherry yellow; darker shades lead to a reddish tint, which fades into a dirty brown, like colophony or congealed petroleum. It has a strong fluorescence—that is to say, it has a bluish tinge when light is thrown into it at a certain angle. A few insects have been found in it. It is largely used in Mandalay in the manufacture of rosaries, *nadaungs* or ear-cylinders, and various trinkets in the shape of elephants, monkeys, fish, and even figures of Gautama Buddha.

Tin.—Tin is found frequently, but tin-mining speculations have not been very successful. The country in which the ore occurs lies in a belt running from the Chinese province of Yûnnan down to the very rich tin-ore fields of the Malay States. Hitherto no alluvial deposits of any size have been found inside Burma. The rapid rate of rain denudation in the wet zone of the tropics is responsible for the fact that rich alluvial deposits may accompany poor lodes, and consequently the occurrence of tin ore in the sands and gravels of Burma does not warrant the hope that workable lodes will be found before the placer deposits are exhausted.

Salt.—Apart from the salt boiling carried on along the sea-coast between the months of February and March, most of the salt made in Burma is extracted from fields the soil of which is saturated with brine. Manufacture is carried on in the Lower Chindwin, Sagaing, Shwebo, Myingyan, and Yamèthin districts. At Maw-Hkeo, or Bawgyo, in the Northern Shan States, near Hsipaw, there is a salt well, or spring, which has been worked intermittently for the last 500 years. The great fault of the salt is that it has a bitter taste, due, apparently, to the presence of sodium sulphate.

Iron.—Iron is found in many parts of the hills, and is quarried in shallow, open cast pits in many places. Shan blacksmiths convert it into *das*, swords, daggers, and choppers, mattocks, axes, and a variety of household and agricultural tools and implements.

Lead, copper, and antimony are also found in various places, but the working of all of them, like that of the iron ore, is carried on in a very empirical way.

Alabaster, a fine white marble, is mined from the quarries at Sagyin, north of Mandalay. Nearly all the marble images of the Buddha are made from the alabaster of these quarries.

Mica is extracted in several places, and exists in others, and steatite mines are worked in the Minbu district. The material is used by the Burmese for writing on their black *parabaik* books.

RACES OF BURMA

It is uncertain who the original inhabitants of Burma and the tributary states were. The only tribe now remaining which does not belong to the Indo-Chinese family is the Selung, or Selon as the Burmans call them, the sea-gypsies who inhabit the islands of the Mergui Archipelago. Their language shows affinities with that of the Tsiam, or Cham, the aborigines of Cambodia; it also appears to have relationship with the language of the Aetas, or Negritos, the aborigines of the Philippine Islands. It seems probable, therefore, that they were the inhabitants of the coast when Thaton was on the sea and Pegu was a mere speck of sand on the waste of waters, on which Henthas—golden geese—preened their feathers. Who lived in the hills behind is unknown. Dr Grierson thinks they were of the same stock as the progenitors of the great Mundā race, and also of some of the tribes now found on the Australian continent.

Upon these first indwellers there poured swarm upon swarm of Indo-Chinese invaders, crowding down from North-western China, from Tibet, the Pamirs, and from Mongolia, following the course of the great rivers. Local traditions, taken with ethnology and philology, prove that the first invading horde was that of the Môn-Hkmêr sub-family. These were followed by a wave of Tibeto-Burmans, who drove their predecessors before them—many up into the hills, more still over the borders of the province altogether, into Siam and Cambodia. Upon these warring

bands there came down finally the peoples of the Siamese-Chinese sub-family—the Karens, and the Tai, or Shans—who crushed and thrust and wedged themselves in where they might. The trend southward was continued over centuries, and, indeed, the last irruption from the hiving north—that of the Chingpaw—was only stopped by the British occupation of the country.

Bands are still poured from the frozen loins of the teeming north, but they are marshalled like the orderly queue entering a public meeting, and do not force their way in like the rabble which breaks the fence round a football field.

Of all these races the Tibeto-Burman have left the most evident traces of themselves and their origin. Their course is marked, like the trail of a paper-chase, by affiliated tribes that occupy the sub-Himalayan region from the Gandak River, in Western Nipál, to the basin of the Irrawaddy and beyond. They were as quarrelsome as sparrows. They fought with one another all the way down through the years, and for years and years they fought mercilessly with the people they found in the country before them. To all seeming they made their first appearance in the Irrawaddy Valley about 600 B.C. Forbes and Garnier unite in the conclusion that in the earlier ages kindred tribes of the Môn-Hkmêrs dominated the whole country from the Irrawaddy eastward to the China Sea, and, till they were split by the Tai invaders, the whole of the territories from the Salween down to the shores of the Gulf of Siam, and over to the Chinese-ridden Annamese and Tongkinese, were dominated by the Hkmêr, in constant conflict with their blood relations the Môn, and their remoter kindred the Burmans. But the Môn-Hkmêr were finally subdued, and the Tibeto-Burmans not only occupy a vastly greater extent of country, but are a much superior factor in the politics of Farther India. Neither the Môn nor the Hkmêr traditions give any account of their first migrations. The tales of the Burmese, the Shans, and the Karens do, and these all bear out the theory that the Môn-Hkmêr preceded them.

The races of Burma, with the exception of the Selung, are, therefore, all of the same original stock. The Selung

are as much strangers as the Basques are in Western and Central Europe. The rest are from the same countryside, and are more or less distantly related and connected. There are three sub-families where the relationship is nearer, and the animosities have, therefore, been the more bitter and prolonged. The cadets of these sub-families may be most conveniently mentioned here in groups. They are:

The Tibeto-Burman Sub-family . .	The Burmese Clans. The Chingpaw Clans. The Kuki-chin Clans.
The Siamese-Chinese Sub-family . .	The Tai Clans. The Karen Clans.
The Môn-Hkmêr Sub-family . . .	The Môn or Talaing Clan. The Wa-Rumai Clans.

Population of the Province.—The total population of the province in 1901 was 10,490,624. This cannot be compared with the figures for 1891, on which it shows a very great increase, because it included a number of tracts which could not be enumerated in that year. Similarly, it will be impossible to compare the total as a whole with that obtained at the next decennial census, because it is probable that areas which in 1901 were "estimated," in 1911 will be enumerated, while tracts altogether omitted in 1901 may later be "estimated," or even formally counted. The number of people ordinarily speaking Burmese is estimated by Mr C. C. Lowis, the Provincial Superintendent, at 7,006,495. Messrs Risley and Gait, the editors of the general report on the census of India, raise this total to 7,474,896, and are inclined to add the speakers of Mru, and to make it 7,498,794. This divergence is due to the existence of very pronounced dialects, which vary as much as the talk of the Aberdonian does from that of the Devon man, or more than Wiltshire differs from Ayrshire. To a stranger, and even to a man with a very considerable command of one dialect, the variations seem to amount to the status of a separate language. Long separation has led to much of this, as in the case of Arakan. The earliest Burman settlers at Tagaung had apparently the custom

of Borough English, which exists to the present day among their congeners the Chingpaw (Kachins) and the Manipuris. On the death of the founder of the first monarchy at Tagaung, the elder son went off to form a new kingdom, and conquered and settled down in Arakan; while the younger brother remained behind, and reigned over Tagaung. The Arakanese, therefore, claim to be the elder brothers of the Burmese, but the claim has about as much weight as the number of those speaking Arakanese—405,143—has to that of the Burmese speakers proper—6,508,682.

The Pyū.—On his way to Arakan the elder brother, Kan Rajagyi, subdued and gave a ruler to the peoples in the Kubo Valley and in the Chindwin Valley, the Pyū, the Kânrân, and the Sâk. Who these early dwellers in the country were is, and is likely to remain, a mystery, for the Burmese State History, the Mahāyāzawin, which is responsible for their names, gives no details about them. Mr Parker identifies them with the P'iao of Chinese chronicles and thinks they were probably Tai, but the fact remains that the Pyūs who founded Prome are as extinct as the Trinobantes in Middlesex. The names were as likely as not nicknames, just as the Bengalis call the people of Chittagong Maghs, or as the Chinese speak of the Miao and the Lolo, the Burmans of the Shans, and ourselves of the Welsh, and no one can tell whether or not they will become permanent, as some have. The Tavoyers are descendants of a colony from Arakan, and the Intha seem most likely a colony from Tavoy. Thus we get variations of speech, and more particularly a whole set of new names, which set up to be new tribes. A great factor in the change of language was the continual wars which were waged. The victors were most thorough in their methods. They killed all the males they could lay hands on, and they married all the women. The offspring learnt their first language from their mothers, and this coloured the speech which they and their likes later developed. Or, perhaps, a whole community—men, women, and children—were carried off as prisoners of war, and settled down in a body in a far country, where their speech gradually developed a new character of its own.

This accounts for the numerous dialects and sub-dialects which are classified separately in the census tables.

The Burmese Group.—The Burmese group is said to include:—

Burmese	Taungyo	Maingtha
Arakanese	Kadu	Lihsaw
Tavoyan	Mru	La'hu
Yaw	Szi	Akha
Chaungtha	Lashi	Akö
Yabein	Maru	
Intha	Hpön	

The first six of these might be called Burmese, or archaic forms of Burmese. The next eight are half-breed languages, and are entitled to separate notice on a varying scale, ranging from a comparison with Pidgin English, which is only a more complicated variety of the Butler English of the curry-eating colonel, and rising up to Yiddish, which is, perhaps, the tongue triumph of the mongrel, seeing that it has a literature. The last five seem to require further consideration. Not much is known about them, but what is known seems opposed to the bundling of them into this corner for convenience sake. They assuredly belong to the "nomad languages," of Max Müller, which have no literary standard to prevent the blurring of the original words and grammatical forms. The very name of the Maing-Tha (Mönghsa) points him out to be of Shan origin, and the features of the others deny Burman affinities.

First Home of the Burmese.—The presence of these different forms of Burmese, some admittedly archaic, or at anyrate old fashioned, ought to help to the identification of the first home of the Burman. The Burmese National History, the Mahāyāzawin, states that the first king, and therefore, naturally, with him the predominating power, came in the person of Abhiraja, from the country of the Sākya kings, in Northern India, but a majority, perhaps, of modern students do not agree with the Royal Chronicle, and will have it that they came from North-western China. But the probability is that that part of the world was the original home of the Tai, and that west

of them from Eastern Tibet came the Môn-Hkmer, perhaps originally displaced by a movement of the Tibeto-Burmans and of the Tai. Logan, with only a tithe of the information now available, wavered between the country enclosed by the Hwang-Ho and the Kinsha (the Upper Yangtzu) and the Himalayan home. He came to the conclusion that vocabularies showed an alliance between the Himalayan and Tibetan roots with the Indo-Chinese tongues, and he and his school, notably Forbes, were finally convinced that the Burmans came from the northern slopes of the Tian-Shan Range, extending eastward across a great part of the Tibetan Plateau to the upper valleys of the Brahmaputra and the Irrawaddy, and, perhaps, touching what is now known as China, but which assuredly at that time was very far from being what we now know as China. Mr Houghton, by dint of a study of Tibetan and Arakanese, proves that a scrutiny of their etymologies is essential to a proper comprehension of the question, and brings the Burmans from the Tibetan Plateau. The later Indian school of philologists will have none of this, and favour the Chinese *Souche*. But we have no proof that the modern Tibetans are the aborigines of Tibet. The Kapilavâstu kings, Gautama himself, was not an Indian of the present day. The Burman is blood-brother of the Buddhist races of India before the arrival of the Aryans, who expelled Buddhism from India. There were no Punjabi Mohammedans or Bengalis in the country in the time of Suddhôdana and Yasodharā and Siddârtha. The Sakyas, no doubt, were Aryan, but the bulk of the population was Dravidian. The base-born Chandragupta, who drove the Greeks from India, was not of kin to anyone in those regions now. His grandson, Asoka of Magadha, who was the Saul and the Constantine of Buddhism, sent his missionaries across and along the Himalayas to preach his religion. He naturally sent them along the line where the trend was of the population. His apostles introduced Buddhism into Tibet and Tai traditions say that they penetrated to the then headquarters of the Shans in 300 B.C., in the country south of the Kinsha Kiang.

Mr Parker, late of the Chinese Consular Service, soaked

in Chinese learning, can discover no traces in Chinese histories of the Burmans, unless the P'iao be the Pyu, one of the three tribes of the Yāzawin, and, if they were, they did not come from the east. The question is one of interest rather than of importance, but the bulk of the evidence and the circumstantial weight of the authorities seem to indicate that the belief of the Burmans themselves is correct, and that the Mahāyāzawin is right when it brings their forebears from the Mongolian countries north of Magadha.

The race traditions of the Burmese, the Môn, and the Hkmêr all represent that for some time after their arrival the deltas of the Irrawaddy, the Sittang, the Salween, and, farther east, the Mènam and the Mèkhong, were still beneath the waves of the Gulf of Martaban and the Gulf of Siam. The lower valleys of these rivers were arms of the sea, and Syriam was an island. They unite in fixing a date two or three centuries after the commencement of the Christian era as that of the retirement of the sea from the littoral and the occupation of this by the inhabitants of the foot-hills. The Burmese have a tradition that a great earthquake caused the rise of the level of the country about Prome, where Mahā Thambawa founded his capital in 483 B.C.

Arakanese.—The Mahāyāzawin gives a list of 227 kings of Arakan between 2666 B.C. and A.D. 1782, when the country was finally annexed by Burma. Without accepting either the dates or the names and the number of the kings, it is clear that the Burmese have been very long in the country, at anyrate in Northern and Western Burma. The Arakanese branched off very early, and, since they were separated from Burma proper by a tract of formidable mountainous country, had relatively very little intercourse with the main stock. They were, moreover, screened by the same range from the intrusion of other races. It may very readily, therefore, be conceded that owing to this isolation their original form of speech has been protected, and that Arakanese is the nearest to the ancient tongue of the race. It is the parent of the so-called Tavoyan and Chaungtha and Yabein dialects, and it is itself unquestionably the chief dialect of Burmese.

But it is in no sense a dialect such as Cantonese or Fukhienese are of Pekingese. In both languages the written character is used by the branches of each nation, but the divergences of the Chinese dialects and of the Burmese cannot be compared. It is possible that Mr Houghton may be found to be right in making Burmese a lineal descendant of Bhotia. As far as pronunciation is concerned, the relationship is not to be recognised, but by assigning the original value to the vowels and consonants some remarkable resemblances come to light. But it is a resemblance of the desk rather than of the platform; of the scholar's study rather than of the market-place. The people themselves have no doubts on the subject. The Arakanese are proud of their assumed superior antiquity, but consider themselves Burmans; the Burmans look upon them as uncouth talkers and accomplished liars, but do not deny the kinship. The separation of the two is a matter of sentiment, and is likely gradually to disappear.

Tavoyans.—The Tavoyans have already recognised the fact. Only five in the last census called themselves Tavoyans, though their tongue bewrayed many others.

Yaws.—The Yaws are of the same opinion, and only five of them also made their name correspond to their tongue. The popular idea in the Yaw country is that it is the hill water which they drink that is responsible for their brogue and their twists of speech.

Chaungtha.—Similarly, the Chaungtha of Akyab and the Arakan Hill tracts talk a variety of Arakanese, with reminiscences of their neighbours, or part progenitors in the Arakan Yoma. Over 1300 people, male and female, considered themselves Chaungtha.

Yabeins.—The Yabeins, on the other hand, call themselves Burmese outright, and decline to admit the name, which is connected in the popular mind with silk-weaving, a strong Arakanese accent, and a last home in hell, rather than with any idea of difference of race.

Taungyo.—The Taungyo, who live in the Myelat, the Shan States front yard, in contradistinction to these faint spirits, have no ideas of self-depreciation or false sentimentality. They recorded themselves to the number

of 10,543. The men dress like Shans, and the women have a picturesque dress, suggestive of the Karen fashions. They themselves scout the Burmese connection, though a great part of their speech sounds like burlesqued Burmese or forced archaism. They may have fled from Tavoy, or have been brought as prisoners, and paired with such daughters of the land as their parents would permit to mate with them. The Taungyo had abundant acquaintance with the Burmese, and were well known to them, but it is only since the British occupation that any connection between the two races has been suggested. The fact that the dialect of Burmese which Taungyo resembles is the old Arakanese form, suggests that their forefathers came up from Tavoy.

Intha.—The Intha, who live round the Yawnghwe Lake, have a direct tradition that their original home was in Tavoy. Their name has no more special significance than that of the Chaungtha. The latter name means Sons of the Stream, and Intha means Sons of the Lake. But they are often called Dawè, though, perhaps, more in formal lists than in conversation. Their own tradition is that they were artificers who were brought up by Prince Mani Thesu when he visited the lake district in 715 B.E. (1353 A.D.), and built pagodas and left images there, among them the famous Hpaung-daw-ú, so called because it was carried in the bows of the Prince's barge. The Intha language is undoubtedly Burmese in the main, but instead of having a Tavoyan accent the people pronounce it as a Shan would pronounce Burmese in reading it from a book without a knowledge of the language beyond the written characters. They dress as Shans, both men and women, but the latter wear black-lacquered string garters to show off the whiteness of the leg, which Shan belles do not think necessary. Neither Shans nor Burmans can understand them, unless they know both languages. In the census of 1901 they numbered 5851, and, as they are a conceited, self-assertive race, it does not seem probable that they will drop out of future census tables like the Tavoyans, Yaws, and Yabeins.

Kadu.—The Kadu have been classed with the Burmese more for convenience than because it is clear that they

belong to the Burmese group. Mr B. Houghton is persuaded that the Kadu belong to the Kachin-Naga subgroup, and that they are related to the Sak, or Thek, of Arakan. They are chiefly found in the Katha district of Upper Burma, where Shans, Burmans, and Kachins have prevailed in alternation, while parties of Chins are recorded to have made their appearance. It seem probable, therefore, that the Kadus are just as much dregs as the populations of the South American republics, and are like nothing so much as a dish-clout, which retains traces of everything it has been rubbed against. Mr Houghton gives them a respectable first home in Tibet. It has also been suggested that the first Kadu were prisoners from Arakan, brought over by Sam Lônghpa, or some other of the warrior kings of Mogaung. In 1901 the number of people owning to the name of Kadus was 16,300. It seems probable that there will be none before papers cease to be written about them in *The Indian Antiquary*.

Danu.—A similar sort of by-blow are the Danu. They live in the Myelat proper, and generally in the border country between the Shan States and Burma, and are vastly more numerous than the Kadu. They have a firm conviction that they are a separate race, and their young women are, with some of the hill Karens and the Wa, the prettiest in the tributary states, but Mr C. C. Lowis, and with him the editors of the Indian Census Report, deny that they have a separate language of their own. After cataloguing so many mere dialects this is somewhat unkind. The people are, doubtless, a mere ethnological precipitate of an irreducible character, like the inhabitants of the greater part of the South American coast, but their talk is as much a Mosaic or a Macaronic or a Yiddish as that of the Chaungtha or the Kadu.

Mru, or Mro.—Not very much information is available about the Mru, of whom 13,414 were registered in the 1901 census. For long their language was looked upon as a variety of Chin. Dr Grierson, however, has decided to treat it as a member of the Burmese group, spoken in a very archaic form. In the main the people follow the phonetic system of the Burmese, but have very essential differences. The Mru live in the Akyab district and in

the Arakan Hill tracts, and, as might be expected, have suggestions of Kuki-Chin forms of speech. They even go farther, and have reminiscences of Bodo and Nāgā.

Szi, Lashi, and Maru.—Between Burmese and Kachin there are several transition tongues, some of them mere hybrids, about which not very much is known. Of these the most typical, and the most easily disposed of, are the Szi, or Asi, who live in the hills near Mogaung; the Lashi, who are very much mixed up with them; and the Maru, who are mostly found on the Burma-China borderland. All of them, however, have thrown out settlements elsewhere. When they were first met with they were unhesitatingly called Chingpaw, or Kachins. They live in the Kachin country, they are mixed up with pure Kachin septs, and their dress, religion, and customs are those of the Chingpaw. But their language is, at least, as much Burmese as Chingpaw, if, indeed, it is not more Burmese. They are the poor relations of both groups, and form the connecting-link. The census recorded 756 Szi, 84 Lashi, and 151 Maru, but there are very many more whose numbers were not recorded. It is difficult to say which way they will incline, but the probability is that they will claim to be Kachins, whom they most resemble in feature, and in every other way except forms of speech.

Hpön.—The Hpön are a small community in the hills along the Irrawaddy near and below Sinbo. In appearance and habits they might be anything. In speech they might be either Burmese or Shan. They have long been isolated in the hills along the Upper Defile, which offered no attractions to anybody. They are a kind of lees, or scum, of the neighbourhood, and possibly were in the beginning refugees from justice or from tyranny. In the enumeration they called themselves Burmese.

The remaining communities which the census reports, pigeon-holed in the Burmese group, are so very unlike the Burmese in every way that it seems better to deal with them separately later in this chapter. They are the Maingtha, the Lihsaw, the La'hu, the Akha, and the Akö.

The Burmese.—As we have seen, the Arakanese claim that the Burmese established themselves in Northern

Burma earlier than 2666 B.C. The true Burman's opinion of the capacity of his elder brother, the Arakanese, for accurate statement is so pronouncedly low as to be almost insulting. We may, therefore, take it that there is some exaggeration. So far as external information is concerned, we have no proof that the Burmans got to the Irrawaddy Valley before about 600 B.C. It is very clear that between B.C. 500 and A.D. 500 there was a vast deal of tribal shifting, and the changes seem to have been so sudden and frequent that we can only compare the situation to the wriggling of mites in a cheese, or to the gyrations of animal life in a globule of water under a microscope.

By the ninth century A.D. the nations had consolidated themselves—the Burmans in the greater part of what is now Upper Burma; the Môn on the Lower Irrawaddy, the Sittang, and the Salween; while the Hkmêr were at the height of their power, with magnificent towns and temples in Cambodia. In the fourteenth century the Tai moved from Tali, and overran Northern Burma, forcing the Burmese down on the Môn, and occupying the delta of the Mènam, thus finally separating the two chief nations of the Môn-Hkmêr family. In the sixteenth century the Burmans and Môns may be said to have merged. They fought as vigorously as ever, and first one and then the other had the upper hand, until in the end Alaungpayah crushed the Môn, and founded Rangoon to punctuate his victory.

The P'iao.—The T'ang history of the "Southern Barbarians" gives us the first glimpse of the inhabitants of Burma under the name of the P'iao. It is possible that these were Shans, but it seems more probable that they were Burmese. The translation is Mr Parker's:

"When the King of the P'iao goes out in his palanquin he reposes on a couch of golden cord; but for long distances he rides on an elephant. He has several hundred female attendants. The circular wall of his city is built of greenish glazed tiles, and is 160 *li* [over 50 miles] in circuit. It has twelve gates, and there are pagodas at each of the four corners. The people all live inside it. Their house-tiles are of lead and zinc, and they use the wood of the *Nephelium Lichi* as timber. They dislike

taking life. They greet each other by embracing the arm with the hand. They know how to make astronomical calculations, and are devotees of Buddhism. They have a hundred monasteries, with bricks of vitreous ware, embellished with gold and silver, vermilion, gay colours, and red kino. The floor is painted and covered with gay carpets. The King's residence is in like style. The people cut their hair at eight years of age, and enter a monastery. If at the age of twenty they have not grasped the doctrine, they become lay people again. For clothes they use a cotton *sarong*, holding that, as silk cloth involves the taking of life, it ought not to be worn. On the head they wear golden-flowered hats with a blue net, or bag set with pearls. In the King's palace there are placed two bells, one of gold and one of silver; when an enemy comes they burn incense and beat the bells in order to divine their good or evil fortune There is a huge white elephant a hundred feet high, litigants burn incense and kneel before the elephant, reflecting within themselves whether they are right or wrong, after which they retire. When there is any disaster or plague the King also kneels down in front of the elephant, and blames himself.

"They have no manacles, and criminals are flogged on the back with five bamboos bound together, receiving five blows for heavy, and three for light, offences. Homicide is punished with death. The land is suitable for pulse, rice, and the millet-like grains. Sugar-cane grows as thick as a man's shin. There is no hemp or wheat. Gold and silver are used as money, the shape of which is crescent-like; it is called *T'êng-k'a-t'o*, and also *Tsuh-t'an-t'o*. They have no grease or oil, and they use wax and various scents instead for lighting. In trading with the neighbouring states of their class they use porpoise [? skin], cotton, and glass jars as barter. The women twist their hair high up on the crown of the head, and ornament it with strings of pearls; they wear a natural tinted female petticoat, and throw pieces of delicate silk over themselves. When walking they hold a fan, and the wives of exalted persons have four or five individuals at each side holding fans. Near the city there are hills of sand, and a barren

waste, which also borders on Po-sz and P'o-lo-mên, and is twenty days from the city of Si-shê-li. [The Si-shê-li of the Buddhist classics is Central India.]

"Nanchao [the Shan kingdom at Tali] used to exercise a suzerainty over it on account of its contiguity and by reason of the military strength of Nanchao. Towards the close of the eighth century A.D. the King Yung K'ang, hearing that Nanchao had become part of the T'ang Empire, had a desire to join China too, and Imousün sent an envoy, named Yang Kia-ming to Kien-nan [in Ssu-ch'uan]. The Viceroy of Si-ch'wan [this is the old form of the name], Wei Kao, begged permission to offer the Emperor some barbarian songs, and, moreover, told the P'iao State to send up some musicians. For specimens of their music see the General Annals. His Majesty *Divus* Têh made Shunando [possibly the heir-apparent] President of the Royal Mews, and sent him back. The Governor of K'ai-Chou submitted a panegyric upon the P'iao music.

"In the year 832 the Nanchao monarch kidnapped 3000 Burmans, and colonised his newly acquired eastern dominions with them."

This discription has sufficient general correspondence with the Burma of 1000 years later to warrant the belief that it describes a Burman kingdom. It may have been Shan, but it may also have been the kingdom of the Pyu, whom Kan Rajagyi subdued and organised on his way from Tagaung to Aracan. There is, no doubt, much exaggeration, just as there is much exaggeration in the tales of Fernao Mendez Pinto, of the city and court of the "King of Bramaa" at Pegu, but sufficient resemblance remains to justify us in believing the whole in a general way. The result is to strengthen the probability that the Burmans came from the country north of Magadha, and not from Eastern China. They were Buddhists, a religion which they afterwards renounced, only to recover it again from the Môn, and other allusions, such as that to their astronomical calculations, suggest India rather than China.

The atmosphere certainly is that of Burma; the gay colours, the lacquered house-posts, the white elephant, the twelve gates of the city, the pagodas at its corners,

the bells in the palace, the prominence of music—all suggest the Burma of native rule.

Written Character.—Nothing is said about literature, but nothing is more certain than that the Burmese, like the Môn, Hkmêr, and Tai, all adopted alphabets more or less closely borrowed from the old rock-cut Pali of India, and with the alphabet and the Buddhism, a very considerable number of Pali words. Notwithstanding this, all of them strictly preserved the monosyllabic form of their language and their non-Aryan grammatical constructions. Although, according to history, the Burmans obtained their religious books and their system of writing from the Môn, it seems probable that they had both, long before Anawrat'a, in the eleventh century, carried off the Buddhist scriptures and relics from Thatôn, the dwelling-place of Buddhagôsha, and the principal seat of religion.

The Name Burma.—For long the origin of the names Burma and Burmese was not doubted. The early Indian settlers gave to them the name of Brahma, and this was adopted by the people themselves. The name of Brahma is that used in Buddhist sacred books for the first inhabitants of the world. This is now written Myammā, and is pronounced Bamā. Brahama-desa is the name commonly given to Burma by Cinghalese monks. But first the late Bishop Bigandet, and Forchhammer, and after them Mr G. H. Parker, contest this, and will have it that Mran, Myan, or Myen was the original name. It is asserted that this theory is supported by the circumstance that the Kachins call the Burmese Myen and the Shans Man; but this is merely the Chinese name for the country, and all Kachins, and very many northern Shans, know Chinese, and, no doubt, adopted the Chinese name. Mr Parker makes a point of the fact that the Chinese only began to know the Burmese by the name of Mien in or about the year 1000 A.D., and did not give Burma the name by which they now know it, of Mien-tien, until 1427. But Mien is just the form that *Bram* would take in the mouth of the heavy-tongued Chinamen, and the *Ma* is simply an honorary affix. One branch of the Karens calls the Burmans Payo and another Pyaw; the Rumai call them Paran. The Karen names suggest the mysterious Pyu, or P'iao, and

the Paran may very well be Bram. The reasonable conclusion seems to be that the Burmese are right when they say that they came from the Himalayas, and that they are right about the origin of their name. The assertion that it is mere modern, "empty, bombastic pride" comes queerly from a Chinese partisan and it seems probable in any case that the original Burman had at least as good a conceit of himself as his modern descendant undoubtedly has.

National Character.—The Burmese are probably the most engaging race in the East. The Japanese are the nearest to them. But where the Burman is open and frank, and withal courteous, the Japanese carries his politeness beyond the bounds of simplicity. The Burman is genuinely inartificial and ingratiating; the Japanese is polished to a degree which gets on the nerves, and in the end lies under the suspicion of being a mere mannerist. Except the South Sea Islanders, there is no Oriental race which is so winning, and the South Sea Islanders have no backbone. Both the Japanese and the Burmese have that in addition to the charm of demeanour. Their friendliness of manner may be compared to that attitude respectively in a Scotch terrier and a bull-dog—for bull-dogs are friendly, though they do not get credit for it. Both adapt themselves to those who make advances to them, and a very great deal depends upon the character of the observer.

It may be at once admitted that the Burman is a thoroughly unbusiness-like person, and the Japanese is nothing if not business-like, even in the sweetness of his disposition. For this reason it is undeniable that the Japanese ladies are more fascinating than the Burmese. Both are frank, and unaffected, and have a charming artlessness, but the Burmese woman is far ahead of her lord in the matter of business capacity, and the Japanese woman is equally far behind. The Japanese wife is not only supposed to obey her husband, but actually does so. The Burmese wife shows her capacity by the way in which she rules the household without outwardly seeming to exercise any authority. The Japanese wife treats her husband as an idol, the Burmese as a comrade. Both have the power

of beauty without the possession of it, both have a dangerous power of witchery; but the Japanese *musume* is more piquante and winsome, the Burmese *meinkale* more prim and practical. There are not wanting people who believe that the Burmese and the Japanese in far back ages lived in the same Himalayan home.

Faults.—But though the Burman has many good points he has also many disappointing faults. He has a courtesy of manner and natural good breeding which make him conspicuous even among Orientals, but he has great pride of race and self-reliance, and these, when he is clad with a little brief authority, too often develop into arrogance. The race is probably the most light-hearted in existence, but for want of providence one can only compare them to a tribe of Sheridans and Goldsmiths. The love of laughter is born with them, and remains with them to the shadow of the lych-gate, but they are lamentably wanting in self-control, sometimes passing into wild outbursts of brutality. They have a most extraordinarily keen sense of humour, and yet they are as credulous as the marines, or Judæus Apella, and as superstitious as Louis XI. They are keen judges of character, as many a nickname given to their rulers, native and British, can testify, but they will allow themselves to be imposed upon by any glib or solemn charlatan with charms and philtres and runes. Like most Orientals, they are ingrained gamblers, and they have far more passive courage than most Europeans. In former times they were notable warriors. They levelled Ayuthia, the former capital of Siam, with the ground. They made, early in last century, raids into Eastern Bengal, and created a temporary flutter even in Calcutta. Yet now they cannot be made into soldiers, and are not in the least disconcerted by the fact. It is, therefore, too common to call them cowards. They would not meet British troops; but what company of men armed with fowling-pieces, flint and matchlocks, spears, swords, and sticks, would face battalions armed with the best rifles and supported by artillery? Those who did so would be fools, and in certain ways a Burman has much common-sense. The Boer was not called a coward because he fought at long range and habitually avoided close quarters,

Similarly, the Burman suited his fighting to his country. He laid ambuscades, fired his gun when the enemy was near enough to be hit, and then he ran off half-a-mile or a mile to get time to charge his muzzle-loader again. The Burman is a bold horseman, and shows great pluck in boat-racing, boxing, and football. Where the odds against him are too great he has the pluck to acknowledge it—not the foolhardiness to throw his life away.

Physical Appearance.—The Burmese in person have very marked Mongoloid characteristics—high cheek-bones, heavy jaws, narrowed eyes, and a nose which is too much developed in the nostrils and too little in the bridge, so that the eyeballs are almost flush with the face. The complexion is brown, but never very deeply brown, even in the agriculturists. The tint varies from that of butter in the case of well-to-do women in the towns, who are little exposed to the sun, to that of a dead oak leaf in the case of country farmers and harvest women. The hair is very black, very long, usually coarse and lank, but sometimes fine. It is quite usual for a man or woman to be able to sit on the hair, and not at all uncommon for women to be able to stand erect on it. In figure they are sturdy and well-built, with very good chest and leg development. Their height varies in different parts of the country, but may be said to average 5 feet 2 or 3 inches. The women are 2 inches or more shorter, as a rule.

Tattooing.—A peculiar characteristic of the men is the "breeches" which they have tattooed on them, from the waist to the knee. The figures tattooed are those of a variety of animals, real and heraldic—tigers, monkeys, and *bilus*. Each representation is surrounded by a roughly oval tracery of a variety of letters of the alphabet, which form a curious and singularly effective frame. Magic squares and ladder-step triangles as charms are often added in vacant places. The tattooing ink is a solution of lamp-black obtained from the smoke of sessamum oil. The arms, chest, and back are occasionally tattooed with isolated figures, but these are almost always special charms, and are always done in red. A few scattered vermilion dots between the eyes almost always imply a love-charm,

so does a quail on the jaw. Practically every Burman has some of these, though the national badge of the breeches is falling out of fashion among the town youth. Women are practically never tattooed, except with these red love-dots, and this only in rare cases, where a maiden is particularly love-sick, or is in danger of becoming a wall-flower.

Ear-boring.—While the Burman youth asserts approaching manhood by getting himself tattooed, his sister has her ears bored, usually at the age of twelve or thirteen. The signification is much the same as the letting down of the skirts and the putting up of the hair of the British girl. The ceremony is very formal, and is done at a propitious hour, according to the girl's horoscope, indicated to the professional ear-borer by the caster of nativities. All the family, and most of the relations and friends, are present in their best clothes. The ear is pierced with a golden needle, and then the hole is gradually enlarged until it is big enough to hold the ear-cylinders, about the girth of a thumb, or larger, which Burmese women wear. The boys have their ears pierced too, but the ceremony with them is much less formal, though occasionally it is made the opportunity for a *pwè*, one of the functions which the Burman loves.

Birth.—When a child is born the national custom is to apply hot bricks swathed in cloths to the mother's body for seven days, and to dose her with turmeric and other decoctions, finishing off with a rude kind of Turkish bath. This drastic treatment is giving place in the towns to Western methods, with great advantage to the women, though the purification of the tabooed mother still prevails in most country districts.

Naming.—The child is usually named a week afterwards—about fourteen days after birth. The relations and village elders assemble, and sit in a circle, and smoke for a decent interval, and then one of the elders, or a near relation, suggests a name for the infant. This has been confided to him by the parents beforehand, and is immediately accepted. The name, however, is always chosen according to a regular scheme. The consonants of the alphabet are divided into groups, which are assigned

to the days of the week. All the vowels of the language are assigned to Sunday. The accepted rule is that the child's name must begin with one of the letters of the alphabet belonging to the day on which he was born. There are thus no family names, and even if a boy were born on the same day of the week as his father, and, therefore, might have the same name, it would never enter any Burman's head to give it to him; he is, in fact, told not to do so in an old popular distich.

The proper letters for each day are:

Monday, the gutturals: K, HK, G, HG, NG.
Tuesday, the palatals: S, HS, Z, ZH, N, Y.
Wednesday, up till noon, the liquids: L, W.
Wednesday, or Yahu, noon till midnight: R Y.
Thursday, the labials: P, HP, B', HB, M.
Friday, the sibilants: TH, H.
Saturday, the dentals: T, HT, D, HD, N.
Sunday, any vowel.

Thus (premising that Maung stands for a male, and Ma for a female) a Monday's boy might be called Maung Hkin, Master Lovie.

A Tuesday's girl might be Ma San Nyun, Miss Like-which-there-is-not; and a Sunday's, Ma An, Miss Airs.

Where two names are given, as in the case of San Nyun, the first follows the birthday letters, and the second may be taken from any of the lists upward, but not downward, in the following scheme:—

Monday, gutturals.
Friday, sibilants.
Thursday, labials.
Sunday, vowels.
Saturday, dentals.
Wednesday, liquids.
Tuesday, palatals.

Thus a Sunday's child may take a second name from Thursday or Monday, but not from Saturday or Tuesday, lists. A Tuesday's child has the whole alphabet before him for a second name. One born on Monday is limited to the gutturals. Thus a Thursday girl might be called

Ma Hmwe Thin, Miss Fragrant Learning, but not Ma Hmwe At, Miss Scented Needle.

Monastic Names.—The rules are falling into slackness in use in the towns, but not with the great mass of the people, the peasant-folk. When, however, a boy enters the monastery he gives up his lay name, and takes on the *Bwè*, or honorary title, which he preserves for his life if he becomes a full monk, and only remembers as an incident, if he returns to the outer world. In the case of these novitiate names, the birthday letters are most carefully followed. Thus a Monday's novice would be Gantama, or Gunama; a Sunday's Athapa, or Adeiksa; and so for the other days of the week.

A planet presides over each day of the week:

Monday, the Moon; represented by a tiger.

Tuesday, Mars; represented by a lion.

Wednesday, before noon, Mercury; represented by an elephant with tusks.

Wednesday, after noon, Yahu, the planet of the eclipse; represented by an elephant without tusks.

Thursday, Jupiter; represented by a rat.

Friday, Venus; represented by a guinea-pig.

Saturday, Saturn; represented by a dragon.

Sunday, the Sun; represented by a Galôn, the fabulous half-bird, half-beast, which guards one of the terraces of Mount Meru, the centre of the Buddhist universe.

Birth Candles, or *Nan*.—Candles made of red or yellow wax are fashioned in the form of these birthday tokens, and are offered on their name-days by the pious at the pagodas. Venus, the Moon, Mercury, and Jupiter represent north, east, south, and west. The Sun stands for north-east, Mars for south-east, Saturn for south-west, and Yahu for north-west. The cardinal points exercise a benign influence; the diagonal rhumbs are malign. The day on which a person is born is called his *Nan*, and signboards on the Shwe Dagôn platform in Rangoon show him at what point he should light and offer his *Nan*-candle.

Horoscope.—The exact moment at which a child is born is always most carefully noted, so that a *Zadā*, or horoscope, may be drawn up. This is not usually done till the child

is five or six years old, when it is carefully recorded with a metal style on a piece of doubled-up palm leaf. When an astrologer wishes to ascertain whether a day or enterprise is likely to be lucky, he ascertains the age of his client and his name-day, and divides his age by eight. If there is no remainder the planet presiding over the day of birth gives the sign, fortunate or malign, as the case may be. If there is a remainder the hands of a watch are followed in counting round from the day of birth, and the planet to which the remainder number brings him shows whether the fates are auspicious or not. *Zadās* are always kept very carefully concealed, lest enemies should work spells from them,

Buddhist Baptism.—When a boy is eight or nine years old he goes to the village monastery. No fees are charged, and teaching is given to all alike—to the son of the native official and the fisherman's boy. Thus every Burman can read and write. When he is thirteen or fourteen nowadays, but according to old custom not before he is fifteen, the boy enters the monastery as a novice. According to Buddhist ideas, it is only thus that he attains humanity and becomes really a man. Before his novitiate he is no better than an animal. He visits all his relations and friends, dressed in his finest clothes, and followed by a band of relatives, especially by the girls. The march is meant to symbolise the novitiant's renunciation of the world, and to recall Prince Siddartha's last splendid appearance in Kapilavastu, before he abandoned his kingdom to become an ascetic and a Buddha. In the evening the party goes to the monastery. The boy has his hair cut off and his head shaved and washed. Then he prays to be admitted into the Holy Assembly as a neophyte. He is robed in the yellow garments, the begging-bowl is hung round his neck by its strap, and he falls in among the train of the mendicant, and goes with him to the monastery. Every boy must remain at least twenty-four hours in the monastery, so that he may go round the village at least once on the morning begging tour from house to house. A stay of less than three days is considered hardly decent. A week, a fortnight, a month, are common periods nowadays. The devout ex-

pect their son to stay at least one Lent—the four months of the rains. The ideal stay for one who does not intend to remain in the Sacred Order is three Lents—one for his father, one for his mother, and one for himself. The general tendency, however, among the town Burmans is to elaborate the family festival which celebrates the event and to curtail the stay in the monastery. No father would allow his son to omit the ceremony, any more than Christian children would remain unbaptised, or members of the Church of England would fail to be confirmed. It would not be respectable.

Marriage. — The Burmese marry very early, almost invariably in their teens. Marriage can be brought about in three ways according to the Laws of Menu—(1) by arrangement between the parents; (2) by arrangement between the parties themselves; (3) by the services of an *aungthwè*, or go-between.

Marriages of mutual agreement are much the most common. Marriages arranged by the parents are confined to families of position or substance. Few marriages are arranged altogether by a go-between, except in the case of excessive shyness in one party, or in alliances between aspirants in places at some distance from one another. The youth and maiden get to know one another at *près*, festivals, religious, social, or dramatic; more commonly still in the markets, where practically every girl keeps a stall when she has grown up; most commonly of all, they have known one another all their lives. But there is no courting such as prevails in the West, no walking out, no sitting on benches or in corners, with arms round waist or neck, no cuddling and kissing. The love-making is quite formal, in appearance at anyrate. It is done in the gloaming, at the hour called lads-go-courting-time. The girl dresses herself up, puts flowers in her hair and fragrant *thanakha* paste on her face and neck, sets a light near the window, and waits. The youth comes round with a friend or two, bound later on the same errand to another house. He brings oranges or sweets, or, most commonly, verses, composed by himself if possible, if not, cribbed from the latest philanderer's manual. These are romantic rather than passionate, rhapsodical rather than rapturous,

PROCESSION OF *SHIN-PYU*.

Boys about to enter a Monastery.

eulogistic rather than erotic. The lass at first confines herself to return presents of cigars and Berlin wool comforters, and to prim answers, mostly denying all pretension to good looks, with a full knowledge that her mother is listening to it all. Later, she too may break into verse, but it is naïve and sentimental and flattering rather than tender or devoted or amorous.

When this has gone on for a decorous time the lad's parents pay a formal visit to the lass's, and the marriage is arranged. The bridegroom makes the girl a present—a silken skirt, or a piece of jewellery, a relic of the purchase money—and a favourable day is arranged by a scanning of the horoscopes. Sometimes the contract breaks down then, for youths born on some days of the week may not mate with girls born on certain others, but, since every girl in the country knows the marriage rhymes, an accident of this kind rarely occurs. There is no formal ceremony: the publicity of the joining together is the binding force. Friends and relations are invited to the house of the girl. The happy pair are supposed to join hands (*let-tat*, the name for the bond), but commonly do not. They are also supposed to feed one another, in love-bird fashion, but the chewing of betel and salad tea, *let-hpet*, by the parents on both sides—the national way of ratifying any contract, legal or commercial—is the really effective rite.

If the parents are unkind, and the young people are in earnest, runaway marriages are resorted to, and are quite common. Most of the marriages are really marriages of affection, and though the parents grumble for a time they usually receive the pair back. The Burmese do not marry for money, they marry to make money.

Since marriage is so purely a civil contract, divorce is almost as simple a matter. Either party may go before the elders and claim a separation, and it is seldom refused. Each party takes away what property they brought to the alliance, and property acquired during coverture is equally divided. Since it is the women who are the great workers and money-makers their interests are thoroughly guarded. No women in the East are freer, or are more safeguarded against adventurers, or drones, than the Burmese. Poly-

gamy is not forbidden, but is not common. The rich sometimes have two establishments, particularly if they have business in different towns, but it is very rare for two wives to be under one roof. The census of 1891 showed returns of 1,306,722 husbands and 1,307,292 wives. At the same time there were in the province 5,342,033 males and 5,148,591 females—that is to say, there were a 1000 males for every 962 females. This is due to the large number of foreign immigrants, the very great bulk of whom are males. In the ten years, 1891-1900, there were registered in Lower Burma the births of 707,223 males and of 658,052 females. This is in accordance with the practically universal rule that more boys than girls are born into the world. Of the deaths registered during the same period 589,558 were those of males and 470,551 those of females. This also is in accordance with well-known physiological facts.

Country-loving.—The Burman is essentially an agriculturist, and the inhabitants of the hills, as well as the non-Burman dwellers in the plains, are the same. Consequently, we find that in the 1901 census the returns showed 6,947,945 persons as engaged in pastoral and agricultural occupations. This is 67 per cent. of the total population of the province, and these people were practically all natives of the country, as distinguished from immigrants from India, China, and elsewhere, who formed a large proportion of those engaged in other occupations. The race is undoubtedly incorrigibly lazy, and takes most kindly to the work that implies least trouble and least constant attention. The country abets him. The soil of Burma has merely to be tickled with a hoe to laugh with a harvest, and there is a superabundance of land available. For Burma as a whole, exclusive of the Shan States and the Chin Hills, the density of population per square mile is 55, as compared with 45 in 1891. Taking the province as a whole, and including the Shan States and Chin Hills, the density is 44 per square mile. This compares badly with India, where the mean density for the whole country in 1891 was 184 persons per square mile, a figure which is somewhat more than the Burma District maximum. Mr C. C. Lowis, however, points out

that the Burma density is higher than that of both Norway and Sweden, and is not far removed from that of Russia in Europe. According to the census held on 3rd December 1900, the density for Norway was 17·9 only, and at the close of 1899 that for Sweden was estimated at 29·5 per square mile. In European Russia the first general census of the population, which took place on the 9th February 1897, gave a density of 51 per square mile.

The Burman also distinctly would rather hear the lark sing than the mouse squeak. Of the total population of the province 9,500,686 persons or 90·6 per cent., were enumerated in rural areas, and 989,938, or 9·4 per cent., in urban. In 1891 the urban population of the province amounted to 946,649, or to 12·4 per cent. of the total population. A comparison with the 1891 figures, however, is hardly possible, since the Shan States and Chin Hills were practically excluded. The actual total of villages in 1901 was 60,395, and the average number of inhabitants for each village was 157·3. There were only 28,719 villages in 1891, but the area of the census operations was much greater in 1901 than ten years earlier.

Over-crowding is not altogether acute, but it is not unknown in Rangoon, where, however, the population is largely alien rather than Burmese. Rangoon has an area of 19 square miles, over which the population of 234,881 spreads at the average rate of 12,362 persons per square mile. In area, population, and density it corresponds very much with the county borough of Nottingham, where the area is 17 square miles, the population 203,877, and the density to the square mile 12,508. Portions of the business quarter in Rangoon are, however, distinctly over-crowded. One block of 468·7 acres has a population of 73,309—that is to say, a density of 99,840 to the square mile, or nearly double that of Liverpool, the most crowded town of the United Kingdom.

Density of Population.—The most populous districts in Burma are in the Delta; Henzada, with 169 to the square mile, and Hanthawaddy with 160, and these are purely agricultural. If the country be divided into four areas, according to the amount of rainfall, which in India, at any rate, greatly influences population, it will be found

that meteorological conditions in Burma do not follow this rule. This is possibly due to the thinness of the population, but it is certain that zones of humidity and rainfall do not visibly affect the distribution of the people. The sub-deltaic tract of Lower Burma lying round Prome has 90 persons to the square mile. The dry zone of Upper Burma, with its centre about Mandalay, comes next with a density of 79. Then follows the coast strip, where rainfall is heaviest, from the Malay Peninsula to the borders of Chittagong, with 55, and, last of all, comes the wet tract of Upper Burma, which only shows 15 persons to the square mile. This last division includes the hill tracts, where the Chin Hills have only 5, and Northern Arakan 4, persons to the square mile.

Increase of Population.—It is not easy to arrive at conclusions as to the increase of the population in Burma, owing to the large addition of territory in the last twenty years and the inaccuracy of enumeration in Lower Burma in 1872 and of Upper Burma in 1891. In 1872 the recorded population, naturally for Lower Burma alone, was 2,747,148. In 1901 the population of United Burma, with a great proportion of the tributary States, was 10,490,624. Between 1872 and 1881 there was an increase of population in Lower Burma amounting to 36 per cent. In the course of the decade ending in 1891 the population of Lower Burma rose to 4,658,627, or by 24½ cent., of which about 2½ per cent. was attributed to immigration and 22 per cent. to natural growth. Upper Burma was annexed in 1886, and was enumerated for the first time in 1891, when the population was returned as 2,946,933. This brought the total up to 7,605,560 for the province as now constituted, excluding the Shan States. The population in 1901 of the same area was 9,136,382, an increase of rather more than 1,500,000, or 20 per cent. The rate of growth is 21 per cent. in Lower, and 17·7 per cent. in Upper, Burma. In Upper Burma, however, five districts were very incompletely enumerated in 1891, and if these be left out of account the rate of increase there falls to 11·2 per cent.

Immigration.—The Burmese, in towns at least, seldom work as coolies, and there is, therefore, a great immigration

from Madras and Bengal of coolies, field labourers, and domestic servants. Between 1891 and 1901 Lower Burma gained 130,000 in this way and Upper Burma 22,000. On the other hand, the Burman is as little fond of leaving his country as the Frenchman, and the corresponding loss is very small.

The greatest progress in Lower Burma is found in three of the great rice-growing districts in the Delta and in North Arakan. Each of these grew by more than 40 per cent. in the course of the 1891-1901 decade. The rapid development of the deltaic districts appears even more extraordinary when compared with the results of the first census in 1872. At that time Myaungmya had only 24 inhabitants to the square mile; it has now 102. Thongwa had only 43, and now has 139. In Pegu the population is three times, and in Hanthawaddy it is two and a half times as great as it then was. This remarkable progress is, of course, due largely to immigration, mainly from other parts of Burma, for though all Burmans marry, and widows can easily find second husbands, the reproductive power of the race is hardly equal to this growth. For trustworthy details as to increase of population in Upper Burma it will be necessary to wait for the next decennial enumeration. In a country of great natural fertility, with vast areas of land available for cultivation, it will be very long before there is a class of landless labourers, and before the people cease to be prosperous.

This prosperity is not without its dangers to the Burman, in view of the great numbers of Indians and Chinamen who now settle in the country and make large fortunes. The Burman is incorrigibly lazy; he has no idea whatever of being provident; he is a spendthrift to the point of extravagance; whenever he has money in hand he spends it on a *pwè*, an elastic word which covers every sort of festival from a purely family entertainment, through a dramatic performance offered gratis to the neighbourhood, up to a religious ceremonial. The young Burman spends his earnings on boat races, pony-racing, cock-fights, and boxing matches; the middle-aged man does the same with profuse hospitality to the whole neighbourhood and half the surrounding villages, and all strangers thrown in; the

old man builds works of merit, bridges, rest-houses, monasteries, and pagodas. Nobody saves except the women, and if the Burman is to be preserved from losing his country to the industrious and copy-book-maxim-virtuous Chinaman, or native of India, it will be due to his womenkind. The daughters of Burma, for their part, are by no means unwilling to mate with the strangers; in fact, a Chinaman is rather a catch. The native of India, especially the Madrassi, is rather looked down upon as an inferior, but, nevertheless, he has no difficulty in getting himself a wife, for divorce will easily free the damsel from an unpleasant husband, and she has quite as sturdy an independence as her brother, though she has the liking for accumulating possessions. There is a very large half-breed population growing up. The boy born of a Burmese mother and a Chinese father dresses and considers himself a Chinaman, and is usually a very capable person. The half Mahommedan calls himself a Zērbaddi, and is most unpleasant, and occasionally a dangerous member of society. The half Hindu, especially the half Madrassi, is usually contemptible, and frequently useless. The Chinaman's daughters dress as Burmese, and most commonly are plump enough to please a Zulu. The Zērbaddi girls are often extremely pretty, with dangerously fine eyes, which not unseldom are responsible for much violent crime. The half Madrassi, half Bengali, half Burman females are mostly mere hussies.

It seems probable that the Burma town population will become more and more made up of these—not to the advantage of the towns. The pure Burmese is essentially pleasure-loving, but it is not the pleasures of the towns that he loves, and if he does, they usually land him in his grave or in gaol. The Burmese will, in no great time seemingly, become a purely rural population, living peacefully and contentedly on their small farms, or in little townships far from the greedy, bustling world. There are practically no rich Burmese men, but, on the other hand, there is probably no place in the world where the population is so generally well off as in rural Burma.

Dress.—It is difficult to say which sex is the more gaily dressed: the men in brilliant turbans and gorgeous

Watts & Skein]

A CHINGPAW (KACHIN) HOUSE.

THE TWANG-PENG CAPITAL.

silk waistcloths, many yards long, not unlike a kilt with a long end, which is worn either tucked in at the waist or thrown over the shoulder, and with silk or cotton white jackets; or the women, also with snowy white jackets, bright-hued neckerchiefs thrown over the shoulders, and silken skirts of endless pattern and striking contrast of colour, red or white flowers stuck in the glossy tresses or wreathed round the chignon, and jewellery in extraordinary profusion, and always of gold, for the Burmese think silver ornaments only fit for children. The skirt is nearly square, about four feet and a half wide, and a little more in depth, and is fastened by a half hitch, with the opening in front. Thus at every step the girl shows an amount of leg extending above the knee. This attracted so much attention from foreigners that practically all town girls now wear a skirt, which is sewn up like the Malay *sarong*. The skirt was always stitched up by dancing girls. A Burmese crowd on a festival day is an orgie of colour: a double handful of cut jewels on a billiard-cloth, an oil and colourman's shop blown up by dynamite, or a palette which has been used for years for no other purposes than painting sunrises and sunsets, are the only things which can give an idea of its brilliance. A detestable modern fashion has introduced kirtles, or farthingales, of velvet or velveteen, and all of one dead colour, instead of the old butterfly hues, but the Burmese coquette may soon be trusted to find out the mistake.

Dwellings.—The ordinary Burmese house is built of wood or bamboo, and is always raised on posts 8 or 9 feet apart. There is usually an open front or verandah, with steps leading up to the dwelling-rooms above. There may be a double roof in the case of a large house, with ridges parallel to one another, and a gutter which allows water often enough to fall in the middle of the house. The floors and walls are of thin planking or bamboo matting, and the roof is of thatch, split bamboo, or occasionally shingles. The whole is of the simplest and most flimsy description. In native days sumptuary laws and fear of extortion prescribed this, and the Burman is too slow-moving to alter old habits. Corrugated iron is far too frequently being used for

roofing, because it saves trouble. Houses are, however, gradually becoming more substantial, also to save trouble, because they do not need rebuilding so often.

The household furniture is even more simple. It is the national custom to sit, eat, and sleep on the floor, so that chairs, tables, and beds are not needed. Lamps are also unnecessary where the farmer goes to bed soon after dark and gets up with the sun. All these household articles are coming into use among township people, but the villages still mostly do without them. Each house has its little plot of land at the back of the house roughly fenced in with split bamboo. In this a few fruit-trees, flowering shrubs, and vegetables are planted.

The village streets usually have mango, jack-fruit, cocoa, and toddy palms, tamarind, and such-like trees planted along the roadway, and are often very picturesque. Shade-giving trees, like pipul or banyan and padauks, usually grow outside, often over rest-houses, or platforms, where travellers may rest or the village elders may discuss local affairs.

Food.—Food is of the simplest possible kind, and consists mainly of boiled rice, with a few condiments, chief among which is *ngapi*, a most evil-smelling fish paste, made in a variety of ways, but chiefly by burying the gutted fish in the sea-sand for a longer or shorter time. Meat is occasionally eaten, but not often. Nothing is drunk with the meals, and after the meal only water. There are only two meals—the morning and the evening meal.

Death.—When a Burman dies there are always loud lamentations, and as soon as possible a band is hired, which continues to play until the funeral. Immediately after death the corpse is swathed in white cotton cloth and dressed in its finest clothes. The thumbs and great toes are tied together with the hair of a son or daughter, or, where there are none, with twisted white cotton. A Charon's fee, called *Kado-Ka*—ferry money—is put in the mouth, and the body is prepared for the coffin by professionals called *Sandala*. The coffin is of light wood, usually *let-pan*, and is placed under a bier or spire of many tiers, decorated with tinsel and gay-coloured paper. A monk is commonly summoned to stay in the house to recite

homilies on the theme—*Aneiksa, Dokkha, Anatta*: Evanescence, Woe, Nullity. The object both of these exercises and of the band is to keep away evil spirits. The funeral comes earlier or later, according to the poorness or richness of the family and the number of relations. The cemetery is always to the west of the village. Monks and professional mourners and a funeral band take their place in the procession. The grave has been dug by the outcast *Sandala*, and the coffin is swung backward and forward over it three times before being lowered. The nearest relations then throw in some handfuls of earth, and the grave is filled in by the *Sandala*. Strangers often join in the procession from motives of piety, and all are supplied with refreshments and cigars by the women who accompany the party. The oldest male relative present calls upon the *Leipbya*—the "butterfly," or spirit of the deceased—to come away, and the spirit is supposed to be caught in a dexterously closed silk handkerchief. This is kept in the house for seven days, and is then opened. It is supposed that after that time the deceased will not return to the graveyard and become an evil spirit. On this seventh day, and in some cases for the whole seven days, a feast is given to the funeral guests as a measure of purification.

Cremation used to be the regular way of disposing of the dead, and is still the more common in some parts of the country, particularly with the well-to-do. Such portions of the bones as are not consumed are collected, washed carefully in cocoa-nut milk or scented water, wrapped up in white cotton, and placed in a jar. This is taken to the house where the death occurred, and on the seventh day after the feast of purification is carried away, and buried, not uncommonly near a pagoda. Most graves have nothing to distinguish them after the bier or spire has disappeared, but some have a post or a brickwork pillar raised over them. Pagodas may only be built over the graves of monks or of persons of royal blood.

The Chingpaw or Kachin Group

Following the Burmese in the Tibeto-Burman sub-family comes the Chingpaw group. Chingpaw is the name which

they give themselves, and Singpho is simply the Assamese form of it. It means a "man." We have taken the name Kachin from the Burmese. They inhabit the great tract of country to the north, north-east, and north-west of Burma, the headwaters of the Chindwin and Irrawaddy Rivers, and extend as far west as the borders of Assam. During the last half-century they have been constantly pressing southward, and have spread a long way into the Northern Shan States, and into the Burma districts of Bhamo and Katha, and isolated villages have penetrated much farther. The movement still continues, but is to a certain extent controlled. Only 67,340 Kachins were returned in the census lists of 1901, but at least twice this number should be added for the tribes living beyond the administrative border and in the "estimated" tracts.

The Kachins who have entered Assam, and are there known as Singpho, appear to have settled about a century ago, and their language shows that they came from the Burmese side.

Origin of the Chingpaw.—We have much to learn yet about the Chingpaw, but the theory which at present finds most favour is that before the beginnings of history they pushed into the country where China, Burma, Tibet, and India meet. They seem to have come after the Môn-Hkmêrs migrated, and it is not at all impossible that they accelerated, or perhaps even caused, that movement. Those who would bring the Burmese from Western China incline to the belief that the Chingpaw are the rearguard of the Indo-Chinese race, of which the van was formed by the Tibetans, the Burmans, the Nāgās, and the Kuki-Chins. These went on west and south, and the Chingpaw remained for years in the labyrinth of mountains which is still their headquarters. During the last half-century they have advanced their boundaries 200 miles, and isolated parties have gone much farther, as has been noted above.

It seems more probable, or at anyrate possible, in view of the physiological differences between the two races, that the Chingpaw were not so much a rearguard as a simultaneously moving horde, coming from the east and north, while the other Tibeto-Burmans came from the west. They clashed together, the others were diverted

CHINGPAW (KACHIN) MAIDENS.

GROUP OF LIHSAW.

south, and the Chingpaw spread over all the hills at the headwaters of the Irrawaddy and Chindwin. There has been a constant tendency to disintegration among the Chingpaw, just as there has been among the Tai, and, indeed, among all hill races where the abrupt divisions into hills and valleys favour isolation and the development of differences of dialect. Migration was caused as much by over-population as by the wasteful character of the hill cultivation. Moreover, it was favoured by the custom whereby the youngest son succeeded his father; while the elder brothers set out, with such following as they could muster, to found new settlements, near or far. The Kentish custom of Borough English was, no doubt, a reminiscence of a similar rule among the Anglian tribes.

The Chingpaw divide themselves into the Khakhu and the Chingpaw, but this seems to be a geographical term rather than a racial. Khakhu simply means "head of the river," and all Kachins claim to have come from the river-source at one time or another. The division, therefore, seems more fanciful than real. The Khakhu are the river-cradle people, the Chingpaw are the southerners. Another national division is that into the Kamsas and the Kumlaos. The Kamsa Kachins are those who have a *duwa*, a chief or ruler. The Kumlao have no chief, and sometimes only an occasionally summoned village council. Such republican or democratic communities are no longer permitted within the Burma administrative boundary, which runs east and west from the confluence of the two branches of the Irrawaddy. The original meaning of Kumlao was rebel, and this suggests what may have been the origin of the mixed communities which go by this name.

Kachin tradition declares that the race sprang from one Shippawn Ayawng, who was a spirit-child. It was only in the time of his grandson, Wākyetwā, that the Chingpaw man became mortal. From Wākyetwā are descended the five parent tribes—the Marips, Latawngs, Lepais, 'Nhkums, and Marans. From these parent tribes a vast number of clans are descended. These clans probably have the same origin as those of Scotland and Ireland—that is to say, they were probably the descendants of a common progenitor, and possibly his followers. The Kachin clans,

however, have not the common name characteristic of the Celtic clans. The Chingpaw dialects, as always in a hill country, are very numerous, and are firmly believed in by their speakers. Dr Grierson, with no fears of a blood-feud, or a "debt," before him, summarily divides the dialects into three classes: the Northern, the Kaori, and the Southern Kachin. The language he considers to occupy an independent position. It comes close to the Tibetan in phonology; on the other hand, it is closely related to the Nāgā and Kuki-Chin languages, and to Burmese. Without being a transition language, it forms a connecting-link between Tibetan on the one hand, and Nāgā, Meithei (the language of Manipur), and Burmese.

Szi, Lashi, and Maru.—The Szi, Lashi, and Maru have been referred to above as belonging to the Burman group. All their neighbours call them Kachins, of an inferior type certainly, but still Chingpaw. The Maru deny the relationship, and they eat dogs like the Nāgā and the Annamese and the Akha. Still, they intermarry, live mixed with the other Chingpaw clans, and have a similar religion and similar ways. They may have relations with the Liutzu and Kiutzu and the Lissus of Chinese territory, but we do not know enough of these to say how far this is the case. Their dialects certainly are nearest to Burmese.

Maingtha. — Similar waifs are the Maingtha. The Chingpaw claim them as cousins, but they are hard-working, steady people, and no one has flattered the Chingpaw with these qualities. The Shans call them Mönghsa, and believe them to be Shans, the inhabitants of the two Shan-Chinese States of Hohsa and Lahsa. They are also called Tarengs, or Turongs, which is, perhaps, a perversion of the Shan Tai-lông, the Great Shans. Their language is about a third Shan, a tenth or more Burmese, with Chingpaw as a large portion of the remainder, not unmingled with Chinese. In dress, and to a certain extent in features, they are most like Shan-Chinese. The patchwork of their speech is, no doubt, caused by their habits. Every year they wander far and wide, doing smith-work, stone-cutting, road-making, and ditching—at all of which crafts they are expert.

LAHU (MUHSÖ) WOMAN.

GROUP OF TINGPAN YAO.

When the hot weather approaches they make their way home to their hills. On these gipsy wanderings they pick up the medley of tongues, and weld them into an amalgam. It seems more reasonable that they should be called dragoman Shans rather than Burmese, and that their speech should be called navvy's patter rather than a definite language. A literary Maingtha might make a language of it, just as English takes words from everywhere, even from cracksmen and destitute aliens. The Maingtha's dress proclaims him a Shan-Chinese; his industry suggests the Chinaman; and his features suggest intermarriage with the Chingpaw. He will probably come to be called a worthy mongrel. In the 1901 census 749 Maingthas were recorded, while in 1891 there were 1293. In the area not included in the census there is a vastly greater number. In Ho-hsa and La-hsa, where they have come more under observation than the purer blooded farther north, they call themselves A-ch'ang or Nga-ch'ang.

The Li-hsaw, or **Yao Yen**.—The Li-hsaws are a similar puzzle. It seems certain that they have no connection with the Yao tribes, the Ting-pan, Lanten, and others, who live beyond the Mèhkong. We are told that Yawyin is the Chingpaw name for them, and that they are called Li-hsaw by the Chinese, and accept that name themselves. Their language has considerable resemblances with La'hu or Mu-hsö, but none whatever with Chingpaw. In person and features they most resemble the Chinese of Yünnan, and most of the men talk Chinese fluently. They are opium cultivators, always live at very high altitudes, and have very small villages. They also celebrate the Chinese New Year, and most of the men wear the queue. It seems reasonable to suppose that they have some connection with the Lissus, or Lesus, of the region of the great rivers descending from Tibet into Yünnan and Burma, who, it may be said with some confidence, are related to the Musus. There were 1605 Li-hsaws recorded in the 1901 census, while at the same time the number of La'hu, or Mu-hsö, was 16,732. It cannot be doubted that there are very many more of both, any more than it can be doubted that the Li-hsaw and the La'hu are related.

The La'hu or Mu-hsö.—The La'hu have a tradition that their ancestors came from near the Irrawaddy River. This may account for the suggestion of Burmese about the language. Probably they came from somewhere on the Tibet borders. There is very little in their appearance, manners, or ways that suggests connection with the Burmese nowadays, and they are yearly pushing farther and farther south into the Siamese Shan States, even beyond Chiengmai. They seem to have had a sort of confederation of their own, independent of their Burmese and Shan neighbours, until comparatively recent times. The Burmese overran the country of the Thirty-six *Fu*, or chiefs, and placed them nominally under Möng Lem authority. Kēngtūng and Kēnghūng also attacked them, but with no great success. These appear to be the wars referred to in Shan history as the wars with Möng Kwi, and in Burmese history as the fights with the Gwè Shans. The Kwi of modern times claim to be distinct from the La'hu, but are certainly only a tribe. The La'hu power, however, remained distinct, though shaken, until the time of Tsen Yü-ying, the "Miaotzŭ" Viceroy of Yünnan. Their subjugation was begun as recently as 1887, and was only accomplished after much fighting, in which the Chinese met with very moderate success until they brought Krupp guns to their aid. Since then the wandering of the La'hu has begun, and every year more and more come into British territory. There is still, apparently, one of the *Fu* remaining, the *Ta Fuyè* of Möng Hka, on Nawng-hkeo Hill, in the Wa country.

The Musus of the north are said to have formerly lived in a kingdom, the capital of which was Li-kiang-fu, north of Tali, which the Tibetans and the hill people generally call Sadam, and their king was known to the Chinese as Mu-tien Wang. The modern Musus, or Mossos, have a king at Yetche, near the Mèkhong, a little south of Tseku, about the twenty-eighth parallel. Terrien de Lacouperie thought that the Musus were of the same Tibeto-Burman group as the Jungs, or Njungs, who appeared on the frontiers of China six centuries before Christ, coming from the north-east of Tibet. Chinese historians mention the Musus in 796 A.D. as having been subdued by the King of

GROUP OF MÉNG (MIAOTZŬ), KĒNGTŪNG.

MÈNG OR MIAO-TZŬ.

Nan-chao. They are probably of the same origin as the Lolo. This is a Chinese nickname, just as Musu is. The Lolo call themselves Ngo-su, while the Musu call themselves Na-chi, or Na-chri. None of the La'hu met with in British territory know of this name Na-chi, or Nashi as it is pronounced on the Tibetan border, but it seems probable that they are simply the vanguard of the Musu. The Chinese name for the La'hu is Loh-êrh, a contemptuous phrase, which means, Lo, or La—"niggers."

The La'hu in British territory give two main divisions of the race, called variously Red and Black, or Great and Yellow, La'hu. The farther south call themselves Red or Black, and those nearer China Great or Yellow, La'hu-na, and La'hu-hsi or La'hu-chi. The Kwi clan are La'hu-hsi, and can understand the La'hu-na, or La'hu-lam, but the two dialects differ considerably.

The only settlement of any considerable number of La'hu in British territory is in the hills on the borders of Möng Hsat and Möng Fang (Siamese), in the Trans-Salween Southern Shan States, but villages are found scattered all over Kēngtūng and over the Trans-Salween Northern Shan States.

The La'hu have much more of a nose than most of the Tibeto-Burmans, and have straight-set eyes. The men shave the head like the Chinese, and either wear it twisted into a queue of very moderate dimensions or bind it up on their head in the folds of their turban. This, like the rest of their clothes, is dyed with indigo, and they form a very sombre crowd. The coat and trousers are of Chinese cut, and they have a general air of being Chinamen in reduced circumstances. The women wear a long coat of similar material, reaching nearly to the ankles, and slit up at the sides to the hips. It is not unlike a dressing-gown, or an Annamese *congai's* coat, except for the slits. This robe is fastened at the throat and over the bosom by a large silver boss or clasp. Below the bosom it falls away, and exposes a triangular portion of the person before the trousers begin. Bead patterns and embroidery adorn the upper part, or, in the case of the Red La'hu, red and white stripes, arranged like the frogs on a tunic. The turban is high, something like a silk hat or a Parsi's head-

gear. The women wear large silver neck-rings, or torques, if they can afford them; otherwise they have cane necklets. Both men and women wear very large ear-rings, often 5 inches or so across, so that they nearly reach the shoulders. They are shaped like a mark of interrogation upside down. The women are much more fully clad than the Lissus, whose clothing, according to the weather and other circumstances, varies from the atmosphere up to two garments, an apron, and an armless waistcoat.

Some La'hu have guns, but the national arm, like that of the Li-hsaw, is the crossbow. These are very powerful weapons, and can kill at 100 yards. The quarels are are both poisoned and unpoisoned. Aconite is the ordinary poison used. The La'hu kill tigers, leopards, and bears with them. Another characteristic of the race is the *Ken*, a musical instrument, which consists of a dried gourd with a number of bamboo pipes of various lengths plastered into it with beeswax. This is practically the same instrument as the reed organ of the Lao States, though very much smaller. It also differs in having several holes in the sounding-chamber. There are never more than four or five reeds, besides the mouthpiece, so that the compass is very much smaller than that of the Luang Prabang *Ken*, which sometimes has as many as fourteen, besides ranging in size from 3½ feet to 10 feet, and even more. The La'hu pipes vary from 1 foot to 2½ feet in length, and the sound is something between that of a flute and the bagpipes. They are played by the men on their way to and from the markets, and they seem to march in time to them, as the Luang Prabang Shans certainly do; otherwise they appear to be exclusively used in their dances. These are carried on in a circle. The performers are all close together, and face inward, sometimes gyrating and sometimes not. There is a good deal of posturing on one leg, and stamping on the ground like a buck-rabbit, and the general idea conveyed is that of the Highland fling being danced by a man in the last stage of physical exhaustion. The *Ken*-players seem to be ordinarily the best dancers, and are certainly the most enthusiastic.

The Southern La'hu seem to have been broken by their

privations and wanderings. They are puny in stature, and have the name of being timid, if not cowardly. The northerners, though they are not tall, are muscular, and they maintained themselves with credit against the Chinese.

The Southern La'hu also appear to have reverted to Animistic religion. The original faith apparently was Buddhistic, and the chiefs would seem to have been spiritual as well as temporal kings. In the times of the La'hu kingdom there were thirty-six *Fu*, with *Ta-fu-yè*, or great Buddhas, over them. There were also thirty-six *Fu-fang*, sacred (Buddhistic) houses, each of which had a service of ten *fuyè*, priests or monks. The only *Ta-fu-yè* known to exist, or at anyrate who has been met with, is the Chief of Möng Hka, near Nawng Hkeo, and he is, if not himself the actual object of worship, at anyrate chief ministrant in the *Waw-lông*, or New Year's festivities. His house is the last in a series of squares, arranged in a line, and marked out with loose stone walls. These squares are absolutely empty, except the second, which has in the centre a rudely squared cubical altar or block of stone. Similar squares are on most of the knolls round the village, and each is visited by a procession at the *Waw-lông* season, firing guns and beating gongs. Lighted candles and burning joss-sticks are deposited before them. The main *Fu-fang*, or religious house, at Möng Hka is approached from the north, through a series of courts, outlined by low, loose stone walls. These squares are absolutely empty, like the entrance courts leading up to a Confucian temple, except for here and there a few white umbrellas and long poles, with pennants or streamers such as are familiar on the Burmese *Tagôndaing*, or prayer-posts. The shrine itself, in the farthest court, consists of no more than a couple of rude sheds, long and barrack-like. The entrance to each is on the middle of the northern side, and within there is nothing but a line of tables, or altars, with erections on them like troughs raised on end, and inscribed with Chinese characters. There is no suggestion of an image of any kind. Offerings of fruit, food, and flowers are placed on the tables; candles and joss-sticks burn outside the shed and at the foot of

the pillars; but there is no priest or monk in direct charge, and there appear to be no regular services, or days of worship, unless, perhaps, the full moon and the last of the waning.

The Musus have a form of ideographic writing. It does not appear, however, to be very highly developed, and the compositions seem to be very limited, mostly prayers, or religious homilies. Each page is divided into little squares, and these are filled from left to right with the word pictures. So far none of these manuscripts have been found in British territory.

It seems as if the La'hu got their religion from Tibet, whether they themselves came from there or not, but much has to be learned about them. Their connection with the Tibeto-Burman sub-family, however, seems undoubted, and rather with the Burman group than with the Chingpaw.

The Akha or **Kaw.**—The Akha are the most numerous and widely distributed of the hill tribes of Kēngtūng. They are not found west of the Salween. In the census of 1901 they numbered 21,175, and the Akhö were recorded as 1162, but there are probably more of both. Dr Grierson places them provisionally in the Burmese group, but it seems likely that when more is known of them this view will be revised.

They are a bigger race of men than most of their neighbours, and swarthier. They have coarse, heavy features, quite distinct from both the Shan and the Burmese type. The bridges of their noses are higher than those of the Mongoloid type, and their eyes are round rather than narrow. Their most characteristic feature, however, is the pointed, projecting jaw, which suggests the Oceanic type. They have a vague general resemblance to the people of Annam and Tongking, but physically they are very superior to that somewhat effeminate race. They have an appearance of stolidity almost amounting to stupidity, and the heaviness of their ways is the more marked from the alertness of most of their neighbours. Like the Wa and the Maru and the Annamese, they eat dogs. Apparently, however, they and the Maru will eat any kind of dog, and are not particular

AKHA (KAW) MEN.

AKHA (KAW) WOMEN.

about fattening them for the table. The Wa eat a particular kind of dog that looks like a dwarf pariah. The Chinaman will only eat the chow-dog that has a black palate, no matter what the colour of his coat may be. The Annamese will only eat black dogs which have a black palate.

The men's dress is practically that of the Shan or the Chinaman: coats and trousers dark blue or black, turbans black, dark blue, or occasionally red—the only relief to the general sombreness. Some of the wealthier men, however, appear in elaborately braided coats on market-days, and with a considerable quantity of silver ornaments—coat buckles, buttons, necklaces, and ear-rings. The younger men, too, in some places have red tassels in their turbans and a rim of silver bosses at the top edge.

The dress of the women is much more distinctive, and varies according to the different clans. As a general thing, it consists of a short coat which stops a long way short of the next garment—a sort of kilt rather than a petticoat, which reaches from the waist to a point somewhat above the knee, and has a singular aptitude for getting unhitched. The head-dress varies with the clans, and with most is rather striking. The simplest form is that of two circlets of bamboo—one going round the top of the head horizontally and the other fastened to it at an acute angle, so as to go round the back of the head. These are covered with dark blue cotton stuff, and are ornamented with studs and bosses and spangles of silver, arranged sometimes in lines, sometimes in a pattern. An elaboration of this, with broader bands, and more of them, rises to the height of a mitre, and is studded with spangles and seeds, and hung with festoons of seeds and shells, tiny, dried gourds, and occasionally coins. Still another form is a tall, conical cap, like a witch's or Plantagenet hat, also decked with beads and the white seeds of shrubs. The unmarried girls wear skull caps, or coifs, of blue cloth, similarly ornamented, and coming low down over the brows like a Newgate fringe. Ropes of white seed necklaces are worn, and the calves of the legs are covered with cloth leggings, as a protection against leeches rather than as a covering, or an adornment, which they certainly are not.

All the women let the hair fall over the brows, some of them part it in the middle, and at least one clan wears it coiled in heavy loops over the ears, in owl-in-the-ivy-bush fashion.

The race is said to be divided into seven main branches, and there are many subdivisions into clans, but these are delusive, and the differences of dialect should not puzzle the intelligent any more than they do in the similar clan divisions of the La'hu. The houses are built of bamboo or timber, a little off the ground, and pigs and buffaloes live below. Villages are always built at some distance from main roads. Granaries are never built in the villages, but always at some distance from them. There is less danger from thieves than from fire.

The chief crops cultivated are cotton and opium. The cotton is sold to the Chinese, and so is the opium. Though the Akha grows the poppy he very seldom smokes opium, unlike the La'hu and the Li-hsaw, both of whom smoke steadily, but never to excess.

At every Akha village there are large gateways, much larger than the two posts and a cross-bar which are seen outside La'hu villages. There are usually two, and the top is often adorned with whorls and devices like the rising sun. Sometimes the rude figures of a man and a woman are carved on either side. These gates are called *Lakawng*, and are said to be intended to show the village limits to the spirits, who, if properly propitiated, will not trespass inside them. In most villages of any size also there is a *Lasho*. This is a kind of arch formed by three or four long bamboos or poles, joined together at the top. From this is suspended a piece of wood fashioned like the yoke, or collar, worn by men and women when they carry heavy loads up the hills. Sometimes also a rude trough is suspended; and this seems to be always the case at the festival in August or September, when a sacrifice is made to the spirits to pray for good harvests. This festival has not yet been reported on.

The religion of the Akha seems to be a form of ancestor-worship, or rather the propitiation of their ancestors, whom they regard as malignant influences. The spirits are called *Miksa*, or *Mihsa*, and the west door of the house is

reserved for them. No male and no stranger may enter by this door. Women may, but with reverence, and not as a regular practice. In the houses of the Akhö there are two hearths, one of which is reserved for the exclusive use of the ancestors in case they should come from the region of the setting sun, where they are supposed to live.

The Akhö are much smaller than the Akha, but these seem to be undoubtedly of the same race. They are said to have only one wife, while the Akha may have as many as they choose or can support.

The dead are buried in a log of a tree hollowed out. A burial service is chanted by the village seer, and buffaloes are slaughtered, and a revel follows. The hill liquors are very strong. The body is buried without any ceremonial, and nothing is erected to mark the grave, which is always on a lonely hillside.

Akha girls marry freely with strangers, and purchase from the parents is all the courtship necessary.

The Kuki-Chin Group

The Kuki-Chin group of tribes practically inhabit one range of hills. Their country, therefore, is extraordinarily long in comparison with its breadth. It covers 10° of latitude, and probably nowhere one of longitude. From Cape Negrais it extends as far as the Naga Hills, Cachar, and East Sylbet, and from east to west it is hemmed in by the Myittha River and the line where the Arakan Yomas slope down to the sea. The strip is composed of hills and mountain ridges separated by deep valleys. The Siyins have a fable which accounts for the character of the country and the multitude of dialects, and, incidentally, recalls the Tower of Babel. It is from the notes of Mr Bateman, Assistant Superintendent, Tiddim.

Many centuries ago all the Chins lived in one large village, somewhere south of Haka. They all spoke the same language, and had the same customs. One day, at a big council, it was decided that the moon should be captured, and made to shine permanently. By this means

a great deal of unnecessary expense and bother would be saved in lighting. In consequence, the construction of a tower was begun, which was to reach to the moon. After years of labour the tower got so high that it meant days of hard marching for the people working on the top to come down to the village to get provisions. It was, therefore, decided that, as stage upon stage was built, it should be inhabited, and that food and other necessaries should be passed up from below from stage to stage. Thus the people of the different stages had very little intercourse, and gradually acquired different manners, languages, and customs. At last, when the structure was all but finished, the *nat* in the moon fell into a rage at the audacity of the Chins, and raised a fearful storm, which brought down the tower. It fell from south to north. The people inhabiting the different stages were consequently strewn over the land, and built villages where they fell. Hence the different clans and tribes varying in language and customs. The stones and building materials which formed the huge tower now form the Chin Hills.

It appears, therefore, that the people recognise the relationship of the different tribes, which is by no means usual with the hillmen. The names Kuki and Chin are not national, and have been given to them by their neighbours. Kuki is an Assamese or Bengali name given by them to all the hill tribes in their neighbourhood. Chin is the Burmese name given to all the people in the country between Burma and Assam. Its origin has not been determined. The Chins call themselves Zho, or Shu, Yo, or Lai. One suggestion is that Chin is a corruption of the Chinese *jên*, the word for man, but this savours rather of the Diversions of Purley. Sir Arthur Phayre was of opinion that Chin was a corruption, through Arakanese, of *Klang*, the word for a man, and this seems eminently probable.

The name Kuki-Chin at anyrate is a purely conventional one. The tribal languages fall into two main sub-groups—the Meithei, the language of Manipur, the Kathè of the Burmese, and the Chin. Meithei is the language of the original settlers in Manipur, and still remains the official tongue, though the people have been converted to Hinduism, and have adopted many Hindu

ways. The Chin sub-group, according to the linguistic survey of India, contains over thirty distinct languages, and eighteen of these are spoken in Burmese territory. They are divided geographically as follows:—

The *Northern Chins*, who live in the hills more or less parallel to the Chindwin River, as far south as its confluence with the Irrawaddy:

Thado	Sokte	Siyin

The *Central Chins*, who occupy the Northern Arakan Hill tracts and the Pakôkku Chin Hills:

Tashōn	Lai	Shonshe

The *Southern Chins*, the much more broken up and less formidable tribes who extend towards the Irrawaddy Delta and the south of Arakan:

Chinmē	Yawdwin	Ann
Chinbōn	Yindo, or Shendu	Sak, or Thet
Chinbōk	Taungtha	Yoma Chin
Wèlaung	Khāmi	

To these may be added the old Kuki race, the Kyaw, who live far to the south, on the banks of the Kuladaing, and are the descendants of some old Kuki slaves, who were offered to a local pagoda by a pious queen of Arakan some three centuries ago, and came originally from Lushai-land.

The theory about the Chins most favoured is that they are an offshoot from the original Burman invaders, who left the main horde in the extreme north of the province, marched down the Chindwin, and climbed the hills west of the river, and then spread westward into the Lushai country, and southward over the Arakan Yomas. They left before any great change had come over the ancient form of speech, and Mr Taw Sein Ko is of opinion that some of the Chin customs, in regard to slavery, inheritance, marriage, and the like, give a probable picture of the pre-Buddhistic Burman usages. The Chins, therefore, of all the non-Burman races in the province, have the closest ethnical connection with the Burmese.

The administrative tract, known as the Chin Hills, and

under the charge of a political officer, generally corresponds with the country of the Northern Chins. More is known about them than about the other members of the group. Like the Chingpaw, the Chins are divided into tribes, and these are subdivided into clans. The chief tribes are the Haka, Tashôn, Siyin, Sôktè, Thado, Tlangtlang, Yokwa, Yo, Nwitè, and Vaipè. Some of the most conspicuous clans are the Hanhow of the Sôktè tribe, the Yahow and Whenoh of the Tashôns, and the Thetta of the Yokwas. The great bulk of the Thados were attacked and expelled by the Sôktè in the middle of last century, and now live in the southern hills of Manipur. The Sôktè are the most northerly tribe in Burma territory, and east of them, round Fort White, live the Siyins. The Nwité, Vaipé, and Yo Chins have now almost entirely recrossed the northern border into Manipur or Cachar, and the Hanhows have occupied their hills, and are themselves steadily pushing northward.

The Tashôn tribe is by a good deal the most numerous, and next to them come the Hakas, also called the Lai, or Baungshe. Baungshe is merely a Burmese nickname, referring to the way in which the men tie their hair in a knot over the forehead. The Tashôns call themselves Shunklas, and their territory is the most thickly populated. Lai is said to be likely to become the *lingua franca* of the Chin Hills. They occupy the centre of the country, and many of the surrounding dialects closely resemble the Lai form of Chin. The different tribes were counted together in the census, and the general head of "Chin" made up a total of 175,037 persons in 1901, including both the Northern and Central Chins under this title. The Siyins are the Tantes and Tauktes of the Manipur records, and they and the Sôktè were the chief slave hunters until quite recent times. It appears from a consideration of the Chin Laws, as collected and codified by Maung Tet Pyo, that the race was at one time more united, and certainly much more civilised, than we found it. The thirty-six clans, or *Zo*, of which we are told, and of which the names have been preserved, do not now exist any longer.

The headquarters of the political officer in charge of the

Chin Hills are at Falam, whence the Tashôns and their tributaries are administered. The Siyins and Soktès are controlled from Tiddim; the Hakas, Tlantlangs, Yôkwas, and the southern villages from Haka.

The Southern Chins are not very well known as yet. They are sometimes called the Tame, as distinguished from the Wild, or Northern, Chins. The Chinmes live about the sources of the eastern Môn River. It seems doubtful whether their dialect has more of a right to a separate name than the patois of other surrounding clans. Their speech, however, is said to be a connecting-link between the Lais and the Chinbôks. The Welaung Chins live at the headwaters of the Myittha River, and are bounded on the north by the Lais, and on the south by the Chinbôks. The Chinbôks live in the hills from the Maw River down to the Sawchaung. They are bounded on the north by the Lais and the Wèlaungs, on the east by the Burmans, on the west by the tribes of the Arakan Yomas, and on the south by the Yindu Chins. The Yindus are found in the valleys of the Salinchaung and the northern end of the Môn Valley. The Chinbôns live about the southern end of the Mônchaung, and stretch across the Arakan Yomas into the valley of the Pichaung. They claim to be of Burmese origin. The Khāmis, or, as the Burmese nickname them, the Hkwemis—"the dogs' tails"—are found along the River Kuladaing, in Arakan, and stretch into the Chittagong Hill tracts They used to live in the Chin Hills, and only came to their present villages in the middle of the nineteenth century. Near the Chinbôns are the Taungthas, who profess to trace themselves from immigrants from the Myingyan district. There were 4578 persons returned as speaking Taungtha in the 1901 census. They lived in the Pakôkku district. The majority of the other clans lived in an "estimated" area, and no figures are available. Khāmi was the main dialect of the Arakan Hill tracts proper, and was spoken by 24,389 people in 1901. The Anu were returned at 775, and there were 37 males and 30 female Sak, or Thet, in the Akyab district, and 232 of them altogether in the province. It seems very probable that proper study of these races will result in their

disappearance from our lists. The Daingnets are found to speak nothing more than a corrupt form of Bengali, and are not probably allied to the Chins at all. The dialects spoken on the eastern and western slopes of the Arakan Yomas seem to differ very inconsiderably, seeing how little communication there has been between the settlements. All the tribes seem to have had no other system of government than that of village communities. Each village had a headman, and the title seems to have been hereditary. Like the Chins of the Chin Hills, these Southern Chins made regularly organised slave hunts. Their women had their faces tattooed, a custom which seems never to have prevailed in the north. The Chinbôk women covered the face with nicks, lines, and dots of a uniform design. The Yindus tattooed horizontal lines across the face, showing glimpses of the skin. The Chinbôn women, who were the fairest skinned naturally, tattooed the face a uniform dead black. The Northerners used to be head hunters. As in the case of the Wa, the skulls were not brought inside the village, but were mounted on posts outside.

The Siamese-Chinese Sub-Family

The name Siamese-Chinese is from some points of view as unsatisfactory as that of Tibeto-Burman. The groups found in Burma are the Tai, or Shan, and the Karen. The Karen language is admitted to be pre-Chinese, and it is classed in this family merely as a provisional measure. The Tai race is equally pre-Chinese, so far as their earliest known seats are concerned, but there are much stronger traces of Chinese speech in Tai than there are in Karen. The Tai have various forms of written character which are in all cases derived from the old rock-cut Pali of India, but the Siamese, the Lao, and the Lü got it through the Môn-Hkmêr, while the British and Chinese Shans got it through the Burmese. The Karens had no written character till Christian missionaries made one for them. The Tai spoken language has been greatly influenced by Chinese; the Karen, so far as is known, only very little.

Chinese.—There were 47,444 Chinese in Burma at the time of the 1901 census, and their number is constantly increasing, but it is not necessary to say much about them in a hand-book of Burma. Various dialects were spoken. The Yünnanese are mostly found in Upper Burma, and in greatest numbers in Mandalay and Bhamo. Yünnanese is a dialect of Western Mandarin. The Chinese in Lower Burma come mostly from Swatow, Amoy, Canton, and Hainan; a great number of them filtered through the *Babas* of the Straits Settlements. Their dialects are mutually unintelligible, and they talk to one another in Burmese. The Amoy and the Swatow men are mostly traders and shopkeepers, the Cantonese are usually artisans, and the Hainanese, who are comparatively few in number, are domestic servants.

The Tai.—The Tai group, the Shans, have been divided into three classes by Dr Cushing, the earliest and till his death the best authority on the race: the Northern, the Intermediate, and the Southern. Pilcher divided them into four sections: the North-Western, the North-Eastern, the Eastern, and the Southern. Dr Grierson, studying them at his desk from the linguistic point of view, divides them into two sub-groups: the Northern and the Southern. From the point of view of the province of Burma a better division would be into Cis-Salween and Trans-Salween Tai.

But the Tai race is the most widely distributed in Indo-China. The Ahoms of Assam are indisputably Shans, though they are now completely Hinduised. The Hakkas of Canton are almost certainly of Shan extraction, though they would be the first to deny it if they knew anything about the Shans. The Li of the interior of Hainan, who have a written character "like the wriggling of worms," will, when we know more about them, almost assuredly prove to be Shans. The name Shan is firmly established, but it is not at all satisfactory. We got it from the Burmese. How the Burmans got it is by no means clear. Dr Grierson says that Shan is simply Sham, which, he says, is obviously Siam. But this is too cavalier-like a way of treating the question. The people practically everywhere call themselves Tai. The Hkün of Kēngtūng and the Lü of Kēnghūng profess to differentiate themselves, but they

are certainly wrong. There are nowhere any of the race who call themselves Shan. Sham, the word Dr Grierson fastens on, is simply a (possibly) more scholarly way of writing the word in Burmese, and, therefore, proves nothing. The number of names given to the race is, in fact, not the least bewildering of the questions connected with them. They themselves use the names Tai, Htai, Hkün, Lü, Lao, and Hkamti. Other names commonly given to them are: Pai-i, Moi, Muong, Tho or Do, Law, Tai-lông, Tai-noi, Tai-mao, Tai-nö, Tai-man, Tai-hkè, Pu-tai, Pu-nong, Pu-man, Pu-ju, Pu-chei, Pu-en, Pu-yiei, Pu-shui, P'o, Pa, Shui Han, or Hua Pai-i, Pai-jên, T'u-jên, P'u-man, Pai, Hei or Hua T'u-lao, Nung or Lung-jên, Sha-jên, Hei or Pai Sha-jên, Min-chia, Shui-chia, Chung-chia, and many still more purely local. They have also at least six known distinct forms of written character. It seems probable that the Tai form a very large part of the population of four of the Chinese provinces: Yünnan, Kuei-chou, Kwangsi, and Kwangtung. In view of this, any grouping of the race into sections based on the Tai, who are British subjects, can only be dogmatic, unprofitable, and futile.

History.—The Tai have no traditions of their prehistoric wanderings. They were certainly in the south-western provinces of China when the Burmans migrated south. Early swarms seem to have entered Northern Burma 2000 years ago, but they were small in number, and there was more movement south and east. In the year 130 B.C. we find the Emperor Hsiao Wuti conquering Yelung and Ye Yu, in the north and east of Yünnan, but in A.D. 47 the Ngai, or Ai-Lao, as the Shans were then known, were descending the Han and Yang-tzu Rivers on rafts. In 69 and 78 A.D. it is recorded that the Lin-mao and Lei-lao kings were defeated in the centre of China. The foundation of various Tai principalities in the Salween and Mèkhong Valleys took place between the third century of our era and the fall of the T'ang dynasty in China. The Chinese Empire was in an inchoate state then, and for long after it was engaged in a desperate struggle with the Tai. About 566 A.D. the great Emperor Wuti built a sort of Picts' wall, to protect the passages of the Yangtzu west of I-chang. In 649 A.D.,

however, a definite Shan kingdom was formed by a potentate named Si Nu-lo, who absorbed five other principalities, and built himself a capital ten miles north-west of Mêng-hwa Ting, in Yünnan. It is stated that thirty-two princes, covering a period of seventeen generations, had preceded him, but they seem to have been presidents of a confederacy rather than independent chiefs. Si Nu-lo made a beginning, but it was his great-great-grandson, Koh Lo-fêng, who became the first really formidable king of Nan-chao, or Ta Mêng Kuo as it is called in the Chinese annals. He succeeded to the throne in 748 A.D., and was granted the title of Hereditary Prince of Yünnan by the Chinese, and a Chinese princess of the Imperial House was given to his son in marriage. Tali, which had been founded in 743 under the name of Yangtsü-me, became his capital, and received its present name in 764 A.D. Koh Lo-fêng, notwithstanding these Chinese compliments, waged war with the Emperor, seized a number of Chinese towns, and transferred his alliance from China to Tibet. Successors of his alternately sided with China and Tibet, and defeated both, and several raids were made as far as Ch'êng-tu, the capital of modern Ssu-ch'uan. Chinese perseverance finally prevailed, however, and in the beginning of the tenth century the whole dynasty was summarily put an end to in a massacre which included 800 persons. The dynasty had lasted 255 years from the time when Si Nu-lo established himself, and during this period there had been thirteen kings of Nan-chao. For three and a half centuries after this Nan-chao was governed by a family of Chinese Shans with the name of Twan. They were more Chinese than Tai, and it seems certain that during all this time the original Tai kingdom was being gradually absorbed by settlements of Chinese in the country.

The tendency of the Tai has always been to fritter away their strength. Even at the time of their greatest power constant swarms seem to have left to form new principalities to the south in the great river valleys. None of these seem to have rendered any allegiance to the parent kingdom of Nan-chao, so far as can be ascertained from the meagre histories and traditions. It is at any rate

very clear that the Tai had spread far beyond their original limits long before Kublai Khan put an end to the Nan-chao kingdom in the latter half of the thirteenth century. Of the greater now existing states, Möng Nai (Monè) claims to have been founded in 519 B.C., Hsenwi (Theinni) in 441 B.C., and Hsipaw (Thibaw) in 423 B.C. The Mèkhong States of Luang Prabang and Vien-chan were established still earlier. Vien-chan (or Lansang) reached its state of greatest splendour about 1373 A.D. It was conquered by Burma in 1592 and by Siam in 1777. It is now a mere riverine village. Luang Prabang still exists as a principality, and is the residence of the governor-general of the French Lao country.

The great disruption of the Shan power, however, came with Kublai Khan's conquest of Tali. Just before this the noted General Hkun Sam Lông had conquered Assam (Welisali-lông, the Shans call it). The bulk of the army remained there, but gradually degenerated. When they came they were "barbarians, but mighty Kshattriyas," but the taint of Hinduism converted them into "Brahmans, powerful in talk alone." The language has been dead for about three centuries, and is now only known to a few priests who have remained faithful to the old tongue. But the chronicles remain as a valuable legacy to make Assam notable among the Indian provinces. Their study will be a valuable contribution to Indo-Chinese history. With the establishment of the Mongols great hordes of Tai marched west, and supplied kings to Northern Burma for a couple of centuries. The conquest of Mogaung (Möng Kawng) by Alaung-Paya drove the bulk of the Tai north to Hkamti Lông, where they still have a principality. The paltry statelets of Hsawng-hsup and Singka-ling Hkamti are the last remnants, but traces of the Shans in place names and in the features of the people are still found over all North Burma. The most successful swarm went south, and after slow wandering founded Ayuthia, about 1350, on the site of the Hkmêr city of Lavek, or Lavu, and became the progenitors of the modern Siamese.

The People.—The Shans are, next to the Burmese, the most numerous race in the province. Of Shans expressly

so called there were in the census of 1901 a total of 787,087. If to these we added the Hkün and the Lü, as they certainly should be added, since the difference of name is a mere personal conceit, and the difference of speech is merely that of a strong dialect, the total rises to 834,338. With the Hkamtis added, concerning whom details are wanting, the total should be considerably over a million. The peace and order established by the British Government has resulted in a rapid natural increase. Siamese was spoken by 19,531 persons, for the most part in the Tavoy, Amherst, and Mergui districts. Others, speaking Burmese, brought the total up to 31,890. The Khün numbered 42,160, the Lü 19,380, and there were 1047 Lao.

The Shans present the somewhat curious spectacle of a race exceedingly ready to adopt the habits and ways and refinements of the peoples with whom they came in contact either as neighbours or conquerers, and yet exceedingly tenacious of the national characteristic of a liking for small communities, in confederation with others of their race, but steadily averse to subordination to one central power, which would have given them the stability and the conquering force which might have made them masters of all Indo-China, to say nothing of possibly the hegemony of China itself. The Burmese have been given the reputation of having devised the sagacious policy of splitting up the Shan States, and so ruling them with ease, but the truth is that they would have had much more difficulty in persuading the people to submit to the rule of one or two chiefs of greatly extended territories. The Shan States remain split up since we took over the States as they existed on the occupation, but the tendency now is towards friendliness and not towards antagonism. Part III. gives further information on this point.

The Tai are now all technically fervent Buddhists, though that religion is even more overlaid with Animism than it is among the Burmese. It is commonly believed that they got their Buddhism from the Burmese, as the Burmese got it from the Môn. Their own traditions and the Chinese annals, however, seem to prove that Buddhism

was introduced long before, and was only revived by contact with Burma. It seems certain that King Asôka of Magadha, who was both a Saul and a Constantine, and sent Buddhist missionaries far and wide, introduced Buddhism into both Tibet and the Tai country somewhere about 300 B.C. Burma, and to a lesser extent the Shan States, had two civilisations to contend with or to influence them—those of India and China. The civilisation of China is essentially commercial and practical, and it has a vast literature of prosaic records and chronicles. The civilisation of India is contemplative and religious, and its chief literature consists of imaginative hymns and epics. On the whole, Indian civilisation has prevailed, but both races have maintained the chronicles, of which so few are found in India. Unfortunately, in the turmoils of centuries very few of these have survived. The Shans of British territory have adopted the Burmese era, both religious and civil, but in the north and in the south-east, and universally in astrological calculations, the Chinese system of the smaller and greater cycle is followed, as it still is in Siam at the present day.

Appearance, Dress, and Characteristics.—In person the Shans greatly resemble both the Siamese and Burmese, but, as a rule, they are fairer. They are muscular and well formed, and average at least an inch higher. The eyes are moderately linear, the nose is small rather than flat, and here and there has enough bridge to be almost aquiline. The mouth is large, and is made to seem more large by betel-chewing, which discolours the teeth and gums, and rivets attention. The hair is long, straight, and lank, and rarely any other colour than black. The Cis-Salween Shans tattoo to mid-calf, and also higher up the trunk than the Burman. Some of the chief's bodyguard in former days were tattooed from the neck to the ankle, and a few had even the face and the back of the hands tattooed in blue. In addition to the regulation "breeches," charms, usually in red, appear on the chest, back, and arms, as they do in the case of the Burmese. The Shan tattooers are said to be the best, but the custom seems to have begun with the Burmese. The Siamese do not tattoo, and the Lao are specially divided into the Lao Pung-kao, or White-

SHAN CHIEF AND *MAHADEWI* (CHIEF WIFE) IN COURT DRESS.

Beato & Co.]

TWANG-PENG SAHBEJ AND WIVES.

paunch Lao, who live in the east, along the Mèkhong River; and the Lao Pung-dam, or Black-paunch Lao, who live in the west. The black and white sobriquets apply accordingly as the man is tattooed or not. The tattooed Lao extend to Muang Nan.

The Shan dress is a pair of trousers and a jacket. The coat is of Chinese pattern. The cut of the trousers varies considerably. Sometimes they are much the same as the Chinese, with well-defined legs, but in the north, and among the better-to-do classes generally, the seat is often down about the ankles, and the garment generally is so voluminous as to look more like a skirt than a pair of trousers. The turban is usually white in the north; of various colours in the south. The Shan-Chinese wear indigo-dyed, sombre head-dresses. The broad-rimmed, limp, woven grass hat is the great characteristic of the Tai of British territory. These flapping straws are made in China, and are not worn by the Shan-Chinese, or by the Siamese Shans. During the rains and the hot weather they wear a huge conical covering, like a candle extinguisher crushed down.

The women are fair-skinned, and, perhaps, as a whole are not so attractive as their Burmese sisters. Their dress is certainly less coquettish than that of the Burmese or Siamese. The skirt is sewn up, and does not reveal glimpses of shapely limbs, nor is it tucked up between the legs, as it is with the Siamese. Coats are only worn by the fashionable and the travelled. Ordinarily the dress is worn folded over the bosom. In the Lao States the bust is exposed to the waist by old and young. The Hkün and Lü wear a cross-over bodice, with very tight sleeves, which may be a reminiscence of the *Kimono* of the Japanese, from whom the Hkün claim by old tradition to be descended. A turban is worn on the head, which varies greatly in size in different parts. In the north and in Kēngtūng it is sometimes as voluminous as the puggari of a Sikh, and in the south it is often merely the scarf worn round the head, which the Burma girl throws over her shoulders.

The people are a quiet, mild, good-humoured race, as little addicted to intemperance in drinking or smoking as

the Burmese. Goitre is very common in the hills, and is, as elsewhere, slightly more prevalent among the women than among the men.

The birth and other customs are in very many cases the same as the Burmese. The religious or "great" name is given according to the same scheme of letters for the days of the week as in Burma. "Little names" are given in the following order:—

First	Son,	Ai	First	Daughter,	Nang Ye, or O-e
Second	,,	Ai Yi	Second	,,	Nang Yi, or I
Third	,,	Ai Hsam	Third	,,	Nang Am
Fourth	,,	Ai Hsai	Fourth	,,	Nang Ai
Fifth	,,	Ai Ngo	Fifth	,,	Nang O
Sixth	,,	Ai Nôk, or Lawk	Sixth	,,	Nang Ok, or Awk
Seventh	,,	Ai Nu, or Hke	Seventh	,,	Nang It
Eighth	,,	Ai Nai	No more daughters are contemplated		

In the Kēngtūng ruling family the eldest daughter is called Hpum-hpa or Pen-hpa, the second Tip, the third Tēp. In all cases the above names are supplemented by others from the alphabet scheme, and they may be changed at will, if the child falls ill, or if the grown-up person has bad luck, according to a prescribed form.

Marriage customs are much the same as among the Burmese. As in the East generally, the contract among the well-to-do is more a family than a personal affair. Among the peasantry the tie is mere concubinage, founded on mutual convenience. There are no bachelors and there are no old maids, and Tai ladies are every whit as chaste as their Western sisters. Polygamy is sanctioned, but not common, except among the chiefs. With them sowing wild oats comes after and not before marriage. Polyandry is forbidden. Infanticide is unknown.

The Shans will eat anything: fish, flesh, fowl, or reptile —nothing is forbidden but human flesh. Cicadas and the pupæ of a large beetle, a scarabæus, are considered

delicacies and may sometimes be seen for sale in the markets. Snakes are only eaten as a regular thing by the Tai-Dam, the Black (tattooed) Lao, who prefer them to any other diet, but everywhere lizards are eaten.

Diseases are cured by the use of medicines, which are chiefly herbs; by shampooing, which is very common and very ably done; and by exorcism when these fail. The dead are buried usually in the jungle, or in a grove near the village. The corpse must be dressed in new clothes, and particular care must be taken that there is no mark of a burn on them. Persons who have touched the corpse must bathe before they re-enter the village.

The Karen Group.—Our knowledge of the Tai is neither extensive nor exact, but it is full compared with what we know of the origin of the Karens. It is, perhaps, unnecessary to say that the name Karen by which we know them is not a national name at all. They are miscalled, just as the Tai, the Chingpaw, the Môn, and the Sho are miscalled. On the other hand, they themselves have no national comprehensive name—nothing but tribal names—and the Sgaw and Pwo tribal divisions give no hint of a real name, for they simply mean "male" and "female," and refer to a prehistoric tribal quarrel which led to the prohibition of intermarriage and social intercourse. In the matter of endogamy the Karens as a race are very conspicuous. Just as it was penal for a Greek to marry a barbarian, for a Roman patrician to marry a plebeian, for a Hindu of one caste to marry one of another caste, so Karen religion sanctioned, and Karen law enforced, the custom of marrying exclusively within the tribe. Among the Bghai the marriage restrictions were, and are, even more complicated, and are only paralleled by the highly conventional social classification of the Australian bushmen. The bushmen clubbed offenders to death; the Sawngtüng and other Karens made them commit suicide by jumping into a pit, with ropes, attached to a beam, round their necks.

History.—The Karen national traditions refer to a "river of running sand," which their ancestors are supposed to have crossed. Dr Mason identified this with the sand-drifts of the Desert of Gobi, in Central Asia, but later

authorities do not agree with him. The most generally accepted theory is that the language is Chinese, but not descended from it, and that the people are pre-Chinese, and not Tibetan or aboriginal in their present seats, or descendants of the lost Ten Tribes, as enthusiastic proselytisers would have us believe. Whether their religious traditions, which have attracted so much attention, were derived from the Jewish settlements in China, or are the relics of a far distant past, like the far-carried boulders of the glacial age, does not seem capable of definite proof, but it can hardly be amiss to point out that savage fancy in many places recalls Biblical statements. The Burmese story of the *Thalesan* reminds one of "the fruit of that forbidden tree." The Wa and the Hkön have a similar story regarding gourds and the ashes of the old world. Traditions of a deluge are found everywhere; and the Chins have a story of the Tower of Babel; while spring festivals in many places, and among numerous tribes, recall Easter.

The probability is that the Karens were tribes in China driven south by the Tai, and afterwards driven back into the hills by the Mòn and the Burmans. They claim to have first settled in the neighbourhood of Ava, whence, about the fifth or sixth century of our era, they came southward, and spread over the hills between the Irrawaddy, the Salween, and the Mènam as far as the sea-coast. They now occupy the Central Pegu-Yoma Range, which forms the watershed between the Sittang and the Irrawaddy; the Paunglaung Range between the Sittang and the Salween; and the eastern slopes of the Arakan Yoma Mountains to the west of the Irrawaddy Delta. They extend from Mergui to Toungoo, and form the chief population of the south-west section of the Shan States and of Karen-ni.

Clans.—Dr Grierson has decided that Karen is a group of dialects, not of languages, and that it includes only the one language, Karen, spoken in greatly varying patois. There are three main divisions of the race: the Sgaw, the Pwo, and the Bghai, or Bwè. Dr Cushing thought that the Sgaw dialect will gain the mastery. It differs from Pwo in having no final consonants, which is characteristic also of Bghai. This latter dialect includes the language of the

Red Karens, and differs most noticeably in its system of numeration. It somewhat resembles Sgaw, but possesses a large number of separate roots.

Roughly speaking, the Sgaw and Pwo dialects are confined to Lower Burma, while the Bghai is spoken by the northerly tribes. The Karens may, therefore, conveniently be divided into the South sub-group and the North sub-group, and the northerners may be believed to preserve the Karen language in its original and purest form. All the forms are tonic, and are believed to have the same five tones. The Pwo are mostly found in the Delta as far west as Bassein, but the Taungthu, who call themselves Pa-o, and are most probably a sub-clan, are the most northerly of the race, and are found far up into the Myelat, and in the state of Hsatung, besides extending well to the east. Karen has been reduced to writing by the missionaries, who have adopted a modification of the Burmese alphabet to express it. Their system includes the indication of tones by signs; and Dr Cushing describes Sgaw as having one of the most perfect systems of phonetic representation in the world.

The Southern group includes the Pwo, Sgaw, Mopgha, and Taungthu, or Pa-o. The Northern includes the Karen-ni, Brè or Lakü, and Manö, Sawngtüng, Banyang, and Padeng Layein, Kawnsawng, Yintalè, and Sinhmaw Mèpauk, Yinbaw, and, perhaps, the Padaung, or Kè-kawngdu.

The Karens are the third most numerous population in Burma. According to the census of 1901, they numbered in all 727,235 persons: Pwo 174,070, Sgaw 86,434, and the Bghai 4936; while 457,355 were returned as unspecified, and belonged largely to the Bghai division. The Taungthu, or Pa-o, numbered 160,436. If they are not hybrids, as their ways and partly their appearance and tongue, suggest, they would largely swell the numbers of the Pwo. The Karen-ni States were an estimated, not an enumerated area, and the numbers recorded were: Red Karens 28,979, of whom 24,073 lived in Karen-ni; Brè 3500, Padaungs 9692, and Zayeins 4666. All the groups, however, require much more study from a broad point of view, and it seems possible that the Padaung, or

Kèkawngdu, may, like the Danaw, be hereafter classed with the Môn Hkmêr. A popular classification, both with the people and their neighbours, divides them into the White Karens, including the Pwo and the Sgaw and their affinities, and the Red Karens, including all the Bghai clans.

Tendency to Christianity. — The Karens generally furnish the most notable instance of conversion to Christianity of any native race in the British Empire, except, perhaps, the Khasias. The White Karens were converted in great numbers about a generation ago. More recently, the Red Karens are being converted, by whole villages at a time, impartially to the Roman Catholic and to the American Baptist and Presbyterian faiths, and they exhibit towards one another all the zeal and intolerance of perverts. Old prophecies current among them, and the curious traditions of a Biblical character referred to above, led to this, as much as their antagonism to the dominant Burmese.

It is certain that the race requires much more study. All the later authorities are convinced that the Karens have suffered from over-classification. The early missionaries set themselves to the work with more zeal than discrimination, or study of the language. Their clans read like a table of fashion plates or a history of tartans. The only visible distinction between one clan and another was the dress worn. In one place the women wore a smock with red perpendicular lines; in another there were no lines on the white blouse, but a narrow border of embroidery at the bottom, with sub-variants; some men had red trousers; some white, with radiating white lines, and so forth. This is catching, but it is not scientific or satisfactory.

Characteristics.—The White Karen is of heavier, squarer build than the Burman, and much more stolid. His skin is fairer, and he has more of the Mongolian tilt of the eye. They are credited with truthfulness and chastity, but they are very dirty, and addicted to drink. In disposition they are heavy, suspicious, and absolutely devoid of humour.

The Red Karen is of an entirely different physical type. The men are small and wizened, but very wiry; they have

ZAYEIN KAREN WOMEN.

A MYOSA (KAREN) WITH HIS WIFE (*DANU*) AND DAUGHTERS.

broad, reddish brown faces, and long heads, with the obliquity of eye perhaps accentuated. It was the invariable custom for the men to have the rising sun tattooed in bright vermilion on the small of the back. They used to be wild and truculent, and desperately feared by their neighbours. Since they were subdued by the British Government they are sombre and despondent rather than surly or ill-disposed; they steal cattle instead of men, and except for that purpose hardly leave their country; but they still are very heavy drinkers.

Dress and Customs.—The Southern Karens have been so much influenced by the Burmese, and later by the missionaries, that their dress and ways can now be hardly called national. Many of the men dress exactly like Burmans. The others wear short trousers and indeterminate sort of coats. The general characteristic of the women's dress is the gaberdine, or camisole, longer or shorter, and more or less elaborate or plain, according to fancy and means. Comparison with the Northern women suggests that this was at one time the sole garment, but in Lower Burma all women now wear petticoats.

The dresses in the Northern sub-group are much varied. The men wear short trousers—some of them very short, and none approaching the amplitude of the Shans. If they wear coats at all they are of Shan or Chinese pattern, or a small, sleeveless coat, which is never fastened, and is usually of a dark colour. A cotton blanket, striped red or white, is, however, usually worn over the shoulders in the cold weather. Some sort of handkerchief, of meagre size, is twisted round the hair, which is tied in a knot on the top of the head. Small metal, pear-shaped ear-rings are also worn by the Red Karen men.

Red Karens.—The Red Karen women wear a short skirt reaching to the knee. Usually it is dark coloured, but sometimes it is red. A broad piece of black cloth passes over the back across the right shoulder, and is then draped over the bosom, and confined at the waist by a white girdle tied in front. Round the waist and neck are ropes of barbaric beads and seeds of grasses and shrubs; and a profusion of these also decorate the leg, just above the calf, which also is encircled by innumerable garters

of black cord or lacquered rattan. These, with the seeds, stand out some 2 inches or more from each sturdy limb, so that the women walk like a pair of compasses, and have some difficulty in sitting down, and always do so with the legs stretched straight in front of them. Round the neck all those who can afford it hang pieces of silver—coins, and the like. Silver ear-rings are also worn, many of huge size. A piece of black cloth is thrown jauntily over the head, sometimes with red tassels, like those of the Taungthu. The general effect is striking, and, when the things are new, not by any means unattractive.

Allied Clans.—The dress of the women of the other clans is of much the same general character. Instead of the shawl of the Red Karen woman they all wear the gaberdine, called *Thindaing* by the Burmese, and perhaps more like a poncho, since it is slipped over the head, and, except that the sleeves are either rudimentary or do not exist at all, hangs loose, and is much like a lady's dressing-sack. This smock-frock, which has a neck, and reaches mid-thigh, is thought sufficient by some clanswomen. Others wear a short kirtle, which reaches within a hand's breadth of the knee. The great characteristic, however, is the garters—if leg-rings which support nothing can be called garters. Sometimes these are bunched together, like the Red Karen woman's. Sometimes, as in the case of the Zalun women, solid brass rings about 5 or 6 inches in diameter are fastened by these lacquer rings, and festooned round the leg. Others wear brass rod coiled round the leg from the ankle up to 4 inches below the knee, or, in other cases, quite up to the knee. Others, again, add to this coils beginning above the knee and reaching half way up the thigh. Similar coils of brass rod are worn twisted round the whole forearm by the Lamung and other clanswomen. In some places separate rings, both on arms and legs, are worn instead of one continuous coil. Practically all wear ear-plugs, or cylinders, in the ears, some of them of enormous size, distending the flesh to the utmost limit. They are of every sort of material, from sorry wood up to chased silver, according to the possessions of the family. The armlets and leglets, or leg-cinctures, seem always to be of brass, and never of silver.

SAW-KU KAREN GIRL.

LOI LING KAREN WOMEN,
Wearing Brass-rod Armlets and Leg-rings.

Like all hill women, these damsels have substantial limbs, and the superimposed brass rings are singularly unbecoming to the unaccustomed eye, so that an untrammelled view of the sturdy, naked calves of the Mèpu women, who have given up the use of these ornaments, is quite exhilarating. Besides the leg and arm circlets, many of the women also wear brass circlets, or torques, round the neck. These are usually so loose that they can be slipped over the head. Ropes of bead and pebble necklaces are also worn. Possibly the attention devoted to the loading of the arms and legs prevents attention to the hair. It is certain at any rate that many of the women neglect it shamefully, and no head-dress is worn, so that the glory of women is not sufficiently taken advantage of. This is the more curious, since some of the Zayein clanswomen have an effective form of coiffure. The hair is combed, and forced through a silver, dome-shaped receptacle, or through a piece of bamboo, and is knotted or festooned at the top with an elaborate head-dress of red and white pleated cloth, with an *appliqué* of black cloth, on which seeds are sewn in a lace or net pattern.

Endogamy.—Very strict rules of endogamy prevail in most of the clans. Only cousins, or only the inhabitants of certain groups of villages, may intermarry, and contracts of the kind have to be approved by the elders. As soon as a boy has attained the age of puberty he is made to live with the other unmarried youth, in a building called the *Haw*, which stands just outside the village. There he stays until he is married, and is supposed not to talk to any of the women of the village until that time. The limitations on possible alliances are so considerable that in some places there are many decrepit bachelors in the *Haws* and many aged spinsters in the villages. The only occasions on which lads and lasses meet are at marriage feasts and wakes. It is alleged that these festivals, which last for three nights, are marked by the most shocking familiarities. There is certainly great excess in eating and drinking, and both sexes are seasoned, since they begin drinking strong drink before they are weaned.

The unmarried youth wear a special dress, varying with the clans. Some have coquettish shell-jackets trimmed

with seeds or cowries; almost all have necklets of coloured beads, seeds, or stones, most commonly with two or more boar's tushes fastened round the neck. Large ear-cylinders adorn the ears, and a few of the Loilông clan wear a sort of coronet adorned with cowries and rabbits' tails, with an aigret of rice stalk or grass. On the forearm also coils of brass are found, and other clans wear brass torques round the neck. When the man marries, all his finery is transferred to the person of his wife or kept for the first son. At any rate it is no longer worn by the husband, so that bachelors are very conspicuous, and the fact that many of them are at least middle-aged is indisputable.

The reason for the endogamy is not given. Probably the first cause has been forgotten. It is certainly not because there is wealth to bequeath, nor is it very obviously because the neighbouring communities profess different creeds. Many of the women are distinctly comely. They would also be fair-skinned if they ever washed themselves. Some would be quite pretty if they went through that formality occasionally. It is possible, therefore, that a desire to keep their women to themselves was the originating cause of the marriage restrictions.

The Banyangs are the most distressingly rigid. Marriages are only possible within the limits of the village fence. Every year an official of the State goes to Banyang to arrange an alliance, to ensure that there shall be at least one in the twelvemonth. He orders a couple to be married—and married they are, just as a man might be sworn of the peace. There is no hint of marriages of inclination. They are all, as it were, officially gazetted alliances. Occasionally the bridegroom, it is recorded, has to be taken by force to the bridal chamber. The police, however, having effected this, keep him there for three days and nights. The village provides a banquet, from which the man is taken, so that possibly the seeming want of gallantry is due to incapacity to go or reluctance to leave too early. The bride, for her part, carouses on the connubial bed.

Auspices.—Fowls' bones are the Red Karen's dictionary, *vade mecum*, and Where-is-it book. He consults them

to know where he should pitch his village or his house; whether he should start on a journey, in what direction, on what day, and at what hour; whether he should marry a certain girl, whether she is likely to have many children, and if he is to marry her, then on what day; where he should make his clearing, when he should clear, sow, and reap it—he can do nothing without authority from fowls' bones. The other clans are almost as assiduous in their studies; but latterly very many have become Christians, and instead of killing fowls they break one another's heads, with all the fervour of the convert.

The Padaungs.—A tribe which deserves special mention is that of the Padaungs, or Kèkawngdu as they call themselves. They are possibly not Karens at all, and may belong to the Môn-Hkmêr group. Their language has strong resemblances to Taungthu, or Pa-o, and Taungthu has a large percentage of words which are suggestive of the Pwo tribe. Both tongues are probably hybrids. The chief characteristic of the Kèkawngdu is the extraordinary collar worn by the women. This neckband of brass rod, as thick as the little finger, is put on the little girl as early as possible. Five coils are usually all that can be got on as a commencement, and fresh coils are added as she grows, so that the neck is constantly kept on the stretch until the ordinary limit of twenty-one coils is reached. Similar coils of brass rod are worn on the legs and on the arms. The total weight of metal carried by the average woman is fifty or sixty pounds, and some manage as much as eighty. With this they carry water for household use, hoe the fields, and go long distances to village markets to sell liquor. The fashion does not seem to affect the health, for there are old crones among them, and families of eight or ten are quite common. The only visible effect is that the women speak as if some one had an arm tight round their necks. In addition to the actual neckband there is a coil slightly wider, which softens the bend of the curves to the shoulders, and inevitably suggests a champagne bottle. At the back of the neck, fastened through the wider coil, is a circlet of rings, about

the size of curtain rings, standing at right angles. This suggests tying up at night, but whether this is really so or not is not known. A reference to the Kèkawngdu produces nothing definite. They all grin. In the case of the men this may be a recognition of your acuteness or the accepting of a hint. In the case of the women it may imply the reflection that she has on either arm weight of brass enough to emphasise a clout on the head if attempts were made to prevent her from fulfilling any engagement. The Lamung Karen women wear neckbands like those of the Kèkawngdu.

The women wear a coloured scarf twisted into the hair; a coat which is slipped over the head has a V neck and very short arms, is usually black, and is ornamented by a coloured border and sometimes by embroidery. The skirt, or kilt, is striped red and blue, and stops short above the knee. Necklaces of coins and seeds and coloured stones hang down over the bosom.

There is perfect liberty of marriage. Both man and maid are allowed to marry out of the tribe. Some of the girls are by no means bad-looking, but their formidable armour seems to deter suitors other than of their own race. They are worshippers of spirits—bad, indifferent, and amiable. The bad are sedulously worshipped with sacrifices, the others only in moments of leisure, or expansiveness, caused by the liquor, of which they brew and consume quantities. The Yinbaw dialect seems to be a patois of Kèkawngdu.

The Taungthus.—The Taungthu, who call themselves Pa-o, are all but certainly Karen, and probably of the Pwo tribe, but they do not admit it. It was formerly assumed that the Taungthu of Lower Burma came from the state of Hsatung, which is almost entirely Pa-o; but the Shan States dwellers have a tradition that precisely the reverse was the case, and date their migration to the hills from the overthrow of King Manuha by Naw Ra-hta of Pagan. Their language is a mosaic of Karen, Burmese, and developments of their own, but the groundwork is Karen. They are nominally Buddhists, but spirit-worship is far more conspicuous as the family religion—just as it is with the Chinese and Annamese,

GROUP OF TAUNG-THU (PA-O) VILLAGERS.

and to a lesser extent with the Shans and Burmese. The Taungthu men dress exactly like the Shans. The women wear the Karen poncho, or camisole. It is black, adorned with embroidery, much or little, according to the position of the wearer. Under this sack-jacket is worn a petticoat which neglects to go below the knees. Below the knee are garters of black thread, worn in a band rather than in a bunch, like the Karen-ni. Leggings black or white are also worn occasionally. The forearm also is covered with strips of various-coloured velvet or flannel. Green and purple are the favourite colours. The head-dress is very elaborate. The basis is a black cloth, or *tabet*, wound round the head turban fashion and ornamented with a variety of coloured tassels. The hair is done up in a chignon, and a large spike hair-pin with a silver band serves to keep this firmly fixed. Finally, a long silver cord or chain is wound round and round, and makes everything fast. Pendant ear-rings of silver are worn, and large, hollow bracelets and bangles are universal—some of silver, some very much alloyed. The Taungthu are well known all over Siam and Cambodia and as far as the Lower Mèkhong, about Bassac, and the rapids of the Thousand Islands. In the Shan States they are cultivators. When they go abroad they are most commonly elephant and horse dealers. They form nearly half of the population of the Myelat, and the state of Hsatung has a Taungthu chief. Their number at the time of the 1901 census was 168,301.

The Môn-Hkmêr Sub-Family

The Môn-Hkmêr preceded the Tibeto-Burmans in the occupation of Burma. They were once very powerful and far spread. They are now broken up, and widely separated, and their speech has been superseded, or is in course of being superseded, by others. Neither the Môn nor the Hkmêr, still less the Annamese or the Wa or the Palaungs, have any traditions of their first home, but they seem to have come from the north. There is a hill-encompassed hilly tract in the Khasi and Jyntia Hills where

the Khassi of Central Assam still speak the tongue, and are able to communicate with, and receive staccato ideas from, the Hkamuk of the Middle Mèkhong. But the Môn of the Pegu district was for years proscribed by the conquering Burmese; the Hkmêr of Cambodia nearly shared the same fate at the hands of the Siamese; and in Annam and Tongking the speech is being crushed by the desperate load of Chinese.

It seems probable that the Môn-Hkmêr languages once covered the whole of Farther India, from the Irrawaddy to the Gulf of Tongking, and extended north at any rate to the modern province of Assam. The Mundā languages at the present day stretch right across the centre of Continental India, from Murshidabad on the east to Nimar on the west. Resemblances between the two forms of speech have long been pointed out, and there are further resemblances in the Nancaori dialect of the Nicobars and the vocabularies of the Malacca neighbourhood. There have been those who would connect them, and imagine a common tongue spoken over the greater part of the Indian continent, over the whole of Indo-China, and even in the East Indian Archipelago and Australia. There is a substratum in common; but Dr Grierson points out that the Môn-Hkmêr languages are monosyllabic, the tongue of the Kôls and of the Nancaoris is polysyllabic, and the order of words in a sentence is different. Nevertheless, there is a substratum in common. What this is, whether Môn-Hkmêr or Mundā, or a language different from both, remains to be discovered. The study of Wa and Rumai, of Hkamuk and Sedang and Ba-hnar, may reveal something.

It seems, however, more probable that the Môn are the result of a fusion like that between Norman and Saxon. Dr Grierson admits that, in the present state of our knowledge, we cannot tell whether the common language arrived in Farther India from the north, or whether it arrived by sea, and gradually worked upward. It is beyond all doubt that the Dravidians of Telingana, an ancient kingdom on the south-east coast of India, came by sea to the eastern shores of the Bay of Bengal, probably 1000 years before the Christian era,

and that they then found the Môn in possession, and in a state which it is hardly unjust to call rude savagery. They were like the Asurasa, the Rakshasas, and the Nāgas of the Mahabharata—wild, laidly ogres—but their daughters were fair to look upon. The Dravidians evidently thought so, for they gradually lost themselves in that mass of ogres and *bilus*.

Môn, or **Talaing**.—The name Môn seems to belong to the aboriginal, or rather the earlier settled, race. The name Talaing, now universally employed, even by the people themselves, seems a reminiscence of the name Kalinga, or Telingana. This is a much disputed point. Phayre accepted it, or propounded it. Forchhammer rejected it with Teutonic *grobheit*: "All deductions, historical or etymological, from the resemblance . . . must necessarily be void *ab initio*." He will have it that the name dates from Alaungpaya's definitive conquest of the Môn, and means the downtrodden (which it really does in Môn), and was intended to mean it. The name Talaing, he says, is found in no inscriptions or palm leaves, and was not known before Alaungpaya's triumph in the middle of the eighteenth century. But Mr E. H. Parker has found the word used in the T'êngyüch annals in the year 1603, when "Siam and Têlêng during consecutive years attacked Burma."

The Telingana wanderers went not only to Burma, but also to Cambodia. They civilised both countries, and both races have traditions of the foundation of the first city. Two princes of Thubinga, in the country of Karanāka (Karnāta), in Kalinga (Telingana), left the continent, and came to live on the Peguan seashore, near the present town of Thatôn. They found a *naga-ma's* (she-dragon = pretty maiden) eggs, out of which two boys were hatched. One died; the other grew up to be a prince, and founded the present town of Thatôn, under the name of Thihayaza, on the coast. This was in 600 B.C. The town is now 8 miles in an air-line from the sea. The first Buddhist teachers came after the Third Great Council, in 241 B.C. Hanthawadi (Pegu) was founded in 573 A.D. by the son of a king of Thatôn, who had married a princess born of a *naga-ma's* egg. The Ministers of the State

objected to this offspring of Cophetua and the peasant maid; so he was expelled, and made this new kingdom for himself, which became the later centre of the Môn power. The Cambodians have a corresponding tradition as to the founding of Enthapataburi, in 457 A.D. Both cities were founded with the assistance of Indra, the great ruler of the Sky, the only Vedic God that Buddhism has admitted into its mythology.

The reasonable conclusion, therefore, seems to be that Môn is the name of the fascinating, vigorous, but barbaric mother, and Talaing the name of the travelled, cultivated, and susceptible father, and that neither name need necessarily be wrongfully applied to the Peguans, as old voyagers called them. This would account for the general similarities of tongue, and also for the very considerable differences between the talk of the Kol, or the Sontal and the Talaing, and between the Môn and the Wa, or the Rumai. The same thing may be said of the Hkmêr of Cambodia. The Halang, the Hkamuk and Lamey, the Ba-hnar, the Huei, the Sedang, the Kat, and the Soue stand to them as the head-hunting Wa does to the silk clad, soft spoken, Rangoon Môn.

Both Môn and Hkmêr got their religion, literature, and civilisation from India. The Môn at any rate got his short, thickset figure and his broad face and fair complexion from his buxom mother. Of the sub-family the Hkmêr were the more intellectual and cultivated, and the temples of Angkor are infinitely beyond any remains there are at Thatôn. The Môn never got beyond a position of importance and barbarous magnificence. The Annamese, the farthest branch of the sub-family, have apparently never been anything but slavish copies of the Chinese, possibly at first from necessity, later certainly from choice. The kingdom of Cambodia was known to the Chinese as Chinla, and earlier still as Fu-nan. The Chinese annals say that there were human sacrifices in Champa as late as the end of the seventh century of our era. Each year, they say, the King of Basan, or Angkor, went to the temple on Mount Bakheng at night to offer a human sacrifice. This suggests the priest of Nemi no less than the wild Wa with his Eastertide skull.

Less than a century and a half ago the Peguans were masters of the country from the Gulf of Martaban to far to the north of Mandalay. Now the Môn population is practically confined to the Tenasserim and Pegu divisions of Lower Burma, and according to the census of 1901 only numbered 321,898 persons, and of these only 155,100 returned themselves as speaking the national language. After Alaungpaya's conquest of the country the Môn tongue was fiercely proscribed, and the present number of speakers shows a revival.

In dress, manners, and ways the Môn and the Burman are now practically indistinguishable. Only close observers can distinguish them apart. The Burman is darker and slighter, with a more oval face. The Môn language has been reduced to writing, with a modification of the Burmese alphabet. It is not known whether the Môn gave the Burmese their written character when they were their teachers in religion. Their speech is rougher and more guttural than Burmese; the "*r*" sound is preserved, and not softened into "*y*," as it is in Burmese, and a good deal of Pali has crept into the book language. The Môn are the only race in Burma that take to the sea, and the sailors are not many. A few *Kattu*, of from twenty to sixty tons, make the passage occasionally to the Nicobars to bring back loads of cocoa-nuts.

The Linguistic Survey puts the Môns in the North Cambodian group of the Môn-Hkmêr sub-family. The cognate Wa and Palaung are labelled as the Upper Middle Mèkhong group. Until we know more about the dialects these names may serve, but they are not what can well be called neat any more than they are descriptive. The Palaung are much nearer the Irrawaddy than the Mèkhong. They may represent the oldest Môn, and they certainly have not migrated from any portion of the Mèkhong—Upper, Middle, or Lower.

The Rumai, or **Palaungs**.—The Rumai, or Palaungs, have their headquarters in the Northern Shan State of Loilong, or Tawngpeng, where they have a chief of their own race. There are also many in the adjacent Kodaung tract of the Ruby Mines district, and scattered villages are found all over the Shan States. In the census of 1901 the total

number returned was 67,756, but there are probably more of them. The Burmese divide them into Palaung and Palè, but this classification is not admitted to be national. There are a number of clans mentioned by the Rumai themselves, but some of these seem to be administrative, and others prompted by differences in the ladies' dress rather than by racial differences. There are variations of speech, but these seem to be mere patois, and not of the importance their users attach to them. One tradition they have is that the race migrated in a body from Thatôn, in Lower Burma, which would connect them with the Môn. Other legends bring them from east, west, and north, but none are of real value. The language is extremely guttural, and undoubtedly allied to Wa, though both the Rumai and Wa deny the connection. There is certainly no resemblance in character. The Wa is a very truculent person, very stay-at-home, and, like little Jock Elliot, will "tak dings frae nacbody." The Palaung is quiet and peaceful, and even pusillanimous. He is also a very Jew in money transactions, and at the same time a pious Buddhist and a sanctimonious and careful spirit-worshipper. The Wa does not care a jot for money: he does not think it even worth stealing; and he is only a spirit-worshipper to the extent of making offerings when sickness makes it seem wise, or bad luck suggests that it might be judicious. The Rumai live in long barrack-houses, with frequently several families under the one roof. The Wa households are all separate. They are much too fond of drinking, and too hot-tempered to permit of such close conjunction with safety. Nevertheless, the Wa and the Rumai are undoubtedly closely allied.

The Rumai men invariably wear the Shan dress. The women have a picturesque costume, which includes a hood, a coat, and a skirt, with leggings of cloth. The hood is brought to a point at the back of the head, and comes down over the shoulders. The border is white, with an inner patchwork pattern of blue, scarlet, and black cotton velvet. The skirt is often composed of panels of cotton velvet of these various colours, with garters to match, and the general effect is very gay.

PALAUNGS.

A GATHERING OF WA HEADMEN.

Silver ear-rings and bangles are the ornaments, and so are torques, but apparently with some limitations. More children wear them than women, but the chief's wives wear several. Round the waist are worn numbers of black-varnished bamboo hoops, of the same kind as those of the Kachin women, sometimes plain, sometimes decked with seeds and cowries. The ordinary working dress is a dark blue cut-away jacket and a skirt, and blue leggings.

As a race they are peaceable and industrious, but have the reputation of being hypocritical, and they are certainly rough and uncouth. They are short and sturdily built, with fair skins, and not uncommonly grey or light brown eyes. The nose is flat and very broad at the nostrils. There is no facial resemblance to the Môn. In Loilong Taungpeng the great cultivation is tea; and the Rumai have almost a monopoly of the manufacture of pickled tea, or salad tea—the *let-ppet* so regularly used at all Burmese formal functions.

The Wa, or **Vü**.—Only 7667 Wa were enumerated in the census of 1901, but the real Wa States were not even estimated. Only one party has ever passed through the central head-hunting country. This was in 1893, and no attempt at house counting was made. The Wa territory is an extremely compact block on the north-eastern frontier, roughly bisected by the ninety-ninth parallel of east longitude, and lying between and on either side of the twenty-second and twenty-third parallels of latitude. It extends for about 100 miles along the Salween River, and for perhaps half that distance eastward of it to the watershed with the Mèkhong. This is the real Wa territory, and its inhabitants claim to be autochthonous. There are, however, a number of Wa settlements in the country to the south, mostly in Kēngtūng State, some of them going by the name of Wa, some called Tai Loi (hill Shans), or Wa-Küt (remainder Wa); others called variously En, Sawn, Ang-ku or Hka-la (t), Pyin or Pyen, Amok or Hsen-hsum or Hsem. Most of these clans have undoubted Wa affinities, and some show strong connecting-links with the Rumai on the one side and the Hka-mūk on the other They unite, however, in denying that they are Wa, and profess not to be able

to understand Wa, which in some cases is obviously absurd. The Tai Loi, like the Rumai, are by way of being fervent Buddhists. The Pyin and Hsem are usually Buddhists; and so also are the En, who very often have monasteries, but without resident monks. Perhaps it would be more correct to say that these last three clans are becoming Buddhists, as are also some of the Ang-ku, or Hka-la (t). They are also all at the same time zealous spirit-worshippers, or conciliators. West of the Salween there are no Wa owning to that name, and only the Riang tribes who are related. They will not admit any connection either with the Rumai or the Wa, but on paper at any rate they can be convicted out of their own mouths. There were 15,660 Tai Loi enumerated in the census of 1901, 1351 Hsen-hsum, 931 En, and smaller numbers of the other septs. The Wa and Wa cognates enumerated totalled altogether 23,976. The excluded areas might raise the total to close on 100,000.

It is certain that the Wa occupied at one time the whole of the state of Kēngtūng and much of the Lao States as far south as Chiengmai. Tradition and comparatively recent history prove this, as well as the remains of fortified village sites now covered with jungle. It is not yet clear what this proves, or whether it proves anything. This country may have been the first home of the Mōn and Hkmêr before they ousted the first coast-dwellers, or the inhabitants may have been the rearguard of the southward-marching horde, or they may have been brushed back into the hills by the Tibeto-Burmans, and hustled still later by the Karens and the Shans. The probability seems to be that the Wa of the head-hunting country are really the aborigines. It does not seem credible that any one should have hankered to drive them out of the outrageously steep hills among which they live. Moreover, the force necessary, with savage weapons, to drive out a stalwart and stubborn race like the Wa could not possibly have found enough food to support it on slopes as abrupt as the shoulders of a camelopard.

The Wa Country and Divisions.—The Head-hunting Wa, the Wa Lön, or Wa Pwi, as they are called, form the nucleus. The area of their territory is undetermined,

A "TAME" WA DANCE.

WA OF LOI LÖN.

but is probably not less than 20 miles from east to west and 50 from north to south. Round them come the settlements of the Intermediate Wa, communities which have fits of head hunting, take heads when they come in their way, use the skulls of criminals, or buy skulls. In the outer fringe are the Tame Wa, who have no skull avenues at all, and only here and there a human skull. Skulls of animals take their place sometimes, but the majority of the villages have nothing of the kind. Not much is known of even the Tame Wa country, but it is certain that the states of Mang Lön, Mawhpa, Möt-hai, Kang-hsü, Sônmu, Ngekting, Loi-lön, part at any rate of Ngek-lek, and the settlements on the eastern frontier range of Loi Kang Mông, are Tame. In the country of the Wa Hai, the Wild Wa, the government seems to be a system of village communities. Each village has its own *Kraw*, or *Ramang*, independent of all others, but with agreements for the mutual respect of heads and for coalition against a common enemy. But even these minor confederations seldom extend beyond one range of hills. Dwellers upon other hills are looked upon as strangers, and probable enemies. The Tame Wa are divided into five different septs: the Hsīn-lam, Hsīn-leng, Hsīn-lai, Hta-mö, and Möt-no. There is a slight difference in patois, but the basis of distinction is the waist-cloth, which is striped or chequered in various patterns, or in different colours, for the so-called clans. The division of the Wild Wa into Wa Pwi and Wa Lön is, no doubt, equally needless, though the Wa Pwi declare the Wa Lön to be very degraded. This, however, appears to imply mere jealousy of their skill and success in getting heads. Material prosperity seems to exist somewhat in inverse ratio to the degree of civilisation. The head hunters have the most substantial villages and houses, the broadest fields, the greatest number of buffaloes, pigs, dogs, and fowls. They have also the best conceit of themselves, the most ornaments, and the least clothes. The Intermediate Wa fall away rather in material possessions. The Tame Wa, with what, as a matter of comparison, is called civilisation, find their houses dwindle to hovels, their fields shrink to plots,

not extending to 3 acres, and without the cow, and instead of ornaments they wear clothes. They are, therefore, much more filthy than the true savages, for none of them—man, woman, or child, head harrier, or tentative Buddhist—ever wash, and their state of dirt is only limited by the point beyond which extraneous matter refuses to adhere to human flesh. The Wild Wa crop their hair close, except for a tuft of hair on the top, more of the size of the Gurkha's salvation lock, or the Gaungto Karen's ear-tufts, than of the boot-brush which ornaments the head of the Cambojan or of the old-fashioned Siamese. The Tame Wa let their hair grow long, and cut it across the forehead in a Whitechapel fringe. They wear no head-dress, and use no combs. This gives them a picturesquely wild appearance, and affords a resting-place for much more dirt than is furnished by the Wild Wa.

Ornaments.—In some places, especially in the Wa Pet-ken, on the Mèkhong Watershed, the men wear numbers of silver necklaces, or rather *rivières* of silver, hanging well below the chest. They have also long silver-mounted pipes, often a yard long, and rudely fashioned silver bangles. Chicken bones in couples are also often worn in the ears. The women and children have a profusion of bead necklaces, and are fond of silver buckles, buttons, and spangles, besides a variety of bracelets and ear-tubes, terminated in front by a large shield, so that they look like an exaggerated carpet tack. These are all of silver, of which there is a great deal in the country everywhere, except on the western side.

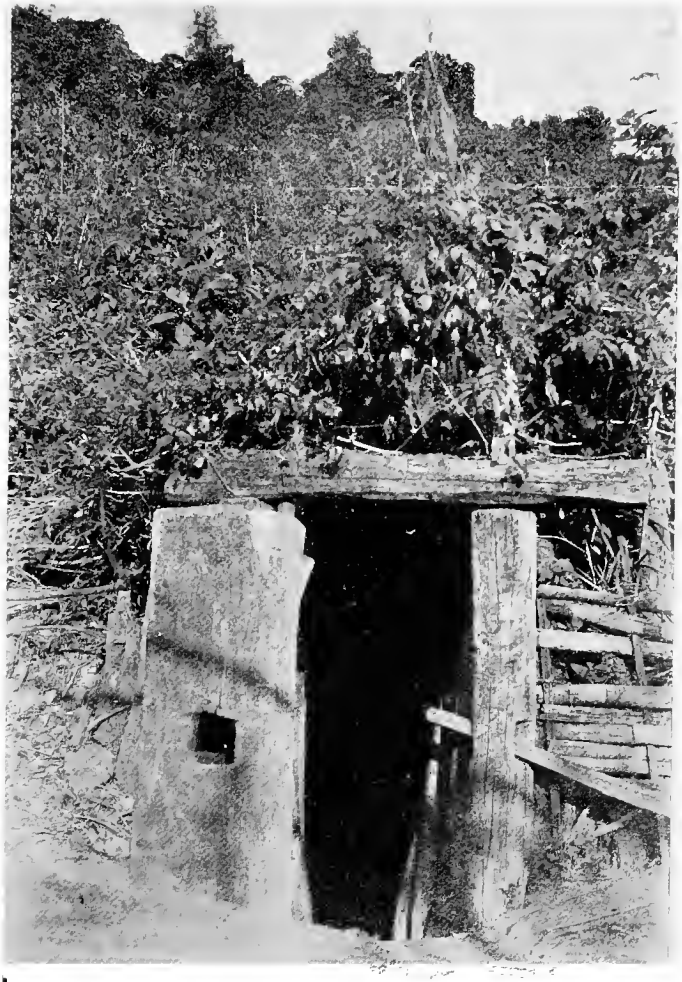
Dress.—Their dress is soon described. The Wild Wa men wear nothing but a strip of coarse cotton frieze about three fingers broad. This is passed between the legs, tied round the waist, and the ends, which are tasselled, hang down in front. In the cold weather a blanket, their bedding in fact, is worn over the shoulders till the sun gets up, and is then thrown aside. The women wear an exiguous petticoat, which is none too long if worn extended, but is usually worn doubled up, and is then all too short. In the hot weather at any rate and in the village they go about "all unabashed, unhaber-

dashed, unheeding." So do the men. The women in some places wear fillets of twisted straw or bamboo spathes to confine the hair. The unmarried girls wear spathe caps like forage caps or strawberry pottles. Many, however, perhaps the majority, wear nothing on the head at all. The hair is sometimes parted in the middle, perhaps by nature or chance. The Tame Wa men often wear Shan dress, and at other times a loin-cloth woven by their womenkind. This is as strong as sail-cloth, but reasonably soft and pliable, and often decorated with rather pleasing patterns embroidered in the texture. The blankets are of the same material, with more of a frieze character, and some have really neat-woven border ornamentation. Unfortunately, a man seems to wear only one loin-cloth and one blanket all his life, and some of the garments look as if they were family heirlooms, with the stains of generations on them. The women wear skirts and jackets, not always or often fastened up.

Appearance.—In appearance the Wa are not altogether attractive. They have short, sturdy figures, perhaps a little too broad for perfect proportion, but many of the men are models of athletic build, and the women, like most of their sex in the hills, have very substantial charms and marvellously developed legs. In features the Wa are bullet-headed, with square faces and exceedingly heavy jaws. The nose is very broad at the nostrils, but otherwise is much more prominent than that of the Burman or Shan, who cannot well be said to have any bridge to his nose. The eyes are round and well opened, and though the brows are by no means low they are rounded rather than straight. The eyebrows are often very heavy, but the type is not a degraded one. The Wild Wa are much darker than the Tame Wa, almost as dark as negroes or negritoes, and without the yellow tinge one would expect in relations, however far off, of the Môn. The Tame Wa are much lighter, about as dark as the swarthy Akha, who otherwise are the darkest race in the hills. There is otherwise, however, no resemblance. The Wild Wa, however, look not unlike the La'hu, and they sometimes grow a moustache.

Villages.—Wa villages, at any rate in the head-harrying country, are formidably defended, quite impregnable to all attack but that by artillery and arms of precision. Each village is surrounded by an earthen rampart 6 to 8 feet high, as many thick, and covered with shrubs, thorn bushes, and cactuses. Outside there is a deep ditch or fosse, just too wide to jump easily, and so steep that scrambling up would be impossible. There are ordinarily only two gates, sometimes only one. These are approached by tunnels, sometimes dug out of the ground, sometimes fashioned with logs, earth and binding, thorny creepers. The houses in the wild country are substantially built of wood, with walls of wattled bamboo, and heavy plank floors. They are fairly roomy, but very dark, since the thatch roof comes down to within 3 or 4 feet of the ground. The Wa sit on low settles 8 inches or so high, a piece of furniture never seen in a Shan house. Outside every Wa house is a forest of forked sticks, shaped like a catapult, recording the number of buffaloes sacrificed by the house owner. They breed buffaloes for sacrifice, dogs, pigs, and fowls for eating. The hills are too steep to be ploughed by cattle. They are extraordinarily diligent cultivators, and grow buckwheat, beans, maize, and poppy, but especially poppy. Rice is only grown for the purpose of making liquor. Beans form their staple food. They both eat and smoke opium, and trade immense quantities of it to Yünnan caravans in exchange for salt and liquor, or rice to make more liquor. Spirit-worship is the only religion. The race is brave, independent, energetic, ingenious, and industrious. The cutting off of heads is a matter of religion, not a pastime or a business. Without the spirit of the beheaded man the village might lack defence against wandering evil spirits; without a new skull in spring the crops might prove a failure. The taking of a head is a sacrificial act, not an example of brutal ferocity. The Wa may make good light infantry in time. At present the skull avenues outside their villages temper respect, and their drunkenness and dirt are not attractive. But they and the Chingpaw may some day help the Gurkha to keep the passes on the north-west frontier.

The Riang Tribes.—There are three clans of Riang, best



A WA TUNNEL-GATE.
(From inside the Village.)

WA SACRIFICIAL POSTS.

(Each forked post commemorates the slaughter of a buffalo.)

known by their Shan names of Yang Lam, Yang Sek, and Yang Wan-hkun. The Yang Lam call themselves Riang occasionally, but usually accept the Shan name. The Yang Sek call themselves Riang Rioi, and the Yang Wan-hkun, Riang Röng. The Burmese call them Yin. Both this and the Shan name insinuate connection with the Karens, but this is a mistake. The Riang themselves deny it, and they are right. They also deny all relationship to one another, and scout any connection with the Wa; but here they are wrong, and the greater their volubility the more their speech bewrays them. In the census of 1901 there were 4990 persons returned as speaking Riang. Particulars for the different clans are wanting, and there is also no doubt that many Riang, especially the Yang Lam, returned themselves as Shans, since they speak that language as well as their own. The Yang Lam are the most numerous, and are found in the whole plain from Möng Nai to South Hsenwi. The Yang Sek are in greatest strength in the State of Möng Sīt, but they are also found in Möng Nai and Mawkmai, and stray villages occur in other states. The Yang Wan-hkun are so called by the Shans from the Wan-hkun circle of Lai-hka, which is the stronghold of the tribe. There are more of them in Lai-hka State than in any other, but many are also settled in Möng Nai.

All three tribes look upon themselves as immemorial dwellers in their present sites, and they have, no doubt, been settled where they are for a very long time. The Yang Lam are steadily amalgamating with the Shans. In many villages they live alongside of them. All the men dress as Shans, and more and more of the women. Perhaps this is because the female national dress is so sombre. It consists of a dark blue homespun skirt, closed, not divided, and reaching to the ankles. The jacket is of the same colour and material, and is closely fastened up. There is an insertion of scarlet at the bosom, which is the sole relief to the general funereal effect. Sometimes no head-dress is worn, and the hair is dressed much in the Indian fashion, so that the suggestion of a connection with the Mundā tribes will be found here if anywhere. Anthropometry may prove it.

The Yang Wan-hkun women have a much more effective dress. The skirt is of the same dark blue homespun, but it is elaborately flounced—the only instance of this feature of dressmaking among the milliners of Burma, and probably in the East generally. The dress is much shorter, probably to show the black-lacquer garters below the knee. The basis of the jacket is also indigo-blue cloth, but it is elaborately embroidered, and ornamented with beads and scarlet *appliqué*. Coils of thin bamboo or cane rings, varnished with wood oil, are worn round the waist.

The Yang Sek women wear a poncho, or smock-frock, of the Karen pattern, with perpendicular red and white stripes. It is the only garment visible. They wear garter-rings of brass wire.

Both the Yang Wan-hkun and Yang Sek have dances in which men and women join, as have also in some cases the Wa and the La'hu. The Riang dances suggest a combination of the Lancers and the Haymakers, and are danced with great spirit. They are said to represent courting, and, if so, place the conduct of that pursuit by both men and women on a commendably high level. Ordinary Oriental dancing consists chiefly of posturing, contortion, wriggling, and stamping. The Riangs skip about with the activity of kids and lambs, the enthusiasm of little girls, and a conviction of the seriousness of the performance, which can only be attained by Dagoes, and never by Englishmen. Oriental representations of courtship usually oppress the spectator with the reflection that his presence is the only restraint, and that he would be much better away. The most well-conducted young person could learn quite a lot from the contemplation of Riang courtship dances. The music is produced by reed pipes, or by catches and antiphons sung by the dancers themselves. For some dances, however, the Yang Wan-hkun produce wonderfully effective music by bumping lengths of bamboo of different diameter on the ground. Some of the deep notes are really fine.

Hkamuks.—The Hkamuks, Hkamēts, and Hkakwens are only referred to because they are very valuable material

GROUP OF RIANG (YANG-SEK) WOMEN.

GROUP OF RIANG (YANG-WAN-HKUN).

for the study of the Môn-Hkmêr languages. Only seventy-five were returned in the 1901 census, but very many more come as temporary workers in the forests. Like the Wa, they are swarthy and black rather than yellow, and with heavy, irregular features. Many of the men, especially the Hkamēts, or Lamets, part their hair in the middle, and sleek it well down, which is apt to give them the meek and epicene appearance of the stock curate of the comedy stage. In the remoter villages the Hkamēt ladies wear a dagger-like skewer thrust through the hair-knot, and otherwise require no costume but the atmosphere. This reveals to the observer a development of calf and thigh, an amplitude of figure, and a breath of shoulder, which may account for the subdued appearance of the husbands. The Hkamuks eat snakes by preference, and, in case of poisonous specimens, are only careful to extract the poison glands before skinning. The Hkakwen children shave the head on the death of a parent. Girls do not do so after they are sixteen. This custom is so unusual in Indo-China, and so common on the Indian continent, that it is worth noting.

The Danaw.—The Danaws of the Myelat are interesting also from the point of view of the ethnologist. They are certainly distinct from the Danus. They are equally certainly an ethnological precipitate of an irreducible character, and their language is no less a patch-quilt or a dust-heap. But many of their words are the counterpart of Wa, Riang, or Hkamuk vocables. They wear a dress corresponding to the Taungthu, but cannot be said to have Taungthu affinities. There were 18,994 Danaw recorded in 1901. At the same time there were 63,549 Danu. It is probable that both will soon be polished out of existence; but while the Danu is, no doubt, a frank half-breed or multi-breed, the Danaw is an interesting linguistic problem, without reference to the frailties or misfortunes of his forebears. The Dayé think they are Chinese half-breeds. They are more probably half-brothers of the Danaw.

The Selung.—The Selung are the only permanent residents of the province not of the Indo-Chinese family. They are Malayo-Polynesian, and seem to be decreasing

in numbers. In 1901 there were only 1325 persons, as against 1628 ten years earlier. Dr Grierson tells us that Selung and Cham, or Tiam, the languages of the aborigines of Cambodia, are probably the residuum of a tongue spoken at an extremely remote period by a prehistoric race on the continent of Farther India. The Selung language is mainly dissyllabic, but with a strong monosyllabic tendency. Our knowledge of the race is not very extensive. They live in the islands of the Malay Archipelago, which are very seldom visited. Observers have been chiefly Government servants and missionaries. The former want taxes and the latter want to convert them; and the Selung is very timid, and avoids both. Apparently even now they have no fixed villages. Formerly, no doubt, they were harried by Malays, and found it safest to have no definite place where they could be found, but this no longer applies. Nevertheless, they ordinarily still live in their boats, but during the heavy rains as many as 200 are found in encampments on the beaches of some of the islands. Even then, however, they rarely stay in one spot for more than a week at a time. Their temporary huts are made of branches of trees, roofed and walled with palm-frond mats. The *dani* mats they carry about with them; the house-posts can be cut anywhere.

Their boats are dug-outs, and have very fine lines. They vary from 18 to 30 feet long. After the log has been hollowed out it is spread open by being suspended over a slow fire, thwarts being used to assist and maintain the expansion. Then at intervals along the rim long bamboo spikes are driven in to fasten the long, pithy leaves of a palm, which are thus nailed on, and harden, and give a freeboard of from 2 or 3 feet. A huge sail is made of palm fronds stitched together, and the ropes are of twisted rattan. The boats sail fast in the gentlest breeze.

They live on roots and leaves, fish and shell-fish, and wild pigs caught by their dogs. They also get rice in exchange for their produce. This consists mostly of mats, woven by the women and *bêche-de-mer*, but they also bring sapan wood, turtles, sea-shells, pearls, and

bees-wax, which they get by smoking out the wild bees.

Thirty years ago it was thought that the Selung numbered 3000 or 4000. They seem to be dying out, and the arrack and opium sold them by traders no doubt hastens their disappearance.

PART II

GOVERNMENT

In Burma, as elsewhere in the British Empire, the object of the ruling power has been to maintain the spirit of the native administration and to interfere as little as possible with the native executive, legal, and land systems, and with the customs and prejudices of the people. It was necessary to purify corrupt methods and to remove barbarous excrescences, but it was still more necessary to avoid any attempt at imposing a brand-new cut-and-dried system, whether from Great Britain or India, inconsistent with the genius and habits of the Burmese race. The province has grown by degrees. At first there were two detached areas, Tenasserim and Arakan. Then Pegu was added. Finally Upper Burma was annexed. The growth of the administration system has kept pace step by step. At first a few short and simple rules were framed for the guidance of civil officers. Some imposts which were oppressive were abrogated at once, but no new taxes were introduced in their place. As soon as possible, simple codes of civil and criminal procedure were enacted, and so much of the law of India as could be made applicable was extended to the growing province, always with suitable modifications. From time to time these laws were added to, and new regulations were made. Gradually method and regularity were enforced. Simultaneously the administration grew. For long Burma was a "non-regulation" province. This distinction is not so important as it once was. It derives its name from the old regulations or uniform rules of law and practice which preceded the present system of acts of the legislature. These regulations were originally intended to be universal in their application, but were withdrawn from time to time from application

to certain areas, which from their backward state of civilisation, or other causes, seemed to require exceptional treatment. In non-regulation territory, broadly speaking, a larger measure of discretion was allowed to the officials, both in the collection of revenue and in the administration of civil justice. Strict rules of procedure were made to yield to the necessities of the case, and the executive and judicial departments were to a great extent combined in the same hands. In addition to this concession to the personal element in administration, a wider field was also permitted for the selection of the administrative staff. This was not confined to the covenanted Civil Service. Military officers on the staff, and uncovenanted civilians, were also admitted to the administration. Thus the first few chief authorities in Burma were military officers, and the term deputy commissioner in Burma, instead of collector-magistrate, still marks the non-regulation province, though Burma has been a lieutenant-governorship since 1897.

After the first Burmese War the provinces of Arakan and Tenasserim were annexed, and were placed in the charge of commissioners. Twenty-six years later, in 1852, Pegu was added, and the kingdom of Burma lost its entire seaboard. Another commissioner was put in charge of Pegu. In 1862 so much progress had been made that the three commissionerships were amalgamated and formed into a local administration, which was called British Burma. Lieutenant-Colonel, afterwards Sir Arthur, Phayre was appointed the first Chief Commissioner and Agent to the Governor-General in Council. Burma was thus placed on the same level as the Central Provinces in India. The annexation of Upper Burma in 1886 gave the province a vastly greater importance and a greater area than any province in India proper. It was not, however, till 1st May 1897 that Burma became a Lieutenant-Governorship, with Sir Frederic Fryer as its first Lieutenant-Governor.

Lieutenant-Governor.—As a province of the Indian Empire, therefore, Burma has the Lieutenant-Governor as the head of its administration, and he exercises the powers of a local government in respect of all the terri

tories forming the province of Burma as constituted by the Upper Burma Laws Act of 1886. He also exercises political control over the wild tribes of the Chin and Kachin Hills and over Karen-ni, a congeries of small independent states, in subordinate alliance with the British Government, but outside British India.

Legislative Council.—He is assisted by a Legislative Council of nine members, five of whom are appointed by him as official members; while the remaining four are non-officials, selected from the mercantile community or from native notables, chiefs of the Shan States, or others. This body prepares and passes Bills regarding local and provincial requirements, which become law when they receive the sanction of the Governor-General, and are not referred previously to the Indian Legislative Council.

Officers of Government.—There are, besides, a chief secretary, revenue secretary, secretary, and two under secretaries; a Public Works Department secretary, with two assistants; a railway secretary; and an independent secretary for irrigation. The revenue administration of the province is superintended by a financial commissioner, assisted by two secretaries, a settlement commissioner, and a director of land records and agriculture with a Land Records departmental staff. An accountant-general presides over the department of accounts. There is a chief court for the province, with a chief justice and three justices, established in May 1900. Other purely judicial officers are the judicial commissioner for Upper Burma and the civil judges of Mandalay and Moulmein.

There are four commissioners of revenue and circuit and nineteen deputy commissioners in Lower Burma, and four commissioners and seventeen deputy commissioners in Upper Burma. There are two superintendents of the Shan States, one for the Northern and one for the Southern Shan States, and an assistant superintendent in the latter; a superintendent of the Arakan Hill tracts and of the Chin Hills.

The police are under the control of an inspector-general, with a deputy inspector-general for civil and military police and for supply and clothing. The Education Department

MINISTERS PAYING HOMAGE TO THE ABSENT *SAHEBA*.

A TRANS-SALWEEN SHAN CHIEF IN *HKÖN* DRESS.

is under a director of public instruction; and there are three circles—Eastern, Western, and Upper Burma—each under an inspector of schools.

The Burma forests are divided into three circles, each under a conservator, with twenty-one deputy conservators. There are also a deputy postmaster-general, chief superintendent and four superintendents of telegraphs, a chief collector of customs, three collectors and four port officers, and an inspector-general of gaols.

At the principal towns benches of honorary magistrates, exercising powers of various degrees, have been constituted. There are forty-one municipal towns, fourteen of which are in Upper Burma.

The commissioners of divisions are *ex-officio* session judges in their several divisions, and also have civil powers, and powers as revenue officers. They are responsible to the Lieutenant-Governor, each in his own division, for the working of every department of the public service, except the military department and the branches of the administration directly under the control of the Supreme Government.

The deputy commissioners perform the functions of district magistrates, district judges, collectors, and registrars, besides the miscellaneous duties which fall to the principal district officer as representative of Government. Subordinate to the deputy commissioners are assistant commissioners, extra-assistant commissioners, and myoôks, who are invested with various magisterial, civil, and revenue powers, and hold charge of the townships, as the units of regular civil and revenue jurisdiction are called, and the subdivisions of districts, into which most of these townships are grouped. The township as the unit of administration is peculiar to Burma. In the Indian provinces the *tohsil*, or subdivision, is the unit. Among the salaried staff of officials the township officers are the ultimate representatives of Government, who come into the most direct contact with the people.

Village Headmen.—Finally, there are the village headmen, assisted in Upper Burma by elders, variously designated according to ancient custom. Similarly in the towns, there are headmen of wards and elders of blocks,

In Upper Burma these headmen have always been revenue collectors. The system under which in towns headmen of wards and elders of blocks are appointed is of comparatively recent origin, and is modelled on the village system. Practically the village is the unit for revenue and administrative purposes. The village headman is appointed with the consent of the inhabitants, and to enable him to discharge his functions and to maintain his authority he is invested with substantial powers. He can call upon the villagers to assist him, and if his orders are disobeyed he can punish them at his own instance. He is the village magistrate, and sometimes the village judge, as well as the village tax-gatherer, with a percentage on the collections. If, without reasonable excuse, a village fails to resist an attack by dacoits; if stolen goods, especially stolen cattle, are tracked to its limits; if serious crime is committed within its borders, and the offenders are not detected, the whole village is liable to fine. A careful watch is, therefore, kept on outsiders. If a villager receives a stranger as his guest he must report his arrival and departure to the headman. No new settler can take up his abode in the village without the headman's permission, and those suspected of evil practices may, on reference to the district magistrate, be ordered to betake themselves elsewhere. The community is thus bound together by common interest as well as by local feeling.

In Lower Burma, when Arakan was annexed in 1826, the villages were at first farmed out to the headman, but two years later the revenue was fixed summarily for each village, and was collected by the headman, who received a 10 per cent. commission for collecting it. In the Tenasserim province, annexed at the same time, an average was calculated of the amount produced by each village, and one-fifth of this total was declared to be the share of Government. Besides this there was a poll tax of five rupees levied on all married men, and half that sum on bachelors. This is still maintained in Lower Burma, except in certain towns, where a land rate has been imposed instead of capitation tax.

This went on till 1842, when these different systems

were done away with, and revenue was levied by fixed rates, according to the description of cultivated land. In all districts which have been regularly settled by the Supplementary Survey Department annual surveys are made for the purpose of assessing new cultivation and remitting assessment on land which has fallen out of cultivation. A man may retain land which he has ceased to cultivate by paying a fallow rate. In the few districts which have not yet come under settlement the supplementary survey work is done by the village headman. Waste land which is reclaimed is granted exemption from assessment for a term which varies with the kind of land cleared and the labour necessary to clear it.

In Upper Burma, before the annexation, the main source of revenue was a tax called *thathameda*, from the Sanskrit *meda* = one-tenth. The *thathameda* was a rudimentary income tax, levied on all classes, except the inhabitants of the capital. The rate varied in different places, but the rule was that each household was required to pay one-tenth part of its estimated annual income to the Crown, and ten rupees was the average sum supposed to be due by each household. The sum demanded from the individual taxpayer, however, depended on his means. The gross sum payable by a village was the rate multiplied by the number of houses, and the whole village was held jointly responsible for the payment of this tenth. Ten per cent. was also usually deducted for those exempted on account of physical incapacity to work, those who by accident or disaster were destitute of means to pay, the aged and widows, ministers of religion, soldiers, sailors, and generally all Government servants. When the total amount payable by the village was determined, the village itself settled the incidence on the individual householder. This was done by *thamadis*, assessors, elected by the villagers, and sworn at the village pagoda to do justice. The principle was good and simple, and the system is still in force, though there are objections to it. One is that no one knows from year to year what he may have to pay. In a small village especially the death, departure, or failure of a few residents, or the addition of some poor families, may make a material difference to the individual

assessments. Still, it is well suited to the Burman character; indeed, the people evolved the system themselves.

Land revenue, properly so called, was not levied under Burmese rule. Cultivated land was divided into three classes—(*a*) Royal or State land; (*b*) service-tenure land, held under various tenures of a feudal nature; and (*c*) private, hereditary, or allodial land.

The State land was let out to tenants at will, who had to pay a fixed proportion of the gross produce. Of service lands there was a great variety—lands assigned to soldiers, foot and mounted; to executive officials, to revenue collectors, to ministers, princes, princesses, and favourites. Private land was not subject to any incidents of service or to the payment of revenue. The land system was not very precise. Exactitude is foreign to the Burman character. Apparently, however, uncleared land could be taken up by whoever willed, and when brought under cultivation became the private property of the farmer.

All land in Upper Burma is now either State or private. The right of acquiring ownership by squatting (*dhammaugya*) is at an end. All waste land is State land. Service lands have become State or private, according to decision in each case.

It has been decided to assess all private lands. The rate of assessment is to be three-fourths of that on State lands. The rates are fixed either according to the class of soil or to the description of crop grown. Revenue is only collected on crops which came to maturity on State or non-State lands. A crop which comes to maturity has been defined as any crop in excess of one-fourth of an average crop. In districts where it has been decided to assess private lands the *thathameda* is adjusted on the understanding that the assessors collect at full rates from those who derive no part of their income from agriculture, and at half rates or lower from cultivators.

Up to the time of writing, the whole of Lower Burma, with the exception of the unsurveyed districts of the Salween and the Northern Arakan Hill tracts and Tavoy and Mergui, has been regularly settled. Five districts in Upper Burma have been settled, and two are under settle

ment. The usual term of settlement is fifteen years in Lower Burma and ten years in Upper Burma.

The peculiarity of the land revenue system of Lower Burma is that the rates of assessment only are fixed. In Northern India the revenue of each village is settled for a term of years. During that term no account is taken of land freshly brought under cultivation, nor is any remission ordinarily made for land thrown out of cultivation, except in cases of calamity. The Lower Burma system also presents no joint responsibility of village communities for either land revenue or capitation tax. Each person from whom revenue is due is responsible for the amount at which he is assessed, and no more. Joint responsibility is the feature in both Upper Burma and India.

The vast majority of Burmese agriculturists are peasant proprietors, but of late years there have appeared quite a number of tenants, a class hardly known under native rule. These tenants are mostly persons who formerly owned the land, but have lost it through their fault or misfortune, and remain on as tenants where formerly they were owners. Other tenants, particularly in the Irrawaddy Delta, are new settlers, or young men married and setting up in life. The assumption of service lands in Upper Burma has created a large class of Government tenants in place of the previously existing allodial peasant proprietorships.

The Shan States.—The Shan States were declared to be a part of British India by notification in 1886. The Shan States Act of 1888 vests the civil, criminal, and revenue administration in the Chief of the State, subject to the restrictions specified in the sanad, or patent, granted to him. Before the passing of the Shan States Act the only way in which enactments could be extended to the Shan States was by notification under Section 8 of the Upper Burma Laws Act. This section gave no power to modify any enactment to suit the circumstances of the States. The authority and powers of the chiefs and of their officials were exercised without any legal sanction. The Shan States Act legalised these, and the Act came into force on the 1st February 1889. The law to be administered in each state is the customary law of the

state, so far as it is in accordance with justice, equity, and good conscience, and not opposed to the spirit of the law in the rest of British India. The superintendents exercise general control over the administration of criminal justice, and have power to call for cases and to exercise wide revisionary powers. Criminal jurisdiction in cases in which either the complainant or the defendant is a European, or American, or a Government servant, or a British subject, not a native of a Shan state, is withdrawn from the chiefs and vested in the superintendents and assistant superintendents. Neither the superintendents nor the assistant superintendents have power to try civil cases, whether the parties are Shans or not, except in revision, or in cases specially called for.

In the Myelat division of the Southern Shan States, however, the criminal law is practically the same as the law in force in Upper Burma, and Ngwekunhmus, or petty chiefs, have been appointed magistrates of the second class.

In all cases the powers of a High Court are exercised by the Lieutenant-Government sitting in that capacity.

Chiefs.—The chiefs of the Shan States are of three classes—(1) Sawbwas; (2) Myozas; (3) Ngwekunhmus. Every chief is called a Sao-hpa by the Shans. The lesser rank of Myoza was introduced by the Burmese, but the name was never accepted by the Shans. Sub-feudatories were called Sao-Hpa Awn, little Sawbwas. The Ngwekunhmus are found only in the Myelat, the border country between the Southern Shan States and Burma. There are fifteen Sawbwas, thirteen Myozas, and fourteen Ngwekunhmus in the Shan States proper. In Karen-ni there are one Sawbwa and four Myozas. Two Sawbwas are under the supervision of the commissioner of the Mandalay division, and two under the commissioner of the Sagaing division. There are five states, all Sawbwaships, under the control of the superintendent, Northern Shan States, besides an indeterminate number of Wa states and communities of other races beyond the Salween River. The superintendent, Southern Shan States, supervises forty-three, of which eleven are Sawbwaships. The headquarters of the Northern Shan States are at Lashio, of the Southern Shan States at Taung-gyi.

A *SAHEBA* AT HIS *HAW* (PALACE) DOOR.

A *SAHEBA* PAYING A CALL.

Each chief has a number of Amats, or ministers, many or few, according to the extent of his territory. The Amats have both territorial and judicial jurisdiction, and are chosen for their capacity. The title is not usually hereditary. The States are parcelled out amongst a number of district officials, called Hēngs, Htamôngs, Hsungs, Kangs, Kès, and Kinmöngs. In the Southern Shan States there are few, except Hēngs and Htamôngs, and everywhere these are the more important officials. The word Hēng means 1000, and the original Hēng-ships, no doubt, were charges which paid 1000 baskets of rice to the overlord, which seems also to be the meaning of the word Pannā, used in the Trans-Salween State of Kēnghūng. It is possible that the charges furnished 1000 men-at-arms, and that Hēng is equivalent to Chiliarch, but the former derivation seems more probable. The word Htamông was anciently written Htao-möng, and means originally an elder. Officials below this rank, Kangs and Kès, were mere head-men of single villages or of small groups; but many of the Hēngs were very powerful, and had charge of territories more extensive than some existing states. Thus Möng Nawng, until it was separated from Hsen-wi, was merely a Hēngship of that state, and the present Hēng of Kokang, in North Hsen-wi, is wealthier than many Sawbwas, and possibly wealthier than his titular chief. In the north, however, Htamông has a tendency to be considered the more honourable title.

The States vary enormously in size. Kēngtūng, which is the largest, has, with its dependencies, an estimated area of 12,000 square miles—that is to say, it is about the same size as Belgium, or the four English counties of Yorkshire, Lancashire, Lincoln, and Hertfordshire. North Hsen-wi has an area of 6330 square miles, or only about 1000 square miles less than Wales. South Hsen-wi covers 5000 square miles, and Hsipaw, with its dependent states, 4524. Some states, however, are quite insignificant in size—for example, Nam Tôk is no more than 20 square miles, and Kyōng is only 4 square miles larger. They are thus smaller than very many private estates. Ten states have a less area than 50 square miles. A full list of the

States, with other particulars, will be found in the Appendix.

Karen-ni.—The States included in Eastern and Western Karen-ni are not part of British India, and are not subject to any of the laws in force in the Shan States, or in other parts of Upper or Lower Burmese, but they are under the supervision of the superintendent of the Southern Shan States, who controls the election of chiefs and the appointment of officials, and has the power to call for cases. The Lieutenant-Governor exercises the powers of a High Court.

The northern portion of the Karen Hills, on the borders of Taungoo, Pymmana, and Yamèthiu districts, is at present dealt with on the principle of political, as distinguished from administrative, control. The tribes—the Brè, Manö, and others—are not interfered with so long as they keep the peace.

The Kachin Hills.—What is specifically known as the Kachin Hills, the country taken under administration in the Bhamo and Myitkyina districts, is divided into forty tracts. Beyond these tracts lie the bulk of the Chingpaw race, in the country north of the administrative line, which runs east and west through the latitude of the confluence of the Irrawaddy River; and there are besides very many Kachins in Katha, Möng Mit, the Ruby Mines district, and the Northern Shan States, but in the latter areas, though they are often the preponderating, they are not the exclusive population. The country within the forty tracts may be considered the Kachin Hills proper, and it lies between 23° 30′ and 26° 30′ north latitude and 96° and 98° east longitude. Within this area the *duwa*, or petty chiefs, have appointment orders, the people are disarmed, and the rate of tribute per household is fixed in each case. Government is carried on under the Kachin Hills regulation. Since 1894 the country has been practically undisturbed, and numbers of Kachins have enlisted, and are ready to enlist, in the military police, and seem likely to make excellent light infantry. The Kachins north of the administrative line are dealt with on the principle of political, as distinguished from administrative, control. So long as they keep the peace all interference with them is avoided.

GROUP OF CHINS.

GROUP OF KAREN-NI (RED KARENS).
The Women wearing Rattan Leg-rings.

The settling of intertribal feuds due to "debts" was one of the most troublesome duties of the political officers. Some of these were due to the whole community, some to single individuals. These were settled by payment of compensation to one side or the other, and deliberate refusal to pay the fine ordered by Government was punished as an offence.

The Chin Hills.—The Chin Hills were not declared an integral part of Burma until 1896, but they now form a scheduled district. The chiefs, however, are allowed to administer their own affairs, as far as may be, in accordance with their own customs, subject to the supervision of the superintendent of the Chin Hills. In both the Chin and Kachin Hills slavery has now been practically abolished.

Land Settlement.—It is a fundamental principle of Indian finance that the State should appropriate to itself a direct share in the produce of the soil. The old military and service tenures and the poll tax of Burma show the germs of rival or additional systems, but that the land should furnish the main source of revenue has been a recognised principle throughout the East from a time during which the memory of man runneth not to the contrary. The system, no doubt, began, and is coeval, with the primitive village community. The land was not held by petty owners, but by owners under the petty corporation. The revenue was due, not from individuals, but from the community represented by its headman. This remains the system in Upper Burma, but in Lower Burma the individual is assessed. The means by which the land revenue is assessed is known as settlement, and the assessor is styled a settlement officer. In Bengal the assessment has been accomplished in perpetuity, and the result is a permanent settlement. In Burma, and in the greater part of India, the process is continually going on. To settle a district is to ascertain the agricultural capacity of the land. The settlement officer is preceded by the officer of the cadastral survey. The first surveys large areas by theodolite, and then smaller areas, whose position and extent are carefully determined and compared; within these lesser circuits come the *kwin*, or local areas of cultiva-

ion, which rarely exceed 2½ square miles in extent. These determine the area of every village; and inside hese come the fields, which are the unit of survey and he unit of cultivation. In Burma this field is a rectngular or irregular-shaped piece of land, surrounded nd marked off by low ridges, thrown up for irrigation urposes, for without much water most kinds of rice will ot grow. These fields vary from about a quarter of an cre in the drier districts to a full acre in the moist, lluvial plains of the Delta. The cadastral survey in Lower Burma was begun in 1879, and is now finished. n Upper Burma much remains to be done, and thus for he present the unit of assessment is the village, and not he field or *kwin*. After the survey officer comes the ettlement officer, whose duty it is to estimate the charcter of the soil, the kind of crop, the opportunities for rrigation, the means of communication and their probable levelopment in the future, and all other circumstances vhich tend to affect the value of the crops. Upon these acts he makes his assessment according to certain general rinciples, and these determine the Government demand. The final result is the settlement report, which records, s in a Domesday Book, the entire mass of agricultural tatistics concerning the district.

When a district has been surveyed and settled it is ransferred to the charge of the Supplementary Survey nd Registration Department, which makes an annual xamination, or a periodical examination, to determine he changes which affect the revenue. As the land is ree any one can, after obtaining the requisite permission, ake up as much new land as he is capable of bringing nder cultivation. Old fields may be surrendered in vhole or in part, or may be left fallow, or may be let out o tenants. Government does not interfere in this. The evenue demand depends on the area of land actually ultivated or from which profit is derived. Fallow rates re imposed only on non-agriculturist landholders, for he purpose of checking land-jobbing by speculators. All he changes are noted, and new assessment rolls are repared.

Settlement operations are conducted by selected junior

members of the commission, who remain for several years deputed on this special duty. The settlement commissioner, who is directly subordinate to the financial commissioner, controls and administers the operations. At the time of the settlement the holding of each cultivator is registered field by field, and the cultivator's position is shown according to his status as landholder by prescription, from original squatting rights, as grantee, lessee, tenant, or mortgagee. All these details are entered in the settlement register, which represents the exact state of each holding during the year when the settlement takes place. The supplementary survey registers record the subsequent history of each holding. The rates of assessment are only fixed after careful scrutiny of the greater part of the area under settlement. The character of the harvesting is noted, and the actual grain from several hundreds of fields is measured, so that the direct quality and productiveness of the soil are very correctly ascertained.

The system of supplementary survey and registration is in its main features the same in Upper as in Lower Burma. But whereas in Lower Burma one settlement officer deals finally with an area of about 600 square miles in the year, in Upper Burma he has several assistants, he deals with three or four times this area, and his operations extend over three years. During this time the settlement officer and his assistants record tenures, observe the harvests, and measure the crops from chosen sample areas, besides collecting agricultural statistics over the whole circuit. These are renewed in each year, and an average is thus obtained.

In Lower Burma rice is practically the only crop, and there is only one agricultural season—from June till December. In Upper Burma there are many varieties of field crops—rice, maize, chillies, peas, gram, onions, and vegetable produce generally—and in most districts farming of one kind or another is carried on throughout the whole twelve months of the year. There are at least three agricultural seasons for rice alone—the *Mayin*, or hot-weather crop, grown on swampy land, and reaped in May; the *Kauk-li*, grown on irrigated lands, between

February and June; and the *Kauk-gyi*, or ordinary rains crop, grown on land watered by rainfall or irrigation, often forming a second crop on the *Kauk-ti* land, and reaped at the close of the year.

The adjustment of the *thathameda* tax on the non-agricultural classes, and on those classes whose income is partly drawn from agriculture and mainly from other sources, is also an important duty of the Upper Burma settlement officer.

His report is subjected to very careful scrutiny. It is forwarded by the commissioner of division, with his remarks, to the settlement commissioner. That officer criticises it very carefully before submitting it to the Lieutenant-Governor, who, in consultation with the financial commissioner, passes final orders.

Administration

Defence.—Burma is garrisoned by a division of the Indian army, consisting of two brigades, under a lieutenant-general. The military garrison consists generally of between 10,000 and 11,000 men, of whom a little less than half are Europeans. Of the native regiments seven battalions are Burma regiments specially raised for permanent service in Burma by transformation from military police. These regiments, consisting of Gurkhas, Sikhs, Pathans, and Punjabi Mohammedans, are distributed throughout the northern part of Burma. The Burma command, till lately a first-class district, held under the lieutenant-general commanding Madras, is now a separate command. The total cost of the garrison amounts to about £60,000—a small amount, due to the tranquillity of the province.

The number of volunteers in Burma amounts ordinarily to about 2500 efficients. They consist of the Rangoon Port Defence Volunteers, comprising artillery, naval, and engineer corps; the Moulmein artillery, the Moulmein, Rangoon, Railway, and Upper Burma Volunteer Rifles, including several companies of mounted infantry.

The province receives occasional visits from the Indian

squadron, but there are no armed vessels specially attached to Burma. A number of boats of the Indian marine act as transports on the River Irrawaddy.

Police.—In addition to the garrison there are between 13,000 and 14,000 civil police, and between 15,000 and 16,000 military police. The military police are in reality a regular military force, with a minimum of two European officers in command of each battalion. There are twelve battalion commandants, and twenty-seven assistant commandants, whose services are lent, for periods of five and two years respectively, from the Indian army for this duty. The force is practically entirely recruited from the warlike races of Upper India. A small battalion of Karens was maintained for some time, but it proved a failure, and had to be disbanded. More recently, a company of Kachins was enlisted in the Bhamo battalion, and seems likely to do well, and to open up a special and wide field for recruits. A similar experiment is being made with a half company of Shans, which also shows promise. The Kachins had some experience of active service in 1900, and acquitted themselves well. Until 1905 the Southern Shan States had a military garrison, but since April of that year the country has been held by military police. The garrisons of the Northern Shan States, the Chin and Kachin Hills, have for some years been also military police.

For the control and management of the executive duties of the civil police there are district superintendents for each of the thirty-six districts of Burma, and fifty-nine assistant superintendents take charge of the more important subdivisions. The district superintendents have certain magisterial powers, but in all essential matters they are directly subordinate to the district magistrate. Numbers of Kachins, Karens, and Red Karens, and others enlist in the civil police, but the Burmese character is so averse to discipline and control that it is very difficult to get men of good class to enlist as constables. The fact that most of the police are illiterate proves at once that they are not a good stamp of men. Training schools have been established in most districts, where recruits receive instruction before being drafted into the police force. A great feature of the civil police ad-

ministration is the maintenance of a beat-patrol system. The chief advantage of this is that it enables the police to keep in touch with the village headmen in country places and with the headmen of wards and elders of blocks in towns. Information is thus rapidly and systematically received and given. Crimes of violence are now singularly few: the rate per mille latterly has been about ·05, which is very low for a population of 10,000,000. Cattle theft is very common, but the beat-patrol system is particularly useful in controlling this.

Persons suspected of bad livelihood are freely called upon to show cause why they should not be made to furnish security for good behaviour. Special enactments lay down that villages may be fined for harbouring criminals, or neglecting to take proper measures for their arrest, or may have primitive police quartered on them at their personal expense in aggravated cases. The result is that both headmen and villagers now freely assist the police, and anything like organised crime is becoming impossible. The identification of criminals by finger-prints has been practised for some years now, with satisfactory results.

Gaols.—There is total gaol accommodation throughout the province for over 15,000 prisoners, distributed over seven central and twenty-five district gaols. The accommodation is still somewhat insufficient but is being, enlarged. The Rangoon central gaol holds close on 4000 prisoners, and the gaol at Insein, close to Rangoon, has accommodation for 2000. In Upper Burma there are gaols for 1000 prisoners at Mandalay and Myingyan, and smaller gaols at other district headquarters. The control of the Gaol Department is exercised by the inspector-general, who is at the same time charged with the duties of the Civil Medical Department, and is superintendent of vaccination and sanitary commissioner as well. The two central gaols in and to the north of Rangoon are presided over by superintendents, who are medical officers, but elsewhere the civil surgeon of the district is also in charge of the gaol. All the gaols in the province are thus superintended by officers of the Indian Medical Service.

The number of convicts has at times been very large. In 1897 it reached the serious number of one convict to every 550 of the total population, but this proportion has been greatly improved upon in later years. A very considerable number of the commitments were of persons charged with bad livelihood and unable to provide security for good behaviour. These are usually natives of India. A reformatory for juvenile criminals is attached to the central gaol at Insein. A garden is attached to each gaol in which antiscorbutic vegetables are grown, to be added to the ordinary prison diet of curry and rice. The Government departments are furnished with furniture, clothing, and other articles produced by convict labour, and the articles sold to the public materially reduce the cost of maintaining the convicts.

Laws.—The law administered in the courts consists mainly of—(1) the enactments of the Indian Legislative Councils and of the bodies which preceded them; (2) statutes of the British Parliament which apply to India; (3) the Dhammathat, the Buddhist law on domestic inheritances and the like, and the Hindu and Mohammedan laws on similar questions; and (4) the customary law as regards various races, tribes, and castes. Much has been done towards consolidating individual sections of the Indian law; and in the Indian Penal Code, together with the Codes of Civil and Criminal Procedure, there are notable examples of what has been done in this direction.

A beginning has been made in 1905 of the separation of the judicial and executive services, but the scheme has not gone very far. The deputy commissioner still remains a civil and criminal judge of first instance, besides being a fiscal officer. He has also to concern himself with roads, sanitation, dispensaries, education, municipalities, gaols, and police. Besides being a lawyer, an accountant, and a clerk, he ought also to possess no mean knowledge of agriculture, political economy, and engineering.

Education

There is no Indian province which can compare with Burma in the number of the population able to read

and write. The number of literates among the men is, indeed, almost as high as the number in Ireland, and higher than the proportion in Italy. The proportion of the educated in the census of 1901 is by no means so favourable as it was in 1891, because a very much larger number of hill peoples was enumerated, but still Burma easily holds the first place. In the whole of India the number of literate persons per 1000 of each sex was 98 males and 7 females. In cities there were 259 literate males and 49 literate females. In Burma the figures were for the whole province: 378 literate males and 45 literate females. In the cities the figures were 469 males and 188 females, which is as much as to say that in the whole province 1 man in 3 could read and write, and in the cities every other man; while of the women about 1 in 20 were instructed, or in the towns about 1 in 10. There is nothing like this proportion of educated people in any part of India proper. Madras comes second with 119 literate males and 9 literate females per 1000; Bombay is close up with 110 literate males and 9 literate females; Bengal follows with 104 men and 5 women. The United Provinces and Hyderabad come at the bottom of the list with respectively 57 and 55 literate males and 2 and 3 literate females.

Burma has less than a third of the population of the Madras Presidency, yet the number of literate persons is very nearly the same. For Madras the figures are 2,436,743; for Burma 2,223,962. Of this total 1,997,074 were men and 226,888 women. This means practically that, on an average, of every 5 persons living in Burma 1 individual would have been found who was able to read and write. It is strange that the proportion of literates should be highest in the rural districts, and particularly in Upper Burma. The backwardness of Rangoon and parts of the Delta is, no doubt, due to the number of illiterate immigrants from India. Of the races of the province the Burman stands easily first with 490 males and 55 females per 1000, who are able to read and write. The Môn come next with 367 males and 62 females. Then come the Shans with 152

literate males and 9 literate females, and the Karens with 143 males and 37 females per 1000. These are the only indigenous languages in which literacy is possible, and many of the Karens and Môn are literate in Burmese and not in their own language. Chins and Kachins have no written character of their own. It is, therefore, to their credit that 48 Chin men and 2 women per 1000 were returned as literate, and 14 Kachin men and 2 women.

The fact that the proportion of literates in Upper Burma is higher than in the Lower province is a clear proof that, in primary education at least, the credit for the superiority of the Burman over the native of India is due to indigenous schools. There are no caste troubles and restrictions in Burma. The monastery school is open to all—to the poor fisherman's son as well as to the boys of the local magistrate. No one pays any school fees, and it is not carefully considered who it is that fills the monkish begging-pots in the daily round. Thus every Buddhist boy at least learns to read and write. He also certainly learns the five universal commandments, the five subsidiary rules, the Pali formulæ to be recited at the pagoda; but beyond these he learns little in the purely monastic schools, and what he learns later when he puts on the yellow robe does not add greatly to his stock of knowledge..

Sir Arthur Phayre made the first beginning of Government education in 1866. For many hundreds of years before, Roman Catholic missionaries had been at work in Burma; and at the beginning of last century American Baptists began labouring in the same field, and were joined later by the missionaries of the Society for the Propagation of the Gospel. These bodies taught children, and endeavoured to convert the grown up, and received grants in aid from Government, but until 1866 nothing had been done to raise the level of education in the Buddhist monastic schools. Sir Arthur Phayre appointed a Director of Public Instruction, ordered the preparation of elementary works on arithmetic, land-surveying, and geography, and created a body of teachers, who were ready to go round to such monasteries as were willing

to receive them, to assist the monks in teaching from the new manuals. Lay schools were first established in 1868. Assistant masters were trained in Rangoon, and lent where desired, and payments of rewards or grants-in-aid were made according to the result of the inspections or examinations held by the inspectors of schools and their subordinates. The lay and monastic schools did not go beyond primary instruction. Middle-class schools were maintained by the State to give a somewhat higher class of education, and town schools were established in populous places to fill the gap between the two classes, and were supported from municipal town or district cess funds. In 1880 annual provincial examinations were established, under a special departmental Board of Examiners, and nine standards of instruction were drawn up, and classes in the schools were made to correspond with these standards. The schools themselves are classified according to the standard up to which they teach. The ninth standard is the Matriculation Examination of the Calcutta University. Of the standards the first two are lower primary; the next two upper primary; the fifth, sixth, and seventh are lower secondary, or middle; and the last two are upper secondary, or high. Schools are correspondingly recognised as high, middle, upper primary, or lower primary, according to the highest standard which they teach. Schools are classed as public or indigenous. A school is public if the course of study corresponds to the standards prescribed by the Local Government or the University of Calcutta, or if it is inspected by the Education Department, or presents pupils at the public examinations held by the department, by the Calcutta University, or by the Education Syndicate of Lower Burma. An indigenous school is a school established and managed by natives of Burma or India, and conducted on native methods. It may be a monastic or a lay school. The monastic schools are attended by boys only; the lay schools are frequently open to both boys and girls, and there are also schools for girls only.

The gratuitous monastic schools, for boys only, still form the backbone of national instruction throughout all

the rural districts, and particularly throughout Upper Burma. There is a special set of standards for these indigenous vernacular schools, none of which teaches beyond the seventh, or lower secondary, standard. In order that they may earn grants-in-aid from Government they must have a working session of at least four months, and an average attendance of twelve pupils, of whom at least four must be able to read and write their vernacular according to the second lowest standard.

Non-indigenous schools, mostly established by missionary societies, receive grants-in-aid only when they comply with certain rules as to qualification of teachers, rates of fees, admission of pupils, accommodation, and discipline, but in no case is any grant given in excess of the amount contributed from private sources during the previous year towards the maintenance of the school.

An institution is considered to be under public management when it is under the direct management of Government, or of officers or committees acting on behalf of Government, or of local committees constituted by law Schools under public management receive no grants-in-aid; schools under private management may be aided or not; if they are public schools they are generally aided, but in any given year they may fail to earn grants if the inspection results unfavourably or if they fail to pass a sufficient number of pupils in the examinations. In Upper Burma all educational grants are paid from Imperial funds; there is no cess, as in Lower Burma, and, with the exception of Mandalay and Sagaing, municipal committees pay nothing to schools.

It was not until 1890 that the Educational Department took action in Upper Burma. In the previous year it had been ascertained that there were in Upper Burma 684 public schools with 14,133 pupils, and 1664 private schools with 8685 pupils. It is worthy of remark that of these schools 29 were Mohammedan, and that there were 176 schools for girls, in which upwards of 2000 pupils were taught. The whole of the departmental rules under which Buddhist priests and other heads of schools might look for assistance from Government were embodied in an education code published in 1891. The policy of Government

is rather to assist, regulate, and inspect schools maintained voluntarily by monks, laymen, municipalities, or other associations than to found and manage schools of its own. The work of the officers of the Educational Department is mainly concerned with such inspection and regulation. Commissioners of division and deputy commissioners of districts are generally responsible for the state of education in their respective jurisdictions, and are expected to do all they can for its promotion, but the four inspectors of schools look after the state of instruction in their circles and the character of the work done by their subordinates. For the special supervision and encouragement of indigenous primary education in monastic or in lay schools, each circle of inspection is divided into subcircles, corresponding with one or more of the civil districts, and each subcircle is in charge of a deputy inspector, or subinspector of schools.

Results grants are given for each pupil who passes an examination, and salary grants are given to enable indigenous schools to secure qualified teachers. They are not intended to be permanent, but are given to start the schools. Ordinarily they last for three years, are then reduced by half; last for two years more, and are then withdrawn.

The special Government schools existing in Burma are the five normal schools where pupil teachers are trained for municipal and aided schools; two Survey schools in Rangoon and Mandalay under the control of the Director of Land Records and Agriculture; an elementary Engineering School established in Rangoon in 1895; and a Vernacular Forest school for the training of subordinates, opened in Tharrawaddy in 1899. There is a law class at Rangoon College, but those desirous of studying medicine have to go to India. The Dufferin Maternity Hospital in Rangoon, however, trains women as midwives, and has already done much good in modifying the harsh and rude native practices.

In 1902 a school for the education of the sons of Shan chiefs was opened in Taung-gyi, the headquarters of the Southern Shan States, and is doing exceedingly good work in improving, mentally and physically, the future rulers of

the States and the sons of ministers and notables. The number of pupils rapidly mounted to eighty, and continues at that figure pending the extension of the school buildings.

An Educational Syndicate was established in 1881. It forms a committee appointed by the head of the province, and represents all educational interests. In 1886 it was incorporated to enable it to hold property in trust for educational purposes. The deliberations of this body, which is presided over by the Director of Public Instruction, are directed towards the furtherance of education generally, and more particularly towards improvements in the scope and conduct of examinations. It advises the Local Government regarding all standards of instruction below those prescribed by the Calcutta University, and undertakes the management of the middle school examinations and the educational tests for advocates, township officers (*Myoôks*), land revenue collectors (*Thugyi*), and clerkships in Government offices.

Of late years the progress of education throughout Burma has been continuous and rapid. The total number of schools of all sorts has risen to considerably over 17,000, in which nearly 300,000 children are taught. About 75 per cent. of these are private elementary schools. Slightly over 25 per cent. are primary schools, which are, as a rule, better attended. Secondary education, which gives instruction beyond the standard which qualifies for clerkships in Government offices, is imparted in seventeen schools with an attendance of more than 5000 pupils. University education does not make much progress in Burma. The average attendance at Rangoon College is still under 100 The Baptist College dates from 1895, and so far has not had more than an attendance of ten or fifteen pupils.

There are nearly 350 girls' schools, and about 33,000 girls receive instruction in them. This is a very important advance, for the women of Burma are far more capable, steady, and business-like in their character than the men. Education among the frontier tribes hitherto has been carried on only by the American missionaries, who have begun work in the Chin and Kachin Hills and in the Shan States. It is chiefly among the hill Karens that they

make progress. Both the Roman Catholic priests and the American Baptist and Presbyterian missionaries have made many converts there.

HISTORY

Sonaparanta was the classical Pali title given to the country round the capital in Burmese State documents and enumerations of the style of the king. Sona is the Pali form of the Sanskrit Suvarna, and pranta, or aparânta, is the same in both languages, so that the meaning is the "golden frontier land," the Suvarna Bhumi of the Buddhist legends. Therefore Burma is the Chrysé Regio of Ptolemy, who mentions that fleets went thither from Ceylon. It is significant that Tambadipa (copper island or region) was also used in the royal titles, and this, no doubt, was the Chalcitis of Ptolemy. In the time of the Ptolemies of Egypt there was a vigorous Alexandrian trade between the Mediterranean and the Indian Ocean, and trading colonies were sent eastward, as the Phœnicians and Greeks had sent them to the countries of the west. It is certain that in 166 A.D., probably in the lifetime of the great mathematician and geographer, an envoy, or mercantile adventurer, purporting to have been sent by one of the Antonine Emperors of Rome, made his way through the Indo-Chinese peninsula to the Chinese Court. Thatôn in the Môn language means the golden region, and Thatôn was at that time on the sea-coast. The corrosion of sea-water is still clearly traceable on the numerous boulders which line the base of the hills stretching from Shwegyin to Martaban, now far inland. Cables and tackle of sea-going vessels have been dug up near Ayetthima, the ancient Takkala, now 12 miles from the sea-coast, and within recent memory the remains of foreign ships have been found near Tunte, not far from Rangoon, buried 8 feet under the surface of the earth.

This is the earliest reference we have to Burma. There is nothing in Chinese history about any Burmese nation until the sixth century of our era, though there are distinct statements that emigrants from India founded kingdoms

in Sumatra, Java, Borneo, and Cambodia, or Champa, or Funam, as it was then called by the Chinese. These early arrivals were Brahman and Buddhist missionaries, traders, and military adventurers, and they acquired administrative authority, and founded kingdoms. The Chinese had clearly defined relations with the Ai-lao of Western Yünnan in the first century of our era, and it is mentioned that the Piao were subject to the Ai-lao. These may have been the Pyu, who were one of three tribes, the Pyu, the Kanran, and the Sek—whom, we are told, the Kshatriya princes welded into one race. In the days when China consisted of three kingdoms, K'ung Ming, better known as Chu Koh-liang, carried his arms, about 220 or 230 A.D., as far as T'éng-yüeh; but still there is no reference to the Burmese, or to any kingdom beyond that of the Ai-lao. Chu Koh-liang is well known in Chinese legend as the originator of the name for dumpling. Instead of sacrificing a man before the passage of a river by his army he offered a head made of dough—whence the name *Man-t'ou*, given to dumplings. The name of Chu Koh-liang is also associated with a deep-rimmed gong, which is identical in shape with the *Hpa-si* of the Red Karens. This may supply a hint for the original home of the Karens, but it throws no light otherwise on the early history of Burma.

The Royal History.—The Burmese Mahā-yazawin gives a history which is entirely legendary in its earlier stages, although formal lists of kings of Arakan from B.C. 2666 down to 1784 A.D. are carefully recorded. The lineage of the early kings is traced to the states of the Sakya Yāza, in Northern India, and one of these, Abhi Yāza, is said to have left Kappilavāstu with an army with which he established himself on the Irrawaddy River, and built the city of Tagaung, the ruins of which still exist, covered with primæval forest. Abhi Yāza had two sons: the elder, Kan Yāza-gyi, marched southward, and founded the kingdom of Arakan; the younger, Kan Yāza-ngè, remained behind in Tagaung, and was succeeded by thirty-one descendants, when the Tarôk and Taret from Gandalarit came and destroyed the dynasty and the town. The Tarôk seem almost certainly to have been Tai, and Gandalarit is Yünnan.

This was in the lifetime of the Buddha Gautama, and at the same period another band of Kshatriyas came from Gangetic India, led by Daja Yāza. They settled at Mauriya, east of the Irrawaddy, near the modern village of Mweyen; but before long Daja Yāza married the widow of Beinnaka, the last King of Tagaung, and moved his capital north to that site, which now acquired the name of Old Pagān. Daja Yāza had sixteen descendants on the throne, and then invaders put an end to this dynasty also. The posthumous sons of the King were set afloat on the river, and drifted down to Prome, where, in due course, the elder, Mahā Thambawa, established a dynasty. He was succeeded by his brother, and he by Mahā Thambawa's son, Dottabaung, who built a capital at Tharekettara, east of the modern Prome, which lasted for about five centuries, and came to an end in obscure civil wars, in which the Pyu, the Kanran, and the Bamā were engaged, about the beginning of the Christian era, when Pagān was built, and called at first New Pagān, with Thamôddarit, the chief of the Pyu clan, as king.

The Royal Chronicle is very obscure as to the sequence of events, but it seems most probable that the fighting which ended in the destruction of Tharekettara and the building of Pagān was carried on by settlers from India, who had come by sea to Prome, which was then on or near the coast, with the older Indian immigrants, who had come to Northern Burma by way of Manipur. About 450 A.D. Buddhagosha came to Thatôn, as it is usually believed, but really to Gola-nagara according to Forchhammer. Gola-nagara is about 22 miles north-west of Thatôn, and Forchhammer thinks that *kulā*, the name for foreigners, is derived from this town. The settlement and building of Thatôn is placed much earlier: in B.C. 534, when two princes came from Telingana, and after conflicts with the *asurasa*, the *rakshasa*, or *bilu* as the savage, aboriginal inhabitants were called, in imitation of the Mahabharata, established themselves firmly. Hansa Wadi, or Pegu, was built by colonists from Thatôn, but not for more than 1000 years, in 573 A.D., probably because meanwhile the sea had receded from Thatôn, but, according to the legend, because the two prince-leaders were expelled from

Thatôn, on the ground that they were not fit to succeed there, since their mother was a *nagama*, a daughter of the land. The Burmese Royal Chronicle gives little more than a nominal list of the kings of Pegu and Thatôn, but as this merely represents a restraint on their powers of fancy it is the less to be regretted. The whole of this early history is a mere fantasy of Gorgons and Hydras and Chimæras dire. In the early history of Thatôn there was a struggle between Brahmans and Buddhists, and it was possibly only on the landing of Buddhagosha with a volume of the Scriptures from Ceylon that this was ended. Tradition as well as induction from references in the Chinese annals seems to prove that the northerners were also Buddhist, but their form of Buddhism was probably as corrupt and as full of "devil-worship" as the Buddhism of modern Tibet. About 500 years after the establishment of the Pagān monarchy the King Thenga Yāza established the Burmese era in A.D. 639. Thenga Yāza had been a monk, but he re-entered the world, and married the wife of his predecessor. The common era which he established began on the day when the sun enters *Aries*, the first sign of the Zodiac, about the month of March.

The early history of Burma is made up largely of legendary matter, and concerns itself with the petty kingdoms of Arakan, Pegu, and Tavoy, of Prome and Taungoo, besides that of Burma proper in the north. These histories may be disregarded. That of Arakan never concerned the national history. Tavoy was soon absorbed in Pegu, and so was Thatôn. Prome merged in Pagān, which came to mean Upper Burma; and Taungoo never was of importance, except as the temporary receiver of Peguan strength. There is no real Burman history till the time of Anawrat'ā, who succeeded to the throne of Pagān in 1010 A.D., and became the first Burmese national hero. There had been fighting between the Burmese and the Môn before this, but from now on began the struggle between Burma proper and Yamannya, the coast-wise country between the Sittang and the Salwîn Rivers, the home of the Môn. This struggle was not finally ended till the capture of Dagôn and the founding of Rangoon in 1755.

Anawrat'ā immediately set himself about putting an end to the serpent-worship which had been established in Pagān about 100 years before by a usurper-king, Saw Yahan. The priests of this worship were called Arī. They lived in monasteries, but are represented as being of dissolute life. A missionary, called Arahan in the Royal History, came to Pagān, and preached the law. The false Arīs were expelled, and orthodox monks were invited to come from Thatôn. King Anawrat'ā sent an envoy to King Manuha of Thatôn to ask for a copy of the Tripitaka, the Three Baskets of the Law. King Manuha refused, so the Pagān King raised an army, and after a siege, which lasted long, destroyed Thatôn, and brought the Books of the Law, the King, and the people in a mass, to Pagān. From this time dates the construction of the temples which make Pagān so remarkable a place in the dead cities of the world. It is expressly stated that the temples were built on the model of those existing in Thatôn. The remains there at the present day are so singularly inadequate that it has been suggested, with some reason, that the capital which Anawrat'ā overthrew was not Thatôn, but Angcor, whose remains, with those of Boro-bodor, in Java, alone compare with the deserted fanes of the city on the Irrawaddy. This seems partly confirmed by the fact that Pegu was apparently left untouched by the conqueror, though he must have passed close by it on his march and on his return. It seems probable that Pegu was already then a more important place than Thatôn. The Môn chronicle says nothing of the fall of the city, though it bewails the punishment of the race by the hated foreigner. This might well be if it was the Hkmêr kingdom, and not the Môn, which was overthrown.

Having got the holy books from the Môn, Anawrat'ā next desired holy relics from China. He believed, and the Royal Chronicle believes, that he really reached Chinese territory. He marched to Gandalarit, which is the modern Yúnnan. That territory was then the independent Tai kingdom of Nan-chao, and it is a practical certainty that Anawrat'ā saw few Chinese, no Chinese official, and that the "Emperor" whom he met was the ruler of Nan-chao. He did not obtain the Buddha's tooth, which he sought,

BUDDHISM AND SERPENT WORSHIP.
(A *Nagā* encircling a Pagoda.)

but he brought away a golden image, which had been in contact with it. On his return march he married a daughter of the Tai chief of Möng Mao. The vicissitudes of this lady, who was much plotted against by jealous rivals, were dramatised, and the play remains to the present day one of the most popular on the Burmese stage.

The visit had several far-reaching results assuredly never contemplated by Anawrat'ā. The Court chroniclers duly recorded that the march had resulted in the submission of the kingdom of Pông, with the result that that phantasm joined the company of Prester John, the Wandering Jew, the Holy Graal, the Aelia Laelia Crispis, and other intangibilities. Ney Elias was persuaded that the small state of Mao was the kingdom of Pông. Other people have sought to identify it, as if it were a Happy Valley. Further, some golden vessels, which were sent to the real Emperor of the Sung dynasty, were noted as tribute, and in 1106 A.D. a white elephant, which was sent as a present to the Hwang-ti, confirmed the idea, and brought about the grading of the King of Burma on the same footing with the caliphs of Bagdad and the King of Annam in Chinese annals. Anawrat'ā is said to have marched as far as Bengal. It is claimed that he made Arakan a tributary state. It is more than probable that he actually did receive tribute from the petty Shan principalities which were already then established in Northern Burma. At any rate he is the first outstanding and certain figure in Burmese history.

Kyanyit-tha, a son of Anawrat'ā, who succeeded an elder brother, was the founder of the Ananda Pagoda at Pagān, the earliest, and, perhaps, the most impressive of the great temples still remaining. Several of his successors also built great temples, and, though many of the kings were parricides and fratricides, the Burman Empire from the eleventh to the thirteenth centuries was prosperous and powerful, and it is particularly to this period that the temples of Pagān, one of the glories of Asia, belong.

The beginning of the thirteenth century was signalised by an invasion of Pegu by the King of Ceylon. The Burmese chronicle ignores this, and the Cinghalese chronicle

probably exaggerates its magnitude, but the Chinese annals take note of it, and record that a Twan general of Nanchao helped the Burmese to defeat and expel the Ceylon invaders. The Burmese claim Nan-chao for a tributary, while the Tai put their relations the other way. The probability is that they were merely allies. It was apparently this relationship which brought about the first Burmese collision with China.

While the last King of Pagān, who is branded for all time as Tayōk Pyi-min, the King who ran away from the Chinamen, was building the gorgeous temple which Ser Marco Polo calls a golden tower, the Mongols were overthrowing the Sung dynasty. Kublai Khan, the lieutenant of his brother Mangu, overran Yünnan, and put an end to the Tai kingdom of Nan-chao in 1254. Twenty years later Kublai Khan completed the conquest of China, and himself became Emperor. He sent a demand for tribute from Burma. What exactly happened is by no means clear. Phayre proves to his satisfaction that there was only one battle—that at Male. The Royal Chronicle mentions several. The Chinese annals also mention several, but it is probable that the alliance between Nan-chao and Burma has led to much confusion. It seems most improbable that it was the Burmese who fought in the "great plain of Vochan" (Yung-ch'ang), as Marco Polo asserts it was. There may have been a Burmese contingent, but the probability is that it was a last Tai effort against Uriang Kadai, the governor Kublai Khan had established in Tali-fu. Marco Polo says the battle took place in 1272. Yule considers that 1277 was the more probable date. The T'êng-yüch annals say that the Burmese attacked Kan-ngai in 1277. Kan-ngai is a Shan-Chinese state which was founded in 1260, and still exists. The Burmese were beaten, and the Mongol general, Nas'reddin, followed them up to the plains, but retired on account of the great heat. In 1283 he came back again, and attacked and stormed the Burmese fortified post at Kiangt'ou, called in Burmese Ngatshaungyan, neither of which names are now known, but the place was apparently not far to the south of Bhamo. Finally, in 1286, he overthrew the Burmese army at Male. This is a

common Burmese place name; but the scene of the battle seems to have been 100 miles south of Bhamo. Upon this the King fled from Pagān, and it is assumed that the Mongol armies pushed on and sacked the capital. Mr E. H. Parker was the first to point out that this is extremely doubtful, and that it is still more unlikely that they got to Tayôkmaw, south of Prome, as it has hitherto been assumed, mainly on the strength of Horne Tooke etymology, that they did. It seems almost certain that the Pagān the Mongol armies got to was Old Pagān, Tagaung, and that the modern Pagān, several hundred miles farther down the river, was sacked, partly by the defeated Burmese soldiery, enraged at the flight of their King, and partly by the Tai forces, who formed, probably, the outer fringe—that is to say, in the case of retreat, the rearguard—of the Burmese army. The only thing that is certain is that Pagān was plundered and destroyed. Another notable point is that the Chinese histories begin to speak of the Burmese as Mien from this time. The name Mien-tien for Burma does not appear to have been used before 1427.

Kyawzwa, a son of Tayôk Pyi-min, reigned for a short time as King of Pagān, but the rest of the kingdom broke up. All the littoral provinces except Bassein asserted independence. The north also separated, and fell completely into the hands of the Shans. The exact position of the Shans in Upper Burma up to this time is somewhat obscure. It is probable that the principalities of Mogaung and Mohnyin (Möng Kawng and Möng Yang) were feudatories of Pagān, but the common assertion of the Burmese Royal History, and of English historians since, that the Shan States now regained their independence, is manifestly absurd. The Shans may have been allied; they certainly were not dependent powers.

The Shan Kings in Burma.—The Shans settled in Burma were now vastly increased in numbers by the Tai, driven from Tali, or migrating of their own accord from there. In a very short time Thihathu took the title of King, and built himself a capital at Panya, north of Myinsaing. A son of his declared himself independent King of Sagaing, and in 1364 this kingdom absorbed Panya, and Thado-

minbya, the ruler of the greater part of Central Upper Burma, built himself a capital at Ava. This place, at the confluence of the Namtu, or Myit-nge, with the Irrawaddy, was destined to be capital again and again, and it was given the Pali name of Ratanapura, the City of Gems. His successor, Mingyi Swa Sawkè, made himself master of all the country down to Prome, and attacked Pegu. That kingdom had broken up after the fall of Pagān. A Shan, Wareru, had made himself independent King of Martaban (Mōttama). He was called upon now to assist Pegu against the Burman invader. He came, and the united armies drove the Burmese back from Dalā, opposite Rangoon, then non-existent. Wareru then quarrelled with the King of Pegu, defeated and killed him, and became King of Pegu. He was soon assassinated; but there were now two kingdoms face to face—Ava and Pegu—and the Burman and the Môn began their long struggle for supremacy. Arakan meanwhile had become independent, and, though it had occasional quarrels of its own, generally stood apart, barred off by the huge rampart of the Yoma Range.

Pegu and Ava fought for thirty years, first one and then the other assuming the aggressive, and then troubles with the Shans diverted the attention of the Burmese. They were engaged in repeated struggles with the chiefs of Myedu, Mogaung, Mohnyin, and Onbaung (Hsipaw), and in the end, in 1533, the Mohnyin chief became ruler of Ava.

During this time Pegu had had a period of comparative peace, though there were rivalries between the princes of Pegu and Taungu, which meanwhile had risen to importance. About this time began the visits of the Portuguese and other adventurers, and many "Portugals" from this time on fought as mercenaries in the wars. De Cruz and Cæsar Frederick were dazzled by the magnificence of "the Brama of Toungoo"; and the floridness of Fernão Mendez Pinto's descriptions of the power and glory of the Kaliminham and the Siamon have so far directed suspicion against his truthfulness that no one has been careful to ascertain who these mighty potentates were. It seems not impossible that Timplan of Tinagoogoo,

the Kaliminham's capital, may not have been in Burma at all, but may have been a Cambojan capital, and it seems not unlikely that the Siamon may have been a Shan ruler in Hsenwi, or the states thereby.

Tabinshweti.—Taungu grew rapidly into power while Burma was engaged in its struggles with the Shans. It was nominally a province of Ava, but gave a great deal of trouble, and was frequently in alliance with the King of Prome, in open rebellion against the suzerain power. Many notables from Ava made their way to Toungoo, particularly after Thohanbwa (Shan Sao Hanhpa), the Mohnyin prince, ruled there. In 1530 Tabinshweti became King. His exploits make him, together with Anawrat'ā and Alaungpaya, one of the three great heroes of Burmese history. In 1539 he conquered Pegu, and established himself there as King. Shans, Indian Mohammedans, and a Portuguese galliot under Ferdinand de Morales, from Goa, took part in the defence of Pegu; but they were beaten, and the Portuguese commander was killed. In the following year Tabinshweti took Martaban, then a great port, with not a little Portuguese shipping. In 1542 he took Prome, and in the rout of the Shan and Arakanese auxiliary armies there, the guns brought into the field by Tabinshweti, and served by Portuguese gunners, played a chief part. Tabinshweti and his great general, Buyin-naung, marched to Ava, but retired before the strength of the position and the great force of the Shans, and contented themselves with taking Pagān. Arakan was invaded in 1546; and then the King invaded Siam, and reached Ayuthia, but found the position too strong for assault, and retired to Pegu. His artillery had been commanded by a Portuguese, James Suarez, who taught the King to drink, and soon after this Siamese expedition the young King (he was only thirty-six) became a hopeless drunkard. He was murdered in 1550 by a Môn noble who had been appointed his guardian, and who for a time figured as the last Môn king of Pegu. He was, however, overthrown within the year by Buyin-naung, brother-in-law of Tabinshweti, who became King, and, after careful preparations, besieged, and took, Ava in 1554, and then proceeded to subdue the Shan chiefs of Northern Burma

as far as the Patkoi Range, which separates Assam from Burma. Buyin-naung, notwithstanding his conquest of Ava, retained Pegu as his capital; but in 1558 he had to march on Hsipaw and Monè, and, after punishing them, went south to Chiengmai, and overcame and received the allegiance of that state, where he afterwards defended the tributary prince against attacks from Linzin, Luang Prabang, or Wying Chan, on the Mèkhong River.

In 1564 he marched down the Mènam, and, after taking three Portuguese ships moored in the river, entered Ayuthia, and carried off the King of Siam, his queens, and three white elephants. In the following year his son marched on Wying Chan, on the middle Mèkhong, and captured it. The Wying Chan prince himself escaped, but his spouse and many prisoners were carried off to Chiengmai and Pegu. The King of Siam's life had been spared, and he was allowed to put on the yellow robe, and become a monk, and even permitted to return to Siam to worship. His son Bramahin, who had been appointed tributary King of Siam, now revolted; but another invasion of Siam resulted in the capture of Ayuthia for a second time, in 1568. Buyin-naung then invaded the Eastern Lao country, and reoccupied Wying Chan, but wore out his army in the pursuit of an enemy who would not fight. He then returned to Pegu, and, though he had no more great expeditions, had much fighting with the Northern Shans and with the Lao, where he appointed one son the Yuva Yaza, Viceroy of the Eastern Lao country, and the other Nawrat'a Zaw, tributary King of Chiengmai, under the Yuva Yaza. At last, in 1581, Buyin-naung died, while engaged in an expedition for the subjugation of Arakan. Buyin-naung built a ship of his own, which he sent to Ceylon and to ports in Southern India. His reign extended to thirty years, and the Venetian traveller, Cæsar Fredericke ("Purchas's Pilgrims"), says of him: "The King of Pegu hath not any army or power by sea, but in the land, for people, dominions, gold and silver, he far exceeds the power of the Great Turk in treasure and strength." Buyin-naung, as well as Tabinshweti, assumed the title of King of Kings. These two Kings

had not only united Burma and Pegu, but had extended their empire from the Gulf of Martaban to the borders of China and Tibet, and from the Arakan Yoma to the Mekhong River.

On the death of Buyin-naung his eldest son, the Yuva Yaza, succeeded. He is called Nanda Buyin in the Môn chronicle. His uncles, the Kings of Prome and Taungu, came to Pegu, and did homage to him as Supreme King, and so did the King of Siam, but another uncle, the King of Ava, first made excuses, and then tried to arrange a conspiracy. Buyin-naung marched on Ava, and defeated the King, who fled to China, and died there. But meanwhile the King of Siam had fallen away. Repeated attempts to retake Ayuthia resulted in disaster and immense losses of men, including Buyin-naung's eldest son; and the King of Siam, Bya (or Chao) Narit, even advanced as far as Martaban. Upon this the other tributary kings fell from their allegiance. Buyin-naung was captured by the King of Taungu, taken to that place, and before long secretly put to death, in 1599. The empire then broke up. The King of Siam took Martaban and Tavoy, and appointed Môn notables to hold the two districts on his behalf. The King of Arakan, who had joined with a fleet in the investment of Pegu, left a garrison in Syriam, and instead of a kingdom there was a mere collection of petty principalities. The Arakanese governor of Syriam was not even a native of the country: he was a Portuguese, Philip de Brito, who had formerly been a ship's boy. Ralph Fitch, the first British trader in Burma, found Pegu and Taungu flourishing cities in 1586. In 1600 the Jesuit Boves describes Pegu as a melancholy mass of ruins. The treasure of 100 conquered principalities had been scattered to the winds.

Philip de Brito broke with the King of Arakan, and got help from the Viceroy of Goa. He defeated an Arakan fleet sent against him, and captured the son of the King. An alliance between Taungu and Arakan failed to overcome him, and he might have established himself in the deltas of the Irrawaddy and the Sittang if he had behaved with reasonable decency. But he

spoiled Buddhist temples and forced Christianity on multitudes. The son of Buyin-naung had remained King of Ava. He extended his authority over the Shans, and down to Yamèthin, and when he died his son took Prome after an investment of eight months. The King of Taungu accepted his suzerainty, and for this was attacked by Philip de Brito, who took him prisoner, and plundered the city. Maha Dhamma Yaza, the King of Ava, then proceeded to invest Syriam, forced it to surrender, impaled Philip de Brito, and carried off many Portuguese as prisoners to Ava, where their descendants are now known as native Christians, and formed artillerymen more than 200 years later. Syriam was taken in 1613. The King of Taungu was put to death. The King of Martaban submitted to Ava, and for a brief period the empire of Buyin-naung was almost restored under Maha Dhamma Yaza, who took Pegu for his temporary capital in 1615. He occupied Tenasserim, and subdued Chiengmai, but did not proceed towards Wying Chan. He had communications with Jehangir, the Emperor of India, and with the Sultan of Atchin, probably with reference to contemplated action against the Portuguese; and he also exchanged missions with the Viceroy of Goa, to find out his attitude. He hung a bell at his palace gate, with inscriptions in Burmese and Môn directing those who were wronged to strike the bell, and the King would hear their cry. He was, however, murdered because of "an unutterable crime" committed by his son.

He was succeeded by a brother, Thado Dhamma Yāza, in 1629, who up till then had been King of Prome, and now became King of Kings. He paid a long visit to Chiengmai, and was consecrated at Pegu on his return, in 1632. Two years later, however, he transferred his capital to Ava, and built the huge Kaung-hmu-daw Pagoda, on the Sagaing side of the river.

This is the last of Pegu as the capital of all Burma. The Môn had, however, become to a certain extent fused with the Burmese, largely through the rise of the Taungu kingdom and the common action against the Shans of the north. The two nations had by no means become friendly—there was, in fact, a sullen opposition to the

neglect of Pegu on the side of the Môn; but acquaintance had begun, and the races had got to know one another through the depopulating wars of two centuries. There was a sort of armed truce for nearly 150 years, during which Ava remained the capital. The empire, however, dwindled away. A chief from Manipur occupied the Kubo Valley; Chiengmai fell to the Siamese; and other outlying dependencies were lost. This was mainly due to the incompetence of the kings, but also in some degree to the danger which threatened from China. Burma sent "tribute" to China in 1628, the first year of the reign of the last Ming emperor. After this it is expressly stated by the Chinese annalists that no presents came from Burma to Peking until 1750. In the interval the Manchu Tartars were possessing themselves of the country, and establishing the present Ch'ing dynasty. The last Ming prince, Yung Lei, or Yunhli, as the Royal Chronicle calls him, retired to Yünnan, and thence fled to Burma, where he had asylum for a short time. But when a Manchu army marched on the capital the Burmans promptly surrendered him to avoid war. Phayre says Yung Lei was taken to Peking, and strangled. Mr E. H. Parker says he died of a carbuncle, and that his son was forced to commit suicide at Yünnan-fu in 1662. In any case the Ming family was ended, and the *Mahā Yazawin* is obviously ill at ease in trying to explain Burmese want of chivalrous hospitality. The punishment came in the dislocation of affairs. A Manipuri army raided down as far as Sagaing, but did not attempt to cross the Irrawaddy. The Peguans became restive, and made several devastating attacks on Burma—fruitless, except for the capture of Prome. A mysterious Gwè Shan colony became prominent about this time. These Gwè Shans were brought down to Burma as prisoners of war by Buyin-naung, and were settled north of Pegu. Who they were does not appear. The name suggests Möng Kwi, the La'hu country to the west of Kēnghūng town, or they may have been Wa from the country still farther to the west. It is possible that this Gwè Shan colony, which appears now for the first time, and then, after a few paragraphs, vanishes altogether from history, may be the origin of the

Riang tribes, or of the Danaw and Dayè in the Myelat. If it is not, it supplies a hint as to how these small, isolated colonies may have come to where they now are. However that may be, in the interval of the murdering of Burmese governors of Pegu by the Môn, the Gwè Shan appeared, and joined the Môn in killing another governor. One of them, who had been a monk, was elected King of Pegu, and accepted by the Môn under the title, Mintaya Buddha Ke-hti. He led a wild-cat enterprise against Burma, and ravaged the country up to the walls of Ava, but was attacked by Burman armies on north and south, and had to retire with great loss. War went on in an aimless, endless, and wholly random way in both the Irrawaddy and Sittang Valleys, with no results but continuous loss of life. Then the Gwè Shan King suddenly left Pegu, laid down his crown, and wandered away into the Lao states, Cochin China, and China. He had been a popular King and possibly on this account one of his generals was chosen as his successor. He bore the famous Môn name of Binya Dalā, but seems also to have been a Shan. The Môn had meanwhile possessed themselves of both Prome and Taungu, and so harassed the Burmese, pending the assembling of a great army, that the King of Ava sent in 1750 the tributary presents to China referred to above. The following year the advance began. The Môn were well supplied with guns from European traders. They had also a number of renegade Dutch and native Portuguese gunners, and a powerful flotilla of war boats proceeded up the Irrawaddy. The army, under a general named Talaban, marched up the west bank of the Irrawaddy; and in 1752 Ava fell, after a not very formidable resistance. The King of Burma and all his family were taken prisoners, and carried off to Pegu, and the city of Ava was burnt.

Alaungpaya.—Binya Dalā returned to Pegu, and his brother, the Yuva Yāza, and Talaban were left to subdue the upper country. The Yuva Yāza also soon retired, leaving Talaban with greatly reduced forces. The different local officials submitted over all the north, with the exception of the village of the Mókso-bo, the hunter chief. He slaughtered the Môn detachment which came

to collect taxes. He gathered more and more men round him, and assumed first the title of Aungzeya the Victorious, and then that of Alaungpaya, the embryo Buddha. The name is often written Alompra by European historians. Within the year he had captured a great part of the Môn flotilla, and proceeded to the investment of Ava. But Talaban did not stand a siege, and made a rapid retreat by night, and Ava was occupied by Alaungpaya in December 1553.

Binya Dalā assembled another army, blockaded Prome, which had not been taken, and proceeded to invest Ava for the second time in 1754, the Yuva Yāza being in command. A son of Alaungpaya held Ava; and he himself watched operations from Môkso-bo (Shwebo), and, suddenly advancing, defeated covering parties, and frightened the Yuva Yāza into retreat on Prome. This town was now invested by the Môn; but the siege was raised, and the Môn driven from their earthworks, in 1755. The fiercest fighting was between the war boats. Many of the Môn boats were furnished with artillery from the French at Syriam, and a number of these fell into Alaungpaya's hands. He moved on slowly, taking Lunhsè—whose name he changed to Myan-aung, "speedy victory"—Henzade, and Danubyu, and in the beginnning of May 1755 drove a Môn force from the plain of Dagôn, where he laid out a town, and called it Yangôn, the finish of the war. This is now Rangoon, the great port of Burma.

Alaungpaya now made preparations for the capture of Syriam below Rangoon. From 1709 onwards there had been a permanent British factory here. British traders had settled before, but had been withdrawn. The main British factory was at Negrais, which had been occupied as a depot by orders of the Governor of Madras, without, apparently, the formality of consulting the Government of the country. The factories at Bassein and Syriam were subordinate to the Negrais island depot, where Brooke was the chief. The French also had a factory at Syriam under Bourno. The war in the Carnatic was over for the time, and there was peace between England and France. Both parties played a deceitful game; but, on the whole, the French supported the Môn, and the British supplied

the Burmese with arms, and sent Captain Baker on a mission to Alaungpaya at Ava. The King had gone there to arrange for the meeting of the attacks of some of the Northern Shans, and also because little could be done during the rainy season. He left the Burmese army entrenched at, and opposite, Rangoon. During the rains the Môn several times attacked the Burmese works, and were on several occasions certainly supported by both British and French ships, but the assaults were unsuccessful.

Alaungpaya came to direct the assault on Syriam in person in February 1756, and in July it was taken. The British factory staff had been imprisoned by the Môn, and were now set free. Unhappily for the French, two ships with warlike stores for the Môn arrived immediately after the fall of the works. One of these was decoyed up the river, and when the destination of the war material became evident Alaungpaya put the ships' officers and Bourno and his staff to death.

The King now moved on to Pegu, and took it without much trouble. The Môn sovereign was sent through Rangoon to the Burmese capital as a prisoner, and many thousand Môn were sold as slaves. With the fall of Martaban in 1757, and of Tavoy in the same year, the Môn kingdom came to a final end. The common use of the name Talaing seems certainly to date from now. It means the downtrodden, and may, therefore, have been thought specially appropriate; but it appears certain that the name existed before, and was not an ungenerous nickname, now first used.

A couple of years later the Môn rose in despairing and fruitless revolt. It was proved to Alaungpaya's satisfaction that the British depot at Negrais had supplied the rebels with arms and stores, and there seems no reason to believe that this was not the case. The Negrais settlement was attacked. All but a few of the British and Indians in the place were massacred, and the settlement was destroyed in 1759.

In the following year Alaungpaya invaded Siam. He went by way of Mergui and Tenasserim, and camped before Ayuthia. He was, however, taken ill, ordered the

retreat of the army, and died before he reached Burma. He was only forty-six years of age, and had reigned eight years. His capital was Môkso-bo, or Shwebo.

Naungdawgyi.—Alaungpaya left six sons, of whom the eldest succeeded, and is known by the dynastic title of Naungdawgyi, the elder brother. The general commanding the army returned from Siam rebelled, or was forced into rebellion, but was overcome at Ava. Captain Alves, deputed by the Madras Government to secure redress for the Negrais massacre, was received in audience by the King at Sagaing. No redress was given, but a grant of land was made to the British at Bassein, and some of those who had been taken prisoners were set free. Naungdawgyi only lived three years, and died at Sagaing in 1763.

Sinbyushin.—He was succeeded by Alaungpaya's next son, the Governor of Myedu, who took the dynastic title of Sinbyushin, the Lord of the White Elephant. He immediately began preparations for the invasion of Siam, and meanwhile marched on Manipur, where he defeated the Raja, drove him to the hills, and carried off many thousand captives. In the second year of his reign he settled at Ava, and made it his capital. One Burmese army operated by way of Chiengmai, which was taken without much trouble. The Prince of Lantsan, then resident at Muang Lim, submitted, and Lakawn became the headquarters of this force. The southern force crossed over by way of Mergui, and defeated the Siamese at Kamburi. In 1766 the two armies converged on Ayuthia. The siege was kept up throughout the rains, and the city fell before a general assault in April 1767. The King of Siam was killed, the city was destroyed by fire, and the whole of the royal family were carried off as prisoners.

Chinese Invasions.—It fell at an opportune moment. There were quarrels with China over trade matters. A Chinese army marched on Kēnglūng, and invested it; but the Burmese force from Ayuthia reached the town in July, drove back the Chinese, and defeated them, with the loss of their general, near the Mèkhong. Another Chinese army marched on Bhamo, and entrenched itself at Kaungton, while a third appeared by way of Hsenwi. They

were outmanœuvred by the Burmese. Detachments were cut up in detail, and the main army retired on China. Mingjwei, the general in chief command, committed suicide in terror of Kien Lung, the Grand Monarque of China, who had set his heart on the conquest of Burma, when in the following year a much larger invasion of the Chinese was driven back, through Taungbaing. A fourth army was sent in 1769, and established itself in a great stockade at Shwenyaungbin, 12 miles east of Kaungton. That position was attacked by the Chinese, and there was much aimless fighting, the eventual result of which was that the Chinese were hemmed in at Shwenyaungbin. Chinese craft then prevailed, and a written contract of settlement was drawn up, the most important clause of which provided that "letters of friendship" were to be sent every ten years. This is the origin of the Burmese Decennial Missions. The Chinese retired. The King Sinbyushin was furious, refused to accept the Chinese presents, and on the return of Mahā Thihathura to Ava, banished him and the other Burmese signatories of the treaty for a month. The Barnabite missionary, Father Sangermano, who arrived in Burma in 1783, fourteen years after the four campaigns were over, says that the success of the Burmese was largely due to their artillery, which was served by "the Christians"—that is to say, by the descendants of the Portuguese and French captives.

War with Siam.—The Siamese royal family had been carried off, but there arose a patriot named Phya Tak, said to have been the son of a Chinaman, who rallied the Siamese armies. He gradually drove back the Burmese detachments, recovered Wying Chan (now called Vientian by the French, the Burmese Linzin, and the Lantsan of the Chinese), and defeated an army which Mahā Thihathura led down to Sukkhotai and Pitsanalōk. The Burmese generals quarrelled among themselves, the Môn army rebelled, and attacked the Burmese force, and pursued them as far as the stockade at Rangoon, which, however, they were not able to take. Sinbyushin, while this was going on, placed a new *hti*, or crown, on Shwe Dagōn Pagoda, and then put to death the captive King of Pegu, on the charge of having incited the Môn troops to revolt.

CHINESE COMMISSIONER ARRIVING TO DISCUSS FRONTIER MATTERS.

THE HOKANG HĒNG PAYS A VISIT.

At the same time also he sent another force to Manipur, which pushed on beyond, occupied Kachâr, and even penetrated to Jyntia. Before the Siamese imbroglio was finished Sinbyushin died, in 1776.

Singu Min.—He was succeeded by his son Singusa, or Singu Min, who put an immediate end to the Siam enterprise, and degraded Mahā Thihathura. He caused his uncle, Alaungpaya's fourth son, to be put to death, served a brother of his own in the same way, and, in a fit of passion, had a favourite wife of his own drowned. He himself was killed in a palace rising in 1781.

Maung Maung.—Maung Maung, a boy of eighteen, the son of Naungdaw Gyi, reigned for eleven days, and then was put in a red velvet sack, and drowned in the Irrawaddy.

Bodawpayā.—He was succeeded in 1781 by the Padôn Min, a son of Alaungpaya, better known by his dynastic title of Bodawpaya, or Mintaya-gyi. There were several plots against his life, in one of which the General Mahā Thihathura was concerned, and lost his life. Another, led by Myat Pôn, one of the old Burmese royal family, nearly succeeded, but closed in the burning of all concerned on a huge pile of wood.

Bodawpayā, who had till now lived in Sagaing, built himself a new capital above Ava, on the other side of the Myit-Ngè, and gave it the name of Amarapura, the City of the Immortals. He also set about building the vast pile of brickwork, the Mingôn Pagoda, which was never finished, but remains the biggest pile of building material in the world.

In 1783, the year when he entered his new capital, he effected the conquest of Arakan. This had not been undertaken by Alaungpaya; but the distracted state of the country, where civil war had been going on for some years, made the task an easy one. Three Burmese armies marched over the hills, and a flotilla advanced up the coast, and Arakan became a province of Burma without any serious struggle. The great image of Buddha, Maha Myat Muni, was brought over the hills, and installed in a pagoda specially built for it, to the north of Amarapura, and a short distance south of Mandalay. The King of Arakan, his queens, and a number of Brahmin astrologers

were also brought as prisoners to Amarapura. The Siamese who had driven back the Burmese armies in 1771 were never afterwards subdued; but King Bodawpayā in 1785 sent an expedition against Junkceylon, or Tongka, an island on the coast of the Malay Peninsula, but it was driven back to Mergui. In the following year the King himself led an army against Phya Tak. The column from Tavoy was almost annihilated in the hills east of Mergui, the Chiengmai column met with a little success, and the King's own column from Martaban was little better treated than the Tavoy army, and he fled back to Martaban, and thence to Amarapura. The Siamese took Tavoy, and had some success against Martaban, but were driven back, and in 1793 peace was concluded with Phya Chakkhri, who was then King of Siam. The Siamese yielded to the Burmese the whole coast of Tenasserim, with the two ports of Tavoy and Mergui, which had been so long in dispute.

Friction with the Indian Government.—After the conquest of Arakan many of the people of that province crossed the frontier, and were allowed to settle in British territory at Chittagong. A Burmese general crossed the Na-af River with a force in pursuit of three notable chiefs. A detachment of troops under Major-General Erskine came from Calcutta to oppose this aggression, and after the three fugitives had been surrendered, in somewhat unchivalrous and poor-spirited fashion, the Burmese withdrew.

The Indian Government was too cautious and too much oppressed by a belief in the formidable character of the Burmese army. There was war with Tippoo Sultan, and trouble with the Mahratta. Instead of firm protests and serious warning envoys were sent. Captain Michael Symes went to Amarapura in 1795; Captain Hiram Cox was sent the following year. Symes went again in 1802, now a colonel; and in 1809-10, and again in 1811-12. Captain Canning was deputed to put matters on a more satisfactory footing. They were received with dubious courtesy and sometimes with insulting neglect. The only satisfactory result of their missions was the account which Symes and Cox wrote of the country.

The Indian Government then, as often afterwards, had not sufficient posts on the frontier. There is little doubt that the Burmese had reasonable cause of complaint: that the British allowed Arakanese rebels to use Chittagong as a sallying-point as well as a place of refuge. The King of Burma, very naturally, took British restraint to mean timidity, if not fear. Others have done so since. Moreover, British restraint was very like supineness. Bodawpaya began intrigues with the Peshwa and other native princes of India. It became clear that he aspired to take the districts of Eastern Bengal. He even formulated a direct claim to Murshidabad. He also interfered directly in the affairs of Manipur, nominally under our protection, and in Assam, where the old Shans had become Hindus and the old chiefs had come to be dominated by ministers called Gohains, between whom and the chief, and among themselves, there were frequent quarrels, ending in conspiracies. Before, however, the King's schemes could come to anything, he died, in 1819. He seems to have been a bloodthirsty tyrant from the accounts we have of him; but he was a man of large ideas, and the Aungpinlè Reservoir at Mandalay and the Meiktila Lake were both repaired and greatly enlarged by his orders. He also instituted a kind of census, and had a complete register made in 1783 of all families in every town and village in the country.

Bagyidaw.—He was succeeded by the Sagaing prince, his grandson, who took the title of Bagyidaw. He prepared vigorously to continue the policy of Bodawpaya. The Raja of Manipur neglected to come in to pay homage to the new King. The Kubo Valley had been annexed by the Burmese in 1812, but the Manipuris continued to cut teak in the forests there. Therefore an expedition was sent to Manipur, and the Raja fled to Kachār. In this expedition Mahā Bandula first made a name as a general. Manipur was occupied by a Burmese garrison. Assam was served in the same way, and in 1822 became a Burmese province. Chandra Kanta, the Raja, had been supplied by the British Government with arms and ammunition to resist the Burmese; but he made no good use of them, fled across the frontier to Gowhati, and then into British

territory. The Burmese generals, Mahā Bandula and Mahā Thilawa, sent to Calcutta, and demanded the surrender of Chandra Kanta. This was refused. The Burmese armies, one from Assam and the other from Manipur, therefore invaded Kachār in January 1824. This was under British protection, and a battalion of sepoys engaged and defeated one of the Burmese columns. The other column, however, came up, and the sepoys were driven back. The Burmese then pushed on, and entrenched themselves on the Surma River. They were driven from their works, and Mahā Thilawa's column then retreated on Assam. The Manipur army stockaded itself at Dudhpatli, on the Barak River, and a British force under Colonel Bowen, which endeavoured to dislodge them, was beaten off. Shortly afterwards the Burmese evacuated the position, and retired on Manipur to renew their supplies.

There was similar aggression in the south. The island of Shāpuri, at the mouth of the Na-af, is close to the Chittagong shore, and had become British by prescription, if in no other way. There was a native guard stationed on it. The Burmese attacked the island, and killed and wounded half of the twelve men, and levied tolls on British boats entering the Na-af. In November 1823 Shāpuri was occupied by two companies of sepoys. Bagyidaw thereupon sent Mahā Bundala to take command in Arakan in January 1824.

War declared with Burma. — War with Burma was formally declared on the 5th March 1824. Bandula struck the first blow. He sent a column across the Na-af, which attacked a mixed force of Bengal sepoys, Chittagong police, and Arakan refugees under Captain Noton at Rāmu. The British force had two guns, but it was driven from its position, with heavy losses, on 12th May 1824. The Burmese force, however, did not follow up its success, and after a week or two recrossed the Na-af.

The British Government decided merely to contain the Burmese forces in Arakan, and to drive them out of Kachār, Assam, and Manipur. The war was to be carried on in Burma itself, up the Irrawaddy Valley. Troops were sent from Bengal and Madras under the command of

Sir Archibald Campbell. In the Bengal division were the Thirteenth and Thirty-eighth Regiments of the Line, and in the Madras division the Forty-first and Eighty-ninth of the Line, and the Madras European Regiment. Commodore Grant commanded H.M. frigate *Liffey* and the sloops-of-war *Larne* and *Sophia*. There were several Company's warships, forty sail of transports, and one small steamer.

The expeditionary force anchored off Rangoon on the night of the 10th May. The Governor of Pegu had gone to the capital, and died there, and his successor had not arrived. The Yewun, commanding the Burmese flotilla, had not been informed of the probability of attack, and was quite unprepared. The Burmese guns opened fire from the wharf, but were dismounted by fire from the *Liffey*, and the troops were then landed, to find the town deserted. The Shwe Dagôn Pagoda, which dominates the neighbourhood, was occupied on the morning of the 12th May. Some of the nearer stockades were carried in the next few days, in the taking of one of which Lieutenant Keir and twenty-two others were killed. The Burmese sent down fire rafts on the fleet from Kyimyindaing, fortunately without result, owing to the bend in the river. A first assault on the Burmese position at Kyimyindaing failed, with the loss of 100 men: but on the 10th June the Burmese works were carried, with the assistance of the guns and the fire of the warships, and the stockade was occupied as a British outpost.

Both combatants were at a disadvantage. The British had no transport service, and could get no fresh provisions. Moreover, the beginning of the rains was the worst possible time to commence a campaign The Burmese had not anticipated attack from this side, and had no troops and no prepared positions or artillery. Reinforcements were rapidly sent from Upper Burma, with a new general, who commenced a formidable stockade at the junction of the Hlaing and the Panlang creek. Before it could be completed the British attacked on the 8th July by land and water. The works were carried, and destroyed, and the Burmese general was killed.

The Burmese were now thoroughly demoralised, but

Sir Archibald Campbell was unable to follow up his advantage. Besides having no boats, a very large number of his force was down with fever or dysentery. He, therefore confined his operations to the coast provinces and took Syriam, Tavoy, Mergui, and Martaban, with practically no opposition. Pegu was occupied at the end of the year. During the rains also Cheduba and Negrais, on the Arakan side, were occupied after not very serious opposition. In Assam and Manipur also fighting was confined to affairs of outposts, and by 1825 the whole of the Burmese forces were recalled to oppose the British advance up the Irrawaddy.

Mahā Bandula, in particular, came by forced marches from Arakan with the greater portion of his army, and raised a new force in the capital. Early in October a British attack on a stockade near Kyaikkalo failed rather seriously. Mahā Bandula was, therefore, encouraged to attack the British position at Rangoon. He did so, with a force of about 40,000 men, half of them only armed with muskets. Operations began on the 1st December 1825, and continued for six days, and the Burmese attack extended from Kyimyindaing, on their right flank, to Pazundaung, on their left; while batteries were constructed to attack the British warships from the Dalā side, and fire rafts were launched from Kyimyindaing. The Burmese trenches were pushed forward to within 300 yards of the main British position on the Shwe Dagôn Pagoda, but at last the Burmese left wing deployed on the open country, near the Royal Lake. They were shelled by the gunboats from the Pazundaung creek, and attacked by two columns, and driven back, and the works were taken in flank, and carried. Simultaneously Burmese attacks on the pagoda position and on Kyimyindaing were beaten off with great loss, though the town of Rangoon was burned. Bandula, after rallying his force at Kokaing, and being again driven from his works, retired on Danubyu, and Mahā Thilawa, the Assam general, retreated on Hmawbi.

Danubyu had been an old Talaing fort, a parallelogram of 100 feet by 500, and on the old ramparts a formidable stockade was constructed. The garrison was between 12,000 and 15,000 strong, and there were 140 guns of various

calibres, and many jingals mounted on the parapet. Danubyu is about 60 miles from Rangoon; and Sir Archibald Campbell determined to attack it with two columns, one advancing by land and the other by water. General Cotton took the river column, and the commander-in-chief the land column, which marched to Hlaing, and then across to Tharawā, on the Irrawaddy. General Cotton took an outer work below the main position, but was beaten off, with severe loss, on the 7th March in an attack on the stockade. He re-embarked his men, and took up a position 2 miles below the town to await the arrival of the land column, which made its headquarters at Henzada, where preparations had to be made to cross the river. The main force arrived on the west of Danubyu on the 25th March, and several sorties by the Burmese had to be met before the river column effected a junction. Everything was arranged for an assault on the 2nd April, but early in the day it was found that the position had been evacuated. Bandula had been killed by a lucky shell the day before on a tour round the works, and his brother, the second in command, could not keep the troops together, so they abandoned the position, and marched off to the south-west. The British losses had been 250, and the Burmese lost 800.

General Campbell now crossed the river, and marched on Prome up the left bank. He received reinforcements under Brigadier M'Creagh, and the Burmese fell back before him. Prome was occupied, without resistance, on the 25th April. Large stores of rice were taken there, and the army went into quarters for the rains.

Arakan was occupied during the spring after a fight at the old capital, in which the British were beaten off in the first attack. It had been intended to send a column over the Arakan Yomas to assist the river column, but the passes were found impracticable for artillery; some of the native regiments became insubordinate, and had to be fired on, and sickness was general, so the project was abandoned.

The Burmese main army, under Minmyatbo, a half-brother of the King, established itself at Myedè. A reconnaissance in the steamboat *Diana*, in August, by General Cotton, moved the Burmese, some days later, to

send down a war boat with a proposal for a conference. An armistice for forty days was arranged, and a meeting took place at Nyaung-binzeik, a village 25 miles above Prome. The terms offered by the British commissioners included the cession of Arakan, Tavoy, Mergui, and Ye, opposite Martaban, and the payment of two crores of rupees.

The armistice was prolonged till the 3rd November, so that the proposals might be laid before the King. He replied that ceding territory and paying money was contrary to Burmese custom. Hostilities were forthwith resumed, and the Burmese army closed round Prome. A British attack on the Burmese left wing failed, and Colonel M'Dowall, in command of the party, was killed. The enemy's force on this wing was largely Shan, and was led by three Shan young women, two of whom were killed in action. A few days later, however, General Campbell marched to the attack of the main body. He was supported by the fire of the flotilla, but it was not till after four days' fighting that the Burmese main position, on Nat-padi, a cliff facing the river, was taken. The British casualties were 12 officers and 160 men killed and wounded. The Shans now marched off to their own hills, and the Burmese right wing on the western bank of the Irrawaddy was driven northward. Myedè was entered without opposition on the 7th December, and in the middle of January the Burmese were also shelled out of Malun. At Yenangyaung, Dr Price and Dr Sandford, who had been taken prisoners a few months before, came to ascertain the British terms, in charge of a Burmese guard. The conditions offered at Nyaungbinzeik were renewed, and the advance was continued to Pagān. Here a general, with the name of the Lord of the Setting Sun, offered battle; but the force was cut in half at the first onset, and fled, with practically no opposition. The British army marched on to Yandabu, only 45 miles from Ava; and here at last King Bagyidaw sent down the treaty ratified, and with it an instalment of twenty-five lakhs of rupees towards the indemnity.

By this Treaty of Yandabu, concluded 24th February 1826, Assam, Arakan, and the coast of Tenasserim, includ-

ing the portion of the province of Martaban east of the Salween River, were ceded to the British Government, and the King of Burma agreed to abstain from all interference in Kachar, Jyntia, and Manipur. Provision was also made for the conclusion of a commercial treaty.

The British army then retired on Rangoon, which was held until the second instalment of the indemnity was paid, towards the end of the year. On the recommendation of the military Moulmein was built to be the headquarters of the Tenasserim division. Amherst had been the previous civil headquarters.

The Burman soldiers fought well at the beginning of the war, and never hesitated to attack Indian troops. The officers, with the exception of a few old generals, were hopelessly incapable. With field artillery, which dated from the time of Queen Elizabeth, and muskets which were tied together with rattan, the conditions were hopeless for victory against European troops. The war cost Great Britain £5,000,000 sterling, and the lives of 4000 men, the great majority of whom died of disease.

A commercial treaty was signed at Ava on the 23rd November 1826, but it was never of any effect. In 1830 Colonel Burney was appointed the first British Resident at Ava, but it was some time before his presence was regarded other than as a mark of degradation by the Burmese King. Gradually, however, he acquired a salutary influence. He rescued the Kubo Valley from Manipur for Burma, and he even arranged the despatch of Burmese envoys to Calcutta, and the writing of a letter from the King to the Governor-General.

But Bagyidaw brooded over his humiliation, and in 1832 became insane. About the same time Colonel Burney left Ava for Rangoon, and in 1837, when his health had broken down, resigned his post, and left the country.

Tharawaddi Min.—A regency administered the kingdom for five years, but in 1837 the Tharawaddi prince marched from Shwebo, and deposed his elder brother. Bagyidaw was merely imprisoned, and lived till 1845, when he died a natural death, only a year before his supplanter and successor. King Tharawaddi at first made Kyaukmyaung his capital, but before long moved to

Amarapura. His reign of nine years was not marked by any event of importance. There was a rising of the Shan chiefs, which was put down with vigorous ferocity. The King also visited Rangoon, and presented a huge bell to Shwe Dagôn Pagoda. Colonel Benson was sent as Resident to his Court in 1838, but the King refused to see him, except as a private individual. Colonel Benson, therefore, returned to Rangoon, and left Captain M'Leod to represent British interests, but he also was withdrawn in 1840. King Bagyidaw's attitude towards the British had been merely sullenly hostile; King Tharawaddi's became offensively contemptuous. In the latter years of his reign he also became insane, and was for some time under restraint.

Pagān Min.—He was succeeded by his son, the Pagān prince. Pagān Min was a person of no capacity, and with a taste for low pleasures. He left the local governments entirely to the officers in charge of provinces. Maung Ôk, the Governor of Rangoon, on two occasions seized and fined the masters of British ships. Commodore Lambert, in the *Fox*, with the war steamer *Tenasserim*, came to Rangoon to present a remonstrance and demand an indemnity. Matters could not be settled with the Governor, so a communication was sent to the King. He sent a reply enclosed in a red velvet wrapper, and with an elephant's tusk for an envelope. It was delivered on board H.M.S. *Fox*, with an imposing display of golden umbrellas. The royal letter expressed a hope that the friendship between the two Governments would be maintained, and intimated that Maung Ôk had been recalled, and that a new Governor was being sent. He came, and with him came 30,000 men. At the same time another army of 20,000 was sent to Bassein, and a third of 30,000 to Martaban.

On the 5th January Commodore Lambert went by arrangement to meet the new Viceroy of Rangoon. The Viceroy was said to be asleep, and the Commodore was otherwise treated with much disrespect. The Burmese rivers were also declared to be under blockade. Commodore Lambert seized and carried off the King's war boat, and the *Fox* and the *Hermes* were attacked by, and naturally soon silenced, the Burmese batteries. After

further correspondence Lord Dalhousie sent, on the 15th March 1852, a formal ultimatum to Pagân Min, fixing 1st April as the term when warlike operations would commence, if all demands were not agreed to before then.

Second Burmese War.—No reply came. The interval had been occupied in the despatch of 8100 troops, under General Godwin. Commodore Lambert was in command of the naval contingent of about 2500 sailors and marines. The *Proserpine*, which was sent up to Rangoon on the 1st April, to ascertain whether the British demands would be acceded to, was fired on. On the 5th April, therefore, Martaban was taken, and occupied. An attempt was made by the Burmese to recapture it three weeks later, but completely failed. Rangoon town was attacked and taken on the 12th April. The Burmese served their guns pluckily for some hours against the fire of the *Sesostris, Mozuffer, Feroze,* and other warships, and the fight was ended by the explosion of one of their powder magazines. A stockade, known as the White House, was taken on the 12th April, but only after so determined a struggle that General Godwin did not attack the Shwe Dagôn, which formed the main defence, till the 14th, when he had landed and got heavy guns into position. The British force avoided the stockades of the town, and attacked from the eastern side. The losses of the storming party were considerable, for the Burmese were better armed and better disciplined than in 1826. Bassein was taken again, with the assistance of the flotilla, on the 19th May. The attack came on the Burmese as a surprise, but they fought stubbornly for a time. A garrison of 500 men was left in Bassein, and the General then returned to Rangoon.

Pegu was taken on the 3rd June, after a scrambling sort of a fight, in which at one time the Burmese seized the British boats, and nearly succeeded in carrying them off. The Shwe Hmaw Daw Pagoda, which had been strongly fortified, was carried without serious loss. A Talaing force which had joined the British was put in charge of the town.

Early in July Commander Tarleton, in the *Phlegethon,* with the *Mahanuddy* and *Proserpine,* made a reconnaissance by river to Prome. He passed by the main Burmese army

between Myanaung and Prome, and found the latter place undefended. Tarleton destroyed the military stores, flung most of the guns into the river, and found only three small brass guns and a mortar worth carrying away. He held Prome for twenty-four hours, and then returned, and had a small brush at Akauktaung with the enemy whom he had treated so contemptuously on the way up. This resulted in the taking of five brass field guns and some war boats, with arms and ammunition.

Lord Dalhousie reached Rangoon towards the end of July, and discussed the situation. The approval of the East India Company's Court of Directors and of the British Government was obtained to the annexation of the Irrawaddy Delta up to and including Prome, besides the Sittang Valley. Before the rains were over an advance was made on Prome, and the town fell, after only a very feeble resistance. Maung Gyi, the Burmese general, son of the great Bandula, was shortly afterwards deserted by the bulk of his army and surrendered.

Meanwhile Pegu had been taken from the Talaings by the remains of the Martaban army. General Godwin could spare no men till after the taking of Prome. It was retaken on the 21st November, and a garrison of 500 Madras troops was left in possession, under Major Hill. A week afterwards the Burmese, with a force of some thousands, laid siege to the place, and the garrison was in sore straits until relieved by a detachment from Rangoon on the 15th December. Early in December Lord Dalhousie informed Pagăn Min that the province of Pegu would henceforth form part of the British dominions, and that further resistance would result in the "total subversion of the Burman state, and the ruin and exile of the King and his race." The formal proclamation of annexation was issued on the 20th January 1853. No treaty was ever signed, but there were no more formal hostilities. This was due as much to a rebellion at the Burmese capital as to any desire for peace on the part of the Burmese Government. On the 1st January 1853 the troops of the Mindôn prince took the suburbs of Amarapura; on the 18th February the city and palace were taken, and Mindôn Min was proclaimed King.

Mindôn Min.—Mindôn Min was anxious that the war should come to an end, and negotiations were carried on with the Government of India, but there never was any formal treaty. The King's assurances of amity and good will were accepted instead. The point of latitude 19° 29′ 3″ —6 miles north of the British post of Myedè—was selected for the erection of a stone pillar; and the frontier line ran east and west from this in the same parallel, and was so demarcated by Major Allan, after whom Allanmyo, opposite Thayetmyo, is named. Prome remained the headquarters of the British forces until 1855, when they were moved to Thayetmyo. The formal declaration of peace was not issued till the 30th June 1853.

Captain, afterwards Sir Arthur, Phayre was appointed the first commissioner of Pegu in December 1852. Parties of the broken-up Burmese armies and scattered villages gave much trouble, and it was ten years before Pegu was quite pacified. The Indian Mutiny and the troublesome character of the country were responsible for this in about equal measure. There never was reason to suppose that the King of Burma was in any way connected with the dacoities and appearances of *Minlaungs*—"embryo kings."

In 1854, indeed, the King sent a mission to Calcutta. They arrived in December, with Phayre as interpreter, and were well received, but when the envoy hinted at the retrocession of Pegu, Lord Dalhousie left no ground for hope, though his way of expressing his decision was somewhat melodramatic in form. In 1855 a complimentary mission was sent by Lord Dalhousie to Amarapura. Phayre was the envoy, and the party had the inestimable good fortune of having Yule, the Royal Engineer, scholar, enthusiast, stylist, and gentleman, as secretary. Indeed, his "Mission to the Court of Ava," was nearly the sole outcome of the mission, for the King declined to sign any treaty.

In the following year Mindôn Min commenced the building of the new capital, Mandalay, a little to the north of Amarapura. It is built on the traditional plan, and on the same scale as previous capitals—Ava and Amarapura. He moved there in June 1857, and the whole population of Amarapura had to move also.

First Chief Commissioner.—In 1862 Arakan, Pegu, and Tenasserim were amalgamated, and placed under Phayre as Chief Commissioner, and towards the close of the same year a commercial treaty was at last concluded with the King at Mandalay. It did not, however, prove of great value, owing to the King's insistence on the Royal Monopolies. Two of the King's sons rebelled in 1866, and prevented further negotiations. The King had a narrow escape, and his brother, the Crown Prince, was killed. The two rebel princes escaped to Lower Burma, and were later interned in India. One of them, the Myingun prince, has for twenty years lived on a pension at Saigon, in Cochin China. In 1867 Colonel Fytche, Commissioner of Tenasserim, became Chief Commissioner, and in October 1867 he went on a mission to Mandalay. Colonel Sladen was Resident there, having been appointed shortly after the treaty of 1862. A treaty was concluded, imposing a 5 per cent. *ad valorem* duty on all merchandise, imported or exported; but earth-oil, timber, and precious stones were held to be Royal Monopolies. A mixed court was established for the trial of cases between British and Burmese subjects. British subjects acquired the right to trade anywhere, and a Burmese resident was appointed in Rangoon.

In 1868 Colonel Sladen went on an expedition, with the object of opening out trade with Western China by way of Bhamo, but the outbreak of the Panthe rebellion prevented anything tangible from resulting. In 1870 the King constructed a telegraph line from Mandalay almost to the British frontier, and later another line was carried out to Monè, the headquarters of the Governor of the Shan States.

In 1871 Ashley Eden was appointed Chief Commissioner, and in the following year the King sent an embassy to England. Letters were sent in the following year from Queen Victoria, the Prime Minister, and the Viceroy of India, and were received by a fleet of fifty gilded war boats, and carried to the palace, with an escort of elephants and Kathè Horse. The King bought many river steamers and much expensive machinery, and much good might have resulted if he had not created constant new monopolise of trade to cover his expenditure. In the Chief Com-

Walls & Skein] KING THIBAW AND QUEEN SUPAYA-LAT.

missionership of Rivers Thompson, Sir Douglas Forsyth went to Mandalay on a mission in connection with Karen-ni, and a treaty was concluded guaranteeing the independence of the Karen-ni States, with the result that they remain to the present day outside the limits of British India. In 1878 the King died. He was the best king Burma ever had. He had had the best education the Buddhist monasteries could give, and, like all Buddhists, he was tolerant. He built a church for the Royal School, established by Dr Marks, the missionary of the Society for Propagating the Gospel, and several of the royal princes were taught English.

King Thibaw.—One of these princes was Thibaw. His accession to the throne was the result of a palace plot, originating in the women's quarter of the palace, and carried out chiefly by the Supaya-lat, the second of three princesses reserved for the heir-apparent, and her mother, who was the ablest and the most unscrupulous of the conspirators. He was proclaimed King on 8th October 1878, seven days after the death of King Mindôn. The Alènandaw queen, the Supaya-lat's mother, had persuaded the King in his last lingering and debilitating illness to agree to the arrest and confinement of practically all the princes of the blood. At first the new King's intention was simply to keep the princes in confinement, and a gaol for their accommodation was commenced on the western side of the palace. Thibaw was, however, like most Burmese men, easy-going, pliable, and placid, and when the Alènandaw and the Supaya-lat, with the pertinacious determination of their sex, pointed out that the death of the princes was the easiest way of preventing them from giving trouble, and that it was in accordance with ancient custom, and for the benefit of the country, he gave way. The queens, princesses, princes and high officials, to the number of between seventy and eighty, were put to death, under circumstances of great brutality, in February, 1879. The outburst of horror and indignation which the massacres caused very probably astonished the King as much as it alarmed him. Shaw, the British Resident in Mandalay, addressed a strong remonstrance to the King, and there was a considerable assemblage of naval and military force

in Rangoon in the spring of 1879. King Thibaw made a show of military preparation, but as time passed an immediate apprehension of war disappeared. The King explained in a State document that "the clearing and keeping by matter" (the massacres and imprisonment) was undertaken "in consideration of the past and the future, according to custom, in the interests of Church and State." Britain had the Zulu and the Afghan wars on her hands, and the King despatched an ambassador with a letter and presents to the Viceroy of India. The mission never got beyond Thayetmyo, and was eventually sent back, with the intimation that it could not be received in a friendly and honourable way by the Government of India, whose representative had been treated with habitual discourtesy in Mandalay. Mr Shaw died of heart disease in June 1879 and, after his appointment had been filled for a short time by an officiating resident, the whole British agency staff and records were formally withdrawn, early in October 1879. No fresh agent was ever appointed.

The government of the country rapidly became bad. Bands of dacoits preyed at will on the people. The Shan States were involved in a confused civil war. Bhamo was captured and held by a handful of Chinese marauders, and there were raids by the Kachins on the lowlands north of Mandalay. Disorder on the Lower Burma frontier steadily increased, and became a standing menace to the peace of the British province. At the same time British subjects, travellers, and traders from Lower Burma, were subjected to insolence and violence by local officials in Upper Burma. Representations made to the King's Government were often absolutely without result so far as redress was concerned, and what redress was obtained was always unsatisfactory.

The Indian Government was unrepresented at Mandalay, but representatives of Italy and France were welcomed. The Burmese Government contested the demarcation of Manipur, and threatened to pull down the boundary pillars and a stockade built by the political agent. Two separate Burmese embassies were sent to Europe, but neither visited England, and under the guise of merely commercial aims they endeavoured to contract

new, and if possible close, alliances with sundry European powers. Facilities for procuring arms were particularly desired.

Negotiations with France in Mandalay were pushed still further. Two bonds of agreement were formally drawn up. The first provided for the construction of a railway between Mandalay and the British frontier at Toungoo, at the joint expense of the French Government and a company to be formed for the purpose. Payment of interest was to be secured by the hypothecation of the river customs and earth-oil dues. The second set forth the terms for the establishment by the French Government and a company of a royal bank. Loans were to be made to the Burmese king at the rate of 12 per cent. per annum, and other loans at 18 per cent. The bank was to issue notes, and to have the management of the Ruby Mines, and the monopoly of *let pet*, or pickled tea. It was to be administered by a syndicate of French and Burmese officials.

Enterprises of this kind must have been ruinous to British interests, and a strong remonstrance was in course of preparation by the Government of India when the Burmese Government imposed a fine of £230,000 on the Bombay Burma Trading Corporation, and refused to comply with a suggestion of the Indian Government that the cause of complaint should be investigated by an impartial arbitrator.

An ultimatum was, therefore, despatched on the 22nd October 1885. The King was required to receive an envoy from the Indian Government with suitable respect; to delay all action against the Trading Corporation till the envoy arrived; and thirdly, to receive at his Court a British diplomatic agent, with proper securities for his safety and becoming treatment. It was added that the Burmese Government would in future be required to regulate the external relations of the country in accordance with the advice of the Government of India. Failing the acceptance of the three primary demands, it was announced that the British Government would take the settlement of the matter into its own hands.

In view of the possible refusal by the King of the terms

proposed, preparations were made for the immediate despatch of a military force of 10,000 men. On the 9th November a reply was received in Rangoon amounting to an unconditional refusal. The King on the 7th November issued a proclamation calling upon his subjects to drive the British into the sea.

Third Burmese War. — Whatever may be the case with the British War Office, the Indian army is always prepared for immediate action. On the 14th November the British field force crossed the frontier, and on the 28th of the month it occupied Mandalay. The only rapid line of advance was up the river over a distance of 300 miles. The King and his country were taken completely by surprise by the unexampled rapidity of the advance. The channel could have been obstructed and the river barred to the advance of the flotilla. If this had been done there would have been a complete check, and arrangements for a land march and land transport would have implied weeks, and perhaps months, of delay. On the very day of the receipt of orders to advance, the *Irrawaddy* and *Kathleen* engaged the nearest Burmese batteries, and cut out from under their guns the King's steamer and some barges which were lying in readiness to be sunk. On the 16th the Sinbaungwè batteries themselves, on both banks, were taken by a land attack. A couple of shells were sufficient to drive out whatever garrison there may have been. The Kamyo Fort, opposite Minhla, was taken in equally easy fashion. Minhla itself was taken after a brush, which developed into an engagement owing to the misbehaviour of some Madras troops. One officer, Lieutenant Drury, and three sepoys were killed, and four officers and twenty-three sepoys were wounded. The advance was continued next day, and Pagān on the 23rd, and Myingyan on the 25th, were practically occupied by force of arriving there. A few shells from the naval brigade and heavy artillery silenced all opposition. On the 26th November, when the flotilla was approaching Ava, envoys from King Thibaw met General Prendergast with offers of surrender; and on the 27th, when the ships were lying off that city, and ready to commence hostilities, the order of the King to his

troops to lay down their arms was received. There were three strong forts, constructed by Italian engineers, full at that moment with thousands of armed Burmans, and though a large number of these filed past, and laid down their arms, by the King's command, there were many more who were allowed to disperse with their weapons. These, in the time that followed, broke up into guerilla bands, which became the scourge of the country, and prolonged the war for four years. Meanwhile, however, the surrender of King Thibaw was complete. On the 28th November Mandalay had fallen, and the King himself was a prisoner. All the King's ordnance, to the number of 1861, and thousands of rifles, muskets, and other arms, were taken, and the whole Irrawaddy River was in British hands. King Thibaw, his two queens, and the queen-mother, with their retinue, were sent to Rangoon immediately, and left there on the 10th December, at first for Madras, and later for Ratnagiri, an old Portuguese fort on the west coast of India. There he has since remained.

A land column of all arms marched from Toungoo, the British frontier post in the east of the country, under Colonel Dicken, in November. The first objective was Ningyan, now called Pyinmanā. There was a certain amount of scattered resistance, and Ningyan was occupied, without opposition, on the 3rd December. Later, the force marched up the line of the present railway to Yamèthin and Hlaingdet.

From Mandalay, General Prendergast sent the flotilla up-river, and by the occupation of Bhamo, on the 28th December, the whole navigable course of the Irrawaddy was in the hands of the British.

But, unfortunately, though the King was dethroned and deported, and the capital and the river were held, the bands of armed soldiery, accustomed to no conditions but those of anarchy, rapine, and murder, carried on a desultory armed resistance.

Upper Burma was formally annexed by proclamation on the 1st January 1886, and it was only then that the work of restoring the country to order and introducing settled government commenced. This was a much more serious task than the overthrow of the Burmese Govern-

ment, partly because of the nature of the country, which was characterised as one vast military obstacle, and partly because of the disorganisation which had been steadily growing during the last six years of King Thibaw's reign. The original field force was absolutely inadequate for the task. Reinforcements had to be poured into the country, and it was in this phase of the campaign, lasting several years, that the most difficult and most arduous work fell to the lot of the troops. It was in this jungle warfare that the losses from battle, sickness, and privation steadily mounted up. By the close of 1889 all the larger bands of marauders were broken up. This was effected by the establishment of an extensive system of small, protective posts scattered all over the country, with small, lightly equipped columns moving between them, and ready to disperse the enemy wherever there was a gathering. Until cavalry was brought over from India, and mounted infantry corps raised locally, very little was effected, and it was never possible to follow up and come to terms with the active enemy. The Shan States were not occupied till the beginning of 1887, and the Chin Hills only in 1889. The Kachins gave trouble from the beginning, and were not brought to order till 1893.

During the decade 1891-1901 the population increased by 19·8 per cent., and cultivation by 53 per cent. With good harvests and good markets the standard of living in Burma has much improved, and seems likely to continue to do so rapidly.

The boundary with Siam was demarcated in 1893, that with France in 1895, and that with China in 1900. The boundary with China northward from the administrative line remains unmarked, but as it is constituted by the watershed between the Salween and the N'maikha actual pillars are scarcely wanted.

PART III

INDUSTRIES

Fishing. — The cultivation of rice is undoubtedly the greatest industry in Burma, but next to it comes the catching and curing of fish, which occupies considerably over 2 per cent. of the population. Rents for fishery leases and licences for fishing brought in during the years 1902-1903 a revenue of Rs.28,380,846. Fishing is contrary to the cardinal injunction of the Buddha: "Let him not destroy, or cause to be destroyed, any life at all, or sanction the acts of those who do so." Fishermen are promised terrible punishments in a future life for the number of lives they take. Some strict people hold by the doctrine of the Manichæans, who assert that the soul of the farmer migrates into herbs, so that it might be cut down and threshed out; the baker becomes bread, and is eaten; the killer of a deer becomes a deer; and of a fish, a fish. Popular sympathy and the craving for fish finds a loophole of escape for them. The fishermen do not actually kill the fish. Their action, in fact, is sympathetic and kindly. The fish are, with the best of motives, taken out of the water, and laid on the bank to dry after their long soaking. If they are foolish and ill-judged enough to die while being dried that is their own fault, and the fisherman should be held blameless. In any case, the most pious, even the members of the Noble Order of the Yellow Robe, do not hesitate to eat salted fish; and this, with boiled rice, in fact, forms one of the chief articles of food among the Burmese.

Fishing goes on everywhere, but the industry is naturally much more important throughout the Delta and along the sea-coast than in the inland districts of Burma. Water-logged swamps are being drained, low lands are protected from inundation by embankments, and cultiva-

tion is steadily spreading; nevertheless, the fisheries steadily increase, and yield a steadily increasing revenue. The Thôngwa and Bassein districts are the chief centres of the fisheries.

A Fishery Act in Lower Burma, and a corresponding Regulation for Upper Burma, provide rules for the sale of fisheries and the licensing of nets and traps. The closed fisheries, called by the Burmese *In*, broads or lagoons, are much the more valuable and profitable, and the right to fish in these is periodically sold by auction for fixed periods of years. Other principal fisheries are the net fisheries along the sea-coast and on the main rivers, which are more uncertain in their yield.

Every kind of way of taking fish is practised. Bait fishing with hooks is common, and fly fishing is carried on in many places. A kind of cage trap with a falling door, for the capture of big fish, is to be seen along the banks of every river. This is called *hmyôn*. The *damin* is a large, funnel-shaped trap made of bamboo, secured by a rattan rope to a stake fixed in the mud, and placed in the estuaries of tidal rivers. Enormous quantities of small fish are sometimes caught in this form of trap. Fish spearing is practised in many places both by day and by night, with torchlights. The Intha of the Yawnghwe Lake are particularly expert at this, standing with one foot on the gunwale of the boat, and paddling with the other, so that one hand, right or left, is available for the fishing spear. The spears are 10 feet or more long, and are three-pronged.

On the lagoons, lakes, and inland rivers the arrangements are much more elaborate. Weirs, called *Sè*, are formed by stretching bamboo screens or *Yin* from side to side across the channels, and exits from the lakes, which prevent the fish from escaping when the floods are draining off. These *Yin* are kept in position by a solid framework, formed of posts strongly driven in, supported by struts, to which longitudinal poles are lashed. The bamboo screens are firmly fastened to these poles, and reach from the surface of the mud to several feet above the surface of the water, to prevent the bigger fish from jumping over. About the centre of the weir,

or where the main discharge is, there is a long trap, extending downward, and floored with split bamboo. This is the only exit, and when the fish get in here they are easily secured. When the water has gone down considerably, and the weather is clear enough for the curing of the fish, the channels are deepened, and the water is drained off from the lagoons, so as to leave scattered shallow pools. The fish all collect in these, and are easily caught in nets, or are flung out with spades roughly made out of split bamboo. In the case of very large sheets of water, sections are often divided off with ridges, made of mud, and the water is bailed out. Where the water is too deep to be drained by the channels the fishermen form in a long line, and march close together across the lagoon, and the fish are caught in *saung-to*, long, conical baskets, with a hole at the top to take out the fish. These *saung-to* are thrust to the bottom at every step or two. When the water remains too deep even for this, enclosures, called *tugaung*, are made along the edges of the pond, constructed of the ever-ready bamboo. The fish are scared into these by men in dug-outs with bamboo clappers, or they are enticed in the heat of the day by covering the surface of the water with green leaves and twigs, and then caught with cast nets (*kun*), or in other ways. These *kun* are used everywhere in the rivers for catching ordinary-sized fish. Heavy nets for sea or deep-river fishing are made of strong jute twine, tanned with cutch or *madama*, a species of *Dalbergia*, a mordant bark which is also used for the dyeing of sails. Cotton twine is used for the manufacture of light nets, and drop nets, with floats made of the indispensable bamboo, or of *paw*, a kind of cork-tree, are used in sea fishing, in the estuaries, and in the deeper rivers.

It seems certain that a considerable number of fish are sunk, or sink themselves, in the mud, and live there all through the dry weather. There is no other way of accounting for the fact that, when the first heavy rains flood the hollows, where cattle have grazed for weeks, the water is immediately full of fish. It is also certain that the spawn is deposited before the waters go down,

and waits all through the hot weather for the rains. Myriads of tiny little fish make their appearance whenever there is enough water for them to swim in. There are numbers of fresh-water fishes, which, like the marine *Pediculati*, or walking fishes, are able to exist for a long time out of the water, and are able to travel considerable distances over the ground. Such are the *Siluridæ*, or cat-fishes, which are scaleless, and the snake-heads, or *Ophiocephalidæ*, which have scales, and are often of very considerable size. The snake-heads especially are looked upon with awe by the Karens, who will not eat them, and have a legend that they were formerly human beings, who were changed into fish for their sins. The fish prefer going over moist ground, but they have occasionally been seen crossing roads deep in dust. Connected with this faculty, no doubt, is the circumstance that not a few species habitually rise to the surface to take in air from the atmosphere, and do not obtain their oxygen from the air suspended in the water.

Allied with this also is the habit many fishes have of congregating in *tu*, or burrows, in the bank. It is assumed that these holes are made in the first instance by eels, but the fish certainly enlarge them when they take possession. Where there are air-holes these tunnels often extend a considerable distance inland. Fishermen often take advantage of these *tu*, and help the fishes in their excavations, for capture is naturally very easy when the exit is stopped up.

In the foot-hills fish are often caught by poisoning the streams. The river is barricaded by a weir, run across at a suitable place, with exits here and there ending in traps. Then the upper waters are poisoned with lime, or with extracts of various roots and barks, of different kinds of trees and shrubs, frequently climbing plants. Just after dark the villagers beat down the river towards the weir, shouting and lashing the water with sticks, and scaring the fish still further with torches made of pine chips, or frayed bamboo saturated with wood oil. The fish are gutted, scraped, split open, salted, and sun-dried; and often enough fish are obtained in this way to last a village till the next hot season comes

round, for the operation is naturally carried out when the water is at its lowest.

Curing.—The best fish in Burma is considered to be the *hilsa*, or *ngathalauk*, a fish of the herring genus, but there are many other excellent kinds. The *ngathalauk*, and large fish generally, are gutted, but often not otherwise cleaned. They are then salted, and spread in the sun to dry, after which they are pressed between thin bamboo mats for some days. They are eaten fried or roasted, with the boiled rice, which forms the bulk of a Burman's dinner. The bulk of the salt fish is prepared from sea and lagoon fisheries in Pegu and Tenasserim. The smaller fish, and generally all bony fish, are made into the national condiment, *ngapi*—fish paste. The main lines of the manufacture of this evil-smelling compound are the same as those for the making of anchovy paste, but the details are carried out in a much more careless fashion. As soon as they are caught, the fish are scaled, and spread in the sun, and then pounded in a mortar. They are again spread in the sun, and then pounded together with about a quarter of their weight of salt. Fermentation naturally results, and is not arrested at the proper stage, or not till a very late stage. Sometimes the compound becomes fluid, and then it is stored in jars. Otherwise, according to its consistency, it is rolled into balls, or moulded into bricks, and sent all over the country, and into the Shan states, in enormous quantities. Another way of preparing *ngapi* is to heap the cleaned fish in a wooden trough. Only the larger fishes are gutted and deprived of their heads and fins. They are treated copiously with salt, and then packed in baskets, which are pressed by the primitive means of a board weighted down with large stones. After a time they are taken out, rubbed with salt again, and then spread out on bamboo mats in the sun to dry. They are then piled up in huge earthenware jars, with layers of coarse salt, and these are stowed away in a shady place. To prevent the sweating of the salt the powdered bark of a species of *Laurus*, called the *Ardon*-tree, is sprinkled over it. Three main kinds of *ngapi* are recognised: the *ngapi-gaung*, where the whole fish is preserved; *taungtha ngapi*, or fish paste;

and *sein-sa ngapi,* which is eaten uncooked, and is made of shrimps and small-sized prawns. Towns where *ngapi* is made may be smelt some miles to the windward, and ships which carry it, and there are few vessels that do not in Burma seas and streams, leave an evil trail over the waters that might be expected to make the fish sea-sick.

Pearl Fishing. — Fishing for pearls has only been carried out in a systematic way since 1892. Pearls have always been found in the islands of the Mergui Archipelago, and divers were brought over from Madras after the First Burmese War to search for them. Nothing better than seed pearls were got then; and the Selungs had the fisheries to themselves for over sixty years, until the services of an expert from Queensland were obtained. The fisheries are now carried on under lease by Manila men and Australians. The pearls found are of fine lustre, and have a good colour, but they are not very numerous, and the stormy nature of the coast prevents diving for about seven months in the year.

Propitiation of the Fish.—Mr J. G. Frazer in his "Golden Bough," in the chapter on "Killing the Divine Animal," gives instances of the propitiation of fish, by the capture of which they lived, on the part of the Indians of Peru, the Awa Indians, the Hurons, and various tribes of Indians on the Pacific coast. It may be that the *ngahlôt-pwè,* the freeing of the fish, in Burma has some such original idea, but it seems more probable that the leading idea is Buddhistic: the desire to do a good work. When the hot weather comes on great flatlands, which have been seas, dry up, and the fish are crowded into small pools. There in the ordinary course of things they would be embedded in the mud, and lie dormant till the next rainy season; but in many neighbourhoods the pious organise parties to go out, and collect them, and stow them in huge earthenware jars filled with water. Then after a delay, longer or shorter according to the convenience of the neighbourhood, or the time of the year, the jars are taken in formal procession to the river, with a band and dancers and miscellaneous properties, and a huge crowd of silken-dressed men and maids, and the fish are let loose in the water. It is

possible that there is an idea of propitiating the fish, but it seems more probable that the chief idea is to acquire merit, and do away with some of the blame which may attach to the consumption of too much *ngapi*, or evil-smelling prawn-head oil.

Not much fishing is to be had in Burma proper, but in the hills, especially in the Shan States, excellent sport is to be found, both with bait and fly. Mahsir afford the best play.

Hunting.—Hunting can hardly be said to be an industry of the Burmese. The number of openly recognised hunters is exceedingly small. This is chiefly due to the mingled pity and dislike with which professional hunters and fishermen, whose occupation implies the regular taking of life, are regarded by Buddhists. The villains in most plays are hunters. Fishermen have allowances made for them. The fish die of themselves, being taken out of the water. Their death is not due to any direct action of their captors. No such sophistry absolves the hunter, who takes a life in each separate case. Consequently the hunters of a village are usually its wastrels, who find this mode of living the one that gives them least hard work. Among the hill tribes there are no such scruples, and they hunt whenever they get the opportunity, but, since the game cannot be disposed of, they seldom kill more than is required for their own eating.

Apart from this, however, game is by no means so abundant, or so accessible, as it is in India. There is far more jungle than clearing, and in the forests the canopy is so dense that graminivorous animals do not get sufficient food to multiply very rapidly. The districts of Meiktila and Shwebo supply the best sport; and the plains near the sea, which are not very accessible, and not very easy to get about in, are the nearest approach to the conditions which make game that preys on cultivated lands as plentiful as it is in the Indian peninsula. This is, perhaps, the only area of any extent where hunting is a recognised occupation. Deer are the animals mostly sought after. Of these there are four principal kinds: the *gyi*, or barking deer; the *sambhur*, or *sat*; the *dayè*, or hog-deer; and the *thamin*, or brow-antlered deer. The

last is found only in the Peguan coast-lands, on the eastern side of Upper Burma, and some parts of the Shan States. The barking deer furnishes the best venison; but the brow-antlered deer is by a good deal the handsomest animal, and recalls our red deer. The native way of hunting deer is with lights, by night. A lantern with three dark sides is used, and when the light is directed on the deer they seem to be quite bewildered, and can be approached to within easy striking distance. If there is a herd of them cow-bells are tinkled to cover the noise of footsteps. This plan is adopted chiefly with the sambhur and brow-antlered deer. The smaller hog and barking deer are caught in nets. They follow certain runs in the jungle round cultivated lands, so stout nets, held extended by bamboo uprights, are stretched across these, and the deer in the fields are then scared by the hunters or their dogs. They run headlong into the nets, and are caught alive or killed there. Next to the deer, wild pig are the chief quarry of the Burman sportsman. He is not a good shot, and usually has nothing better than a flint-lock, since, in the absence of percussion caps, ammunition is easiest to procure for such a gun. The most systematic hunters of the hill tribes usually kill with the crossbow. They use both poisoned and unpoisoned quarels, and the points are sometimes tipped with iron, and sometimes are only hardened in the fire, like the *hasta præusta* of the ancients. They are exceedingly good shots, and their shafts can kill at over 100 yards. The poison used most frequently is aconite, but they have a variety of other kinds: two, five, ten, and twenty, minutes, and half-an-hour, poisons. With them they kill tiger, leopards, bear, bison, wild cattle, wild buffaloes—and, in fact, any animal, no matter what its size or ferocity. The tiger is usually shot from a tree over a kill, in the familiar Indian *shikar* fashion; or spring guns are set, or stout log traps, with a dog for bait, constructed. But there is no systematic *shikar*, as it is understood in India, anywhere. The sportsman has to get his own *khabar*; and he will get sport if he has patience and time to spare, but not the kind of sport associated with big bags and bites of a sandwich between shots.

Hare, partridges, and pheasants of very many kinds, peafowl and jungle-fowl, are to be had in great numbers in the hills. Wild geese, ducks of many kinds, and snipe are to be had in Burma proper, on the great rivers and on lakes and lagoons. There are few geese in the hills. On the other hand, there are very many more species of duck and teal, some varieties of which breed, as do the snipe; while woodcock are to be found pretty generally, but never so abundantly as to deprive the shooter of pride in having got one. The inhabitants of the country seldom shoot these, though decoy birds are often used to get them within range or to attract them to gins and snares. Jungle-cocks, partridges, quail, and doves are especially often used as decoys.

Elephant hunting was never so systematically carried on in Burma as it was, and is, in Siam. There is a *khedda* at Amarapura, near Mandalay, but there had been no systematic use made of it for years before the annexation. The Indian Elephant Department has now a branch in Burma, with headquarters in the Katha district. Occasionally elephants were caught in pitfalls, but this is not attempted now in the remoter Shan States, where alone it could be successful. Wild elephants now and then make a road dangerous for a time, and then attempts are made to kill them, usually with poisoned arrows, but that is the limit of enterprise in this direction.

THE FORESTS OF BURMA

By C. W. Bruce

Description.—Burma, from the point of view of the forests, may be roughly divided into three parts: the Plains, the Dry Tract, and the Hills. A peculiarity of Burma is that, whereas in most civilised countries land under forests is the exception and cultivation the rule, in Burma the reverse prevails, and land under forests is the rule, and cultivation, or rather permanent cultivation, may be said to be the exception. The three parts can be, and are, subdivided, but in the short space at the

disposal of this work broad generalities must be dealt with.

1. **The Plains** include the deltas and the valleys of the great rivers and their tributaries, draining Burma. These deltas and valleys contain practically all the permanent cultivation of the country. In this division are also included the littoral, or swamp, forests, peculiar to most tropical countries.

2. **The Dry Tract** begins practically at the old frontier of Lower and Upper Burma, and continues as a great basin to the border of the Ruby Mines district, on the eastern side of the Irrawaddy River, and up to and including the Shwebo district on the other. It is bounded on the east by the foot-hills of the Shan Escarpment, and on the west by the outlying hills of the Arakan Yoma and the Wuntho Hills.

3. **The Hills**, the largest division, cover the remainder of the country.

The types of forests met with in these divisions are of great variety, and they shade off one into another. These variations are due to soil, rainfall, and other factors of the locality. A slight description of the forests in the first two divisions is all that is necessary. Full details will be found by those who want them in the works of Kurz and Nisbet.

The Plains.—All round the extensive sea-coast of Burma the land is generally low-lying. The ground is more or less water-logged and saturated with brackish water; hence we have the littoral tidal forests, the mangrove forests of all tropical low-lying coasts, which are of little economic value so far as is at present known. Inland, as the brackish water gives way to fresh, we have the dense swamp forests—the *Myaing* of the Burmans—mostly evergreen, with little or no undergrowth under the dense canopy. In Upper Burma these forests are very local, and are found round marshes, and where the land is subject to inundations for four or five months in the year. They are of no interest commercially. In the hot weather in Upper Burma, where the cover is broken, these forests are very beautiful; the open glades, carpeted with bright green, lush grass, sprinkled with clumps of wild roses and

clematis, backed by the dense shade of the evergreen forests, present a picture not soon forgotten. The rest of the plains are either given up to cultivation, or, where the ground is not suitable, owing to the presence of too much sand, laterite, and the like, the ground may be covered with forest growth, or, as in the instances referred to above, with dense masses of tall grasses—the popularly called elephant grass—so striking a feature of a river journey in Burma.

The Dry Tract.—The climate of this portion of Burma is peculiar. It is characterised by great heat from March to the end of May, which is tempered from that month to October, at intervals, by short storms of torrential rain. From November to the end of February the climate is bright and cool, with chilly nights, like the Riviera, with a more powerful sun.

There is no true forest left. If any such existed it has long been destroyed, and is replaced by a scrub of euphorbia and cactus. Where the soil is richer the dahat (*Tectona Hamiltonii*) and cutch (*Acacia catechu*) are the most typical trees. The only bamboos which grow are stunted specimens of *Dendrocalamus strictus*, found in depressions, and sometimes along the margins of the wide, sandy creeks draining the flat country. After one of the sudden storms in the rainy season these change their aspect of a dry river of sand into a raging torrent of yellow water. In other parts there are low, rolling hills, covered with stunted scrub, and broken up by deep gullies, miniature cañons, due to the torrential storms and the fierce sun. In the absence of any protective cover from forests clothing the ground, these deluges erode and carry away the surface soil. Since the water from these rain-storms runs off in a few hours, cultivation for rice depends on irrigation from reservoirs where flat land can be irrigated. In other parts maize, peas, millet, sessamun, and cotton are the crops.

The main railway line to Mandalay from Tatkon Railway Station northward passes through this country. The bluish-tinged scrub, with patches of dry fields, is characteristic, and gives the traveller a good idea of the area.

This country now produces no trees of economic im-

portance, though it was once a great cutch-producing area. It may be so again, for the tree is a fast grower, and reproduces itself freely.

Cutch Boiling.—The history of the cutch industry in the dry tracts is from a forester's point of view a sad one. On the annexation of Upper Burma the cutch-tree was found widely distributed, often mixed up with more or less permanent fields. Rules were introduced limiting the felling to trees of 3 inches in girth and upwards. Cutch is prepared by cutting the heart wood into chips, which are then boiled in cauldrons. The cakes of commercial cutch thus obtained are used as a dye for nets and sails. The licences to boil cost Rs.20 a cauldron per annum. The disturbed state of the country had thrown many people out of work. Cutch licences were issued wholesale; in fact, in many cases the forest officials were ordered to issue licences even when they were convinced that there were not sufficient trees of the requisite size for the numbers of licences issued. There was little supervision, owing to the dearth of forest officers, and, even when convictions were obtained for felling undersized cutch, the punishments were quite inadequate. Some of the trees, moreover, undoubtedly grew on ancestral land, *bo ba-baing* or freehold. The law did not apply to these, consequently small trees could be felled on such lands, and the result was that a man would fell trees of all sizes on Government land, plant his camp on what was undoubtedly his ancestral holding, and keep a few trees and stumps standing on this as proof that he was boiling his own stuff. The results were disastrous. The cutch over large areas was exterminated, even the roots being grubbed up, till the disappearance of the trees stopped the industry. This was most unfortunate, for the boiling of cutch is an industry peculiarly suitable as a stand-by in times of scarcity. Small areas suitable for cutch reserves have now been taken up, which, if grazing can be controlled, will in time do well. In the foot-hills, and away from population, areas containing cutch were, fortunately, reserved in time.

From a forester's point of view these dry tracts are very interesting. Such questions as influence of forests on soil and rainfall, on streams and cultivation, can be regularly

studied. It is incontestable that, if portions of this zone were reafforested, fodder for cattle, and work for the people in times of scarcity, could be provided. Burma enjoys an immense forest revenue, a portion of which might well be devoted to experiments in this dry zone.

The Hills.—These may be termed all forest except where in times past the country has been cleared by the nomadic cultivator, the *Taungya* cutter of Burma. The system of this method of hill cultivation is as follows:—In January a tract, according to the size of the cultivator's family, is cleared of all growth, which is left in heaps to dry till April, when, just before the rains, it is fired, the ashes forming manure. Upon the ground thus cleared hill paddy, tobacco, pumpkins, maize, and such-like crops are sown. They are reaped the following December. Sometimes the same *Ya* will be cultivated two years running, and then the same process is repeated elsewhere. The ground thus left turns into a dense jungle of thorns, grass, shrubs: the *Ponzo* of the Burmans—literally, ichabod. If this is left alone it slowly returns to forest, when it is cut over again. If the rotation is long not much harm results beyond the waste of good timber for a handful of rice; but where the rotation, owing to pressure of population, is short the land becomes quickly impoverished, and tall grasses spring up, rendering tree growth impossible. These patches of grass are burnt in the hot weather, exposing the soil to the full force of the monsoon, and in time the hills become bare and rocky. *Taungya* cultivation is one of the most serious problems in Burma. All stages of hill forests may be met with, from the virgin forest, waiting to be cut, through a *Ponzo* of thorny scrub and grass savannahs—mixed with wild plantains in the gullies—to the final one of precipitous slopes of boulders and bare rock, dotted with isolated trees. But apart from land given over, or in the process of being attacked by *Ya* cutters, which, fortunately, is not a large proportion, the hills may be said to be one large forest, divided into many types, ranging from the dry forests of the foot-hills, with cutch as the typical tree, through the deciduous forests up to the evergreen of the higher and moister hills, and finally to forests of an almost European type—pines and rhododendons being met with.

These forests are greatly modified by rainfall, soil, elevation, and latitude, but particularly by soil, rainfall, and elevation.

Indaing Forest.—To take soil as the modifying agent: wherever laterite forms the out-crop one almost invariably finds the *In*-tree (*Dipterocarpus tuberculatus*) growing gregariously, intermixed, it is true, with other species—namely, *Shoreas, Melanorrhœa* (*Usitata*, the wood-oil tree), *Dellenias, Zizyphus, Strychnos*, etc.; but still the vast majority of the trees are *In*, varying, according to the quantity of soil and rocks, from stunted, twisted poles to large, stately groves of forest trees. This type is the *Indaing* of the Burmans, and covers many thousands of square miles in Burma. There is a large local trade in the timber, which is used in Mandalay and Rangoon for cheap house planks, and also for ventilating boards in rice cargoes. Though the *In* can hardly be termed the Cinderella of the Burma forests, still it is a more valuable timber than has so far been realised. Since it is gregarious, extraction to streams is easy, but this is counterbalanced by the fact that it has to be rafted with bamboos to enable it to float. *In* forests near lines of export are being rapidly denuded of good trees, and it is time the attention of the Forest Department should be turned to these tracts, and also to making this wood better known.

When the soil contains less laterite and more clay another typical forest is found: the *Thandaw* of the Burmans. Whereas typical *Indaing* has no bamboo, *Thandaw* consists of the *Than*-tree (*T. oliveri*), growing gregariously, mixed with the male bamboos (*D. strictus*). This class of forest also stretches over large tracts of Upper Burma. The *Than*-tree has secured an evil reputation, from the fact that an extract of the bark is used as a cutch adulterant. The main commercial use of *than*, however, is for firewood. A large trade in billets of *than* wood from the Ruby Mines district for the Mandalay market is carried on in native boats. In the depressions of these last two types of forest, and often along the edges of creeks draining them, groups of fine teak (*Tectona grandis*) forest are met with. These groups are very well defined, and local, but in the ag-

A BANYAN TREE.

gregate contain a large amount of good timber; while, owing to light being plentiful, in spite of the fierce annual fires the reproduction is excellent, the stems, tall and straight, almost looking as if they had been planted. Where these depressions are apt to be water-logged teak gives way to evergreen.

Evergreen Forests.—The next class of forests to be dealt with is the evergreen. These grade off from light, semi-evergreen, in which tall forest trees form the canopy, with an undergrowth of canes, bamboos, and evergreen shrubs and creepers, to dense, evergreen forests.

Tropical Evergreen.—Two main divisions of evergreen are met with, both dependent, of course, on moisture, but one on moisture and heat: the *Tropical Evergreen* of Lower Burma and the plains; and the other, dependent on moisture and elevation, the cold, damp, dense *Evergreen of the high hills* of Upper Burma. (The tidal, or littoral, forests of the plains are evergreen, but have already been dealt with.)

The most typical trees of the tropical evergreen are the huge *Kanyin* (*Dipterocarpus Lævis*), *Thingan* (*Hopea odorata*), *Sterculias*, *Artocarpus*, different species of figs (*Albizzias*), to mention a few only. Some are deciduous, and some always in leaf, as, for instance, the figs. In the shade of these trees there is a more or less dense growth, according to the amount of moisture in the air and soil, of a second storey of palms and screw pines, bamboos, canes, and creepers, adding to the typically tropical look of these forests. Many species of trees, evergreen and shade-bearers, also struggle upward in this riot of vegetation. To mention only a few (*Mesua ferrea*), the *Gangaw*, with its iron-hard wood, figs, *Eugenias*, and *Dipterocarps*, and others, representing many hundreds of species. Below these, again, are creeping canes, bushes, and ferns; while gigantic bamboos, such as the *Wabo* (*Bambusa Brandisii*), and many others, force their way through the dense growth.

Hill Evergreen.—The hill evergreen forest is similar, but the different elevation, and consequent lower temperature, modifies the character considerably. These forests may be said to cover all the country between from 3000 to 5000

feet above sea-level. There is an upper storey of forest trees growing straight and tall, their branches wrapped in mosses and orchids, while below shrubs and bushes completely cover the soil. Wherever there is a break in the canopy canes and hill bamboos form an intermediate stage, while *Caladiums* and tree ferns flourish below. Of the top storey the most typical trees are figs, different species of evergreen oaks—*Castanea, Eugenias, Laurinea dellenias*; while in the dense shade a yew (*Cephalotaxus Griffithii*) is often found. Of the bushes the most typical is a cinnamon and the wild tea (*Camellia theifera*). It is in this class of forest that the ravages of *Ya* cutters are so disastrous. Directly the dense cover is cleared and burnt, the grasses, favoured by the damp nature of the air, take hold of the land, and allow of no return to forest.

Where permanent cultivation is present in this type, raspberries (*Rubus flavus*) and other European wild fruits cover the ground. It must also be borne in mind that latitude and moisture have the same effect as altitude and moisture. Consequently in the north of Burma, as, for instance, in the Upper Chindwin, forest of this type is found at lower elevations, down to 1500 feet above sea-level. It is in this type, to the north of Burma, that the india-rubber (*Ficus elastica*) is found. The country there is under little direct control, and the trees have been overtapped by the wild tribes inhabiting the country, so that the revenue (a transit tax) is swiftly dwindling, and it is only a question of time when the tree will become nearly extinct. If the department were strengthened, the formation of rubber plantations in the hill evergreen forest would, no doubt, be taken in hand, and would yield a handsome revenue, as does the Charduar Plantation in Assam.

Coniferous Forests.—Above 6000 feet we come to the coniferous forests. In the gullies we find the evergreen as described above, while on the crests and along ridges the pine grows in open groups. The *Tinyu*, or pine of Burma, is the *P. khasya*. On sandstone hills in Tenasserim, at low elevations, another pine, *Merkusii*, is found, but this is strictly local. As the *Khasya* naturally seems

to confine itself to ridges it is seldom found over large areas. The *Khasya* grows in Minbu, Pyinmana, east of the Sittang, in the Upper Chindwin, and in the Ruby Mines district, and generally throughout the Shan States, but the largest group met with contained only about 1000 trees. This fact, combined with the precipitous and out-of-the-way situation of its habitat, renders it of no economic value. One peculiar fact characterises the mountains of Burma—namely, that the summits of most of the highest hills are bare of all tree growth. Evergreens lead into pines, with rhododendrons on rocky ledges, and then come the open crests covered with short grass. This is the case on the Gaungbyndaung in Minbu, on Byingyi in Pyinmana, and on the Shwe-u-daung Range in the Ruby Mines district.

Mixed Deciduous Forests.—The last, and most important in every way, of the forests of Burma remains to be described. The chief characteristic of this forest is that it consists of tree growth, mixed with bamboos in clumps—the trees forming the upper storey, the bamboos the lower. The bamboos in one tract are usually of one species only. Thus one may walk, as in Pyinmana, through miles of tree forest and *B. polymorpha*; in the Upper Chindwin through vast areas of tree forest and *Thanat wa* (*T. oliveri*), or tree forest and *Tin wa* (*C. pergracile*). Some of these bamboos, as, for instance, *B. polymorpha*, flower periodically in one great mass, die, and then spring up again from seed. Other species follow this rule to a greater or less extent, but *C. pergracile* flowers sporadically, in groups here and there, almost yearly. It is at these periodical and sporadic flowerings that the light-demanding trees, such as teak and *Pyinkado* (*Xylia dolabriformis*), etc., are able to push upward, owing to the bamboo canopy being suddenly removed, and many suppressed, or partially suppressed, trees are enabled to establish themselves. Seeds of such trees also profit by the opening up of light and air to germinate and race upward before the bamboos again form clumps and a dense shade. In the rains, from May to November, the trees and bamboos are green and full of growth. This is arrested as the

cold weather approaches, to be followed by a general shedding of all leaves, both on trees and bamboo, in March, as the hot weather grips the country; thus March and April is the winter of this type. Everything is bare of any green, and it is then that jungle fires sweep through the forest, burning up all debris, and effectually preventing the formation of any humus such as exists in the evergreen of Burma, and is so well known a feature of forests in temperate climes.

These mixed deciduous forests cover vast areas in Burma, perhaps 20 per cent. of the province, and contain most of the trees of economic and commercial importance, forming the huge forest wealth of Burma, such as teak (*Tectona grandis*), *Padauk* (*Pterocarpus indica* and *Macrocarpa*), and *Pyinkado* (*Xylia dolabriformis*). These are famous. There are many other species which are of value for many different and varied purposes.

Conservation.—It has been often said that the English have little historical knowledge and a short political memory, but since the days when William the Conqueror created in Hampshire, for purposes of sport, the first Reserved Forest under British rule, the Anglo-Saxon, wherever he has gone, has remembered the tales of the cruelty with which this reservation was accompanied, and has displayed an unfortunate antagonism to forest conservancy. Thus we find that, while such backward countries as Russia scientifically exploit their forest wealth, Great Britain and her colonies have been content to let disafforestation go on unchecked; while at home no interest can be evoked in such questions as the reafforestation of waste lands useless for other purposes, or in the supply of timber brought from abroad, which could be cheaper raised in the country itself.

It has remained for India to show that forests may be maintained under the Union Jack, both as a benefit to agriculture and to the people, and at the same time can be made to yield a gigantic revenue to the State. The necessity of getting and keeping up a supply of teak (*T. grandis*) for naval purposes first turned the attention of Government to the question, the more readily because, owing to overfelling in Bombay, it was seen that even

apparently inexhaustible forests could, if overworked, be rapidly denuded of large timber. Hence when the Second Burmese War added rich forests of teak to the Empire, the Imperial Government began to feel their way cautiously in what was a new field. Simple forest rules were formed. Some read quaintly now, as, for instance: "For every teak-tree over a certain girth felled, the feller shall plant five young trees." And the Government cast about for men to control and exploit the trade.

Formation of the Forest Department.—It was fortunate enough, in 1856, to find the right man for the work of founding the new department and setting it on the true road to success. Dr Brandis (now Sir Dietrich Brandis, K.C.I.E.) happily still lives, and takes an interest in the stately tree of which he planted the seed. Sir Dietrich Brandis had to collect his own data. When he had formed his conclusions from these he had to fight hard to get them carried out. In order to ascertain the amount of teak ready to fell, and likely to be available in the future, linear valuation surveys were made throughout the teak forests. On these rough working plans were based to ensure a continuous supply, rather than to meet a sudden demand likely to result in the exhaustion of the forests. The girdling—that is to say, the killing—of the trees, and the selection of trees for that purpose, were to be carried out under the direct control of Government officers; while the produce was to be brought to Rangoon by Burmese contractors working under direct Government control, and then sold at periodical auctions. This system of Government agency is still in force in Tharrawaddy and Prome; while, to show how well the system has answered, it need only be pointed out that these two divisions have ever since, while increasing their annual revenue paid to Government, also increased in capital value of the stock on the ground. Unfortunately, in other portions of Lower Burma the forests were leased out to merchants, and the girdling was not controlled by Government officers. Duty was collected at fixed rates on timber extracted. Under this system the portions easiest of extraction got worked out, while areas farther from lines of export are left untouched, so that the trees become over-mature, and rot.

For a history of the Forest Department till the annexation of Upper Burma, "Burma under British Rule and Before," by Mr J. Nisbet, should be consulted. Here it is sufficient to say that the activity of the department has been mainly confined to the teak-tree. This was inevitable. The department was a young one, on its trial, and had to justify its existence. Besides, it has always been, and is still, undermanned, so the teak being the most important tree commercially, the energies of the officers were, and are, rightly directed to its conservation. It has been made a reproach to the Forest Department that its officers confine themselves too much to this one tree, to the neglect of others, but *Meliora Speramus* (the motto taken by the department as a whole). When the staff is strengthened there will be time to devote attention to neglected species.

Forest Reserves.—Roughly speaking, the policy was to select the best tracts of teak forest, and also such as occupied land not suitable for cultivation, and constitute these State Reserves. To constitute State Reserves means to define the rights of the people in these areas, to demarcate, and hand them over to the Forest Department. It was not possible in all cases to take up the best teak areas, owing to opposition from the district authorities, who, at the commencement of forest conservancy, in many instances displayed great antagonism. However, now it is rare to meet with a deputy commissioner who does not display interest in the forests, while many render great help to the work of the department. In the reserves, when these areas had been taken up by Government, and demarcated, the amount of produce allowed to the neighbouring villagers free for their own use was recorded once for all, the rest being looked on as the absolute property of the State. The settlement was intended to be permanent, but it is in the power of the Governor-General in council, for sufficient reason shown, to declare that any reserve shall cease to be one from any given date. In these reserves Government ordered teak to be planted, and this was the beginning of the extensive, systematic plantations of teak. In suitable localities, where teak was scarce, the jungle was cut down, and the seeds sown in lines at stakes.

Taungya System.—This system was found to be expensive, and gave way to the *Taungya System.* Villagers living in or near the reserves were induced to plant teak seeds in their *taungyas,* and were paid a fixed sum per 100 teak - trees found alive in their *yas* after their crops were reaped. This system has been a great success so far as the villagers are concerned, but it is doubtful, when the cost of fire protection and weeding, which is very heavy, to prevent the teak from being choked, are taken into consideration, whether it would not have been better to spend the money on encouraging natural reproduction. The reserves as soon as possible are mapped accurately, on the scale of 4 inches to the mile, and working plans are then made by special officers deputed for the purpose. This ensures the economical and scientific working of the teak. Concurrently with the formation of these reserves, revenue was collected on teak and other produce extracted from forests not included in reserves—such as on bamboos, eutch, wood oil, and jungle woods.

Forests of Upper Burma.—When Upper Burma was annexed an enormous area of forest was added to the province, and for many years the energies of the undernamed department were confined to exploring the forests, mapping them roughly, and taking up the best portions as permanent reserves. This work is even now not completed, and it is not uncommon to hear of areas which a gazetted forest officer has never been through.

Practically all the forests of Upper Burma had been leased by the Burmese King to mercantile companies for a number of years. After the annexation, terms were come to with these companies, by which during a number of years they were to pay a fixed royalty per ton of timber extracted, while the girdling of green teak was to be under the control of forest officers.

Administrative Divisions and Staff.—The whole province was divided into four conservatorships, or circles. These, again, consisted of divisions, each division being divided into subdivisions, while these were again divided into ranges. The range is the unit, but a range may consist of one or more beats.

The whole province now contains four circles and twenty-nine territorial divisions, besides which there are one or more working-plan divisions.

The personnel of the controlling staff is recruited from two sources—(*a*) officers appointed by the Secretary of State for India, trained in Europe (since 1887 at Cooper's Hill), and appointed on arrival as assistant conservators of forests, rising through deputy conservators of various grades to conservators; and (*b*) officers trained at the Imperial Forest school, Dehra Dun, United Provinces, India, who are usually appointed as rangers, and rise to extra assistants, and then to extra deputies. The former are liable to serve in any province in India, while the latter belong to the various provincial services, and work only in the province to which they are appointed. In the lower controlling staff, natives can work their way up from forest guards, or be appointed direct from Dehra Dun. Recently a school to train Burmans for the lower controlling staff has been opened at Tharrawaddy, but as the pay and prospects of the Burman in the Forest Department compare most unfavourably with those of subordinates in any other department, while the work is undoubtedly more unhealthy and unattractive, it is most difficult to get a good stamp of man. It must be remembered that the conditions of Burma are totally different from those in India Life in the forests is unhealthier and harder, while living is much more expensive, so what is a decent wage in India may be a miserable pittance in Burma. A Forest Act has lately been passed for the whole of Burma, and rules framed thereunder (5th December 1903), thus doing away with the different rules which were before in force in Upper and Lower Burma.

Extraction.—From what has been said above it will be seen that the main revenue of the Forest Department is derived from, and its work is concerned with, the teak-tree. There are two methods by which this timber is extracted —(*a*) by direct Government agency, (*b*) private enterprise.

Direct Government Agency.—In the former method the Forest Department, after having girdled the trees, and so killed them by cutting through the cambium (the layer of

tissue between the wood and the bark), enters into contracts with Burmans owning elephants and buffaloes for the extraction of the timber, at so much per ton, or log, as the case may be. The timber is then sent down to Rangoon or Mandalay, and sold periodically by auction. This is the system in Tharrawaddy and Prome, and also to a certain extent elsewhere in Lower Burma, and in Bhamo, in Upper Burma.

Lease.—The other system is the lease or purchase contract. The sole right to extract the girdled trees in certain forests for a term of years is leased to a timber firm on payment of a fixed royalty per ton, calculated by measuring the logs extracted. This system is in force over almost the whole of Upper Burma, and the forests are in the hands of a few large firms, who have a practical monopoly of the trade. These firms extract the timber partly with their own elephants, and partly by means of sub-contractors owning elephants and buffaloes. They then float the timber in rafts down to Rangoon, where it is classified, and sold locally, or sawn up for export to Europe according to quality and the demand. Under both systems the girdling is controlled by the Forest Department.

The royalty is collected at a station on the river, where the logs are all measured and stamped by an officer of the Forest Department.

Minor Produce.—Besides teak there is a flourishing trade in what are known as "jungle woods," or unreserved woods, such as In (*Dipterocarpus tuberculatus*), Thitya (*Shorea obtusa*), Ingyin (*Pentacme siamensis*). This trade is mainly in the hands of Burmans, who extract the timber by means of buffaloes, and float it to Mandalay or Rangoon, where it finds a ready sale, mainly for local use. The Government royalty is collected by the Forest Department when the produce reaches a revenue station or points on the lines of extraction notified as such. Besides this trade, which is mainly in the log, fuel and minor produce are extracted by Burmans for sale in the large towns, and also a certain amount of refuse teak and dead padauk is cut into spokes and axles for making cart wheels.

Bamboos and canes are also exported to the large towns for building native huts, Government collecting a small royalty on the produce.

Statistics.—In 1870-71 the State reserved forests covered no more than 133 square miles, all in the Rangoon division. The total receipts from the forests then amounted to Rs.772,400. In 1889-90 the total area of reserved forests in Lower Burma was 5574 square miles, the gross revenue was Rs.3,134,720, and the expenditure was Rs.1,331,930. In Upper Burma the work of the Forest Department did not begin till 1891. At the end of 1892 the reserved forests in Upper Burma amounted to 1059 square miles. In 1896 the reserved area had increased to 5438 square miles. At the close of 1899 the area of the reserved forests in the whole province amounted to 15,669 square miles. In the year 1903-04 this total had risen to 20,038 square miles, and the gross receipts were Rs.8,519,404, with charges amounting to Rs.3,500,311, showing a surplus of Rs.5,019,093. This was a considerable increase on the previous year, when the receipts were Rs.6,737,825 and the expenditure Rs.2,963,316. In the twelvemonth, therefore, the surplus had risen by Rs.1,244,584.

The largest receipts were from the Pegu circle—Rs.3,198,789, which includes the divisions of Thayetmyo, Prome, Tharrawaddy, Pegu, Rangoon, Henzada-Thôngwa, and Bassein-Myaungmya. Next came the northern circle, with Rs.2,281,484. This circle includes the divisions of Bhamo, Myitkyina, Katha, Mu, Myittha, and the Lower and Upper Chindwin. The third circle was that of Tenasserim, with receipts amounting to Rs.1,969,005. This includes the West Salween, South Tenasserim, Thaungyin, Ataran, Kado, Toungoo, and Shwegyin divisions. Lowest came the southern circle, with Rs.1,070,126, including the Ruby Mines, Mandalay, Pyinmana, Southern Shan States, Yaw and Minbu divisions.

The revenue from timber and other produce—jade, by the way, is considered a forest product—removed from the forests by Government agency amounted to Rs.4,329,281, which was an increase of Rs.996,277 on the previous year. The revenue from timber removed by purchasers

and consumers amounted to Rs.2,985,216, an increase on 1902-03 of Rs.631,721. The revenue from other sources was: firewood and charcoal, Rs.161,465; from bamboos and canes Rs.191,048; from other minor produce, Rs.141,529; from confiscated drift and warp wood, Rs.240,774: while the duty on foreign timber and other produce was Rs.363,377.

The number of trees girdled during the year was: in the Pegu circle 17,846 trees; in the Tenasserim circle 9,082; in the northern circle 23,809; and in the southern circle 15,813 trees.

The total area of unclassed forests was 103,174 square miles, and the area of forests reserved, protected, and unclassed for the whole province was 123,212 square miles. 309 square miles of forest were added to the settled area during 1903-04, and 1185 square miles were in process of settlement. These amounts were well up to the yearly average. Working plans had been completed for areas of 2523 square miles, and to this total 743 square miles were added, while areas extending to 1006 square miles were taken in hand.

There were 2556 cases of breaches of forest rules disposed of during the year, in which 3886 persons were concerned. These were vastly more numerous in Lower than in Upper Burma. The total area of plantations is now 21,629 square miles. More than half of this area is in the Pegu circle. These were for much the greater part plantations of teak, but there was also a not inconsiderable amount of cutch.

In 1904-5 the total amount of teak timber extracted was somewhat less than in the previous year, but there was a considerably larger out-turn of timber other than teak of both reserved and unreserved kinds. The financial results were very satisfactory, both the gross and net revenue being more than 24 lakhs in excess of the revenue of 1903-4.

The exports of teak from Burma have during the past few years tended to decline. At the same time the price of teak in the home market has continued to be unprecedented, and although for some classes of work teak is indispensable, it is to be feared that the high prices will

have the effect of compelling the use of substitutes. There are indications that Java teak, although admittedly inferior in quality to the best Burma teak, is more and more finding its way into use. A conference of the four conservators of the Province is considering the questions involved, but their report has not at the time of writing been made public.

An expert chemist from England is at present (1906) engaged in investigating the possibility of establishing a manufactory of wood pulp in Burma.

MINES

There is nothing that a Burman so cordially dislikes as systematic hard work, and digging is probably the form of labour which he looks upon with the greatest distaste. The tools available for mine digging are certainly very far from satisfactory, but, no doubt, if there had been any inclination to dig, suitable tools would very soon have been evolved. The Chinese, in various parts of the Shan States, and elsewhere, carried on vigorous and, in some places, fairly skilful works; but wherever the digging was left to the Burman it was of the most primitive kind, and with very few devices that would not come by the light of nature. The only digging that has been carried on systematically has been that for rubies and for petroleum; and in neither case, though rubies have been sought after for something like 500 years, and petroleum for certainly not less than a century, are the pits much more extensive than wells would be, or the other workings much beyond erratic quarries.

Ruby Mining.—It is difficult to ascertain how long the Ruby Mines have been in operation. It always was the policy of the Burman kings to wrap the mines round with mystery and seclusion. It is stated that the Mogôk mines, 90 miles north-east of Mandalay, were first heard of in Europe in the fifteenth century. Burmese histories say that Mogôk, the Shan Möng Kut, was taken in exchange for Momeik, the Shan Möng Mīt, in 999 Burmese era—that is to say, in 1637. Mines, it is added,

were then in operation, and had long been in operation, in the valley.

Three forms of excavation were recognised in Burmese times: *twin-lôn, hmyaw-dwin,* and *la-dwin.* At one time there were quarry mines in a bed of calcspar, a coarse variety of limestone, but these were discontinued because the miners were not allowed to possess gunpowder.

Twin-lôn.—The *twin-lôn* are square pits sunk in the alluvium, through a stratum of loam and clay, to the sand and gravel layer, which contains the rubies. The pits vary in size from 2 feet to 9 feet square, and are worked by four men in the smaller, and ten in the larger, pits. After a few feet have been dug, strong posts 12 feet long are driven down in each corner of the square; and in the case of a 9-foot pit three more, at equal distances apart, along each side. Short slats are wedged across between each post to keep them apart, and at every 2 feet or so light, flat timbers are wedged across between each post each way, into notches in the posts, to hold them firmly apart, and thus support the sides. The miners then proceed to dig out the clay with small, short-handled, spud-like spades, and load it into small bamboo baskets, which are hoisted by balance poles to the surface. When some 4 or 5 feet have been sunk another similar set of cross-beams is put in, and half way between the two a double set of round poles in the same fashion, and these are lashed to those above and below by twisted rattan canes. Wattling and dry grass, or leaves, is filled in at the back of the spaces between the posts, to support the clay walls and prevent pieces from falling in. When they have dug to the bottom of the first set of posts they proceed to drive down a second set inside them, and when these have been driven through the ruby-bearing sand they continue to sink and timber as before. When a pit is finished, and all the ruby sand has been extracted, they take out all their timber, for use in the next *twin-lôn.* Round pits are few in number, and seem to be mostly trial pits to ascertain the presence of the *byôn,* or ruby-bearing sand. This may be considered the invariable method adopted by the Burmese in shaft sinking.

The balance or well poles, used both for hoisting the

material dug and the water which accumulates in the pit, are strong bamboos supported on bamboo posts, split at the top to receive the pole, which is pinned down with a wooden peg. A large basket filled with stones is used as a balance weight at the butt or short end, and to the longer end, which overhangs the pit, is attached a rope, or a thin pole, provided with a double wooden hook at the end to hang the basket on. Some pits have five of these balance poles, each worked by one man, who lowers the basket to be filled, hoists it, empties the contents a few feet away without detaching the basket, and then lowers away again.

During the night the pits fill up with water to within 8 feet of the surface. This has to be bailed out every morning, and takes two or three hours. Some of the shallower *twin-lôns* are emptied by rude but ingenious bamboo pumps, placed on a slant.

When the ruby soil, which is called *byôn*, is taken out, and has been placed in a heap, it is washed in a basket made of close-woven bamboo. In shape it is a very flat, hollow cone, like the batea used by Mexican and Californian miners for gold washing. The washers whirl these about in the water, and give them occasional jerks, which bring the larger pebbles to the back of the basket, and get rid of all the clayey matter, so that the sand and pebbles are left quite clean. The baskets are then handed to other men, who spread out the contents, pick out the rubies and spinels, and drop them in a small, upright bamboo tube filled with water. When the washing for the day is done this tube is emptied, and the rubies are sorted according to quality. The best are put in little cotton bags. The sand is carefully gleaned by women and children, who sell what particles of ruby and spinel they find to the owner of the pit. As soon as one pit is finished another is dug close by. A large pit takes eight to ten days' work, a small one four or five.

Hmyaw-dwin.—The *hmyaw-dwin* is the most common kind of mine. They are long, open cuttings, with the lower end opening on a gully-side, and the whole on a slope. It is necessary to have capital to work a *hmyaw-dwin*, because water has to be brought to the head of the

working, and to manage this long trenches have sometimes to be dug along the mountain-side. Aqueducts of bamboo troughs, supported on cross-pieces and stays, have occasionally to be carried across ravines. The water is introduced at the top of the cutting by bamboo runlets, and flows away through a trench at the bottom, which forms a ground sluice. Long and short handled spuds are used for digging, and no washing is done till a fair heap of *byôn* has been accumulated. As the face is undermined below, the clay slips down, and is washed away. The sluice is advanced towards the face of the working as the digging progresses. The water laid on at the head of the cutting is discharged from troughs at as great a height as can be arranged, and the miners throw the heap of ruby sand under its stream. The ends of the discharge troughs are partially closed, so that the water descends in a shower, and so the more easily softens and carries off the clay down the sluice. The larger stones are picked out, and thrown away, and what remains is raked with hoes to the upper end of the sluice, and puddled there. Two or three riffles, made of slats of wood, with narrow chinks, and 2 feet or more high, keep back the sand and gravel holding the rubies. This is taken out in the batea-shaped baskets, and washed in them, as at the *twin-lôns*. The ordinary rule is one day's digging and one day's washing, unless there are enough men to do both. Riffles cover the entire length of the sluice to catch whatever *byôn* may have escaped, and this is washed from time to time. The chief washings, however, are in the first 12 feet. Sometimes the sluices are very long, when a *hmyaw-dwin* has been worked for a considerable time. Deep cutting into the slope usually results in a collapse of the surface clay.

Lu-dwin.—The *lu-dwin* are caves and cavities in the granular limestone. These fissures run in every direction, and often go to great depths. They are filled with brownish clayey loam, and it is in this that the rubies are found. The miners climb down with small oil lamps, short-handled spades, and baskets. If possible, the baskets are hoisted up by balance poles; but this is not often the case, and they have to be carried up. The limestone is so porous

that everything has to be taken to the surface to be washed.

The Ruby Mines Company obtained a lease in 1889 to mine for rubies by European methods and to levy royalty from persons working by native methods. Owing to heavy expenses in getting plant up into the hills the first dividend of 5 per cent. was not paid till 1898. As first mines were bored into the hill-sides, but this was given up in 1895 in favour of open quarries, from which the *byôn* is extracted. Under this method the whole of the surface soil down to the ruby-bearing stratum is removed, and then the *byôn* is dug up, carried on trolleys to the steam-cleansing mill, washed, passed through sieves, and finally examined for the rubies and spinels. The machinery used in washing is similar to that employed in the South African diamond mines. The pumping machinery is worked by water power, and the same power generates and stores electricity, so that the central mill can work day and night.

When the stones have been picked out they are sorted according to size in shallow trays, and then the rubies are separated from the spinels. This is not easily done, for the spinels often have a perfect ruby colour and the proper octahedral combination. At the Ruby Mines Company office the separation is reduced to a certainty by an ingenious contrivance. The stone is placed in a little instrument, so that a ray of light passes through it, and is polarised. To the eye, therefore, the ruby shows a pure red ray, whereas the spinel shows a slight tinge of blue. The most valuable stone yet found by the company seems to have been one of 77 carats, priced at £26,666.

Tourmaline.—Tourmaline, rubellite, or schorl, is found in Möng Mīt, north of the Ruby Mines, and in Möng Lōng, south of them. The mines at the latter place, worked years ago by Chinamen, are on the hill-side, and are, in fact, open cuttings, just like the *hmyaw-dwin* at the Ruby Mines. Tourmaline has the disadvantage of being rather soft. It has also a very easy cleavage, parallel to the prism, which makes it unsuitable for cutting. It is not, therefore, much purchased in the European market, and the demand for China is very fitful.

Petroleum.—The petroleum industry is now undoubtedly the most valuable in Burma. From a production of just 19,000,000 gallons in 1897, the output rose in 1903 to 86,000,000 gallons. Besides the export of a considerable quantity of paraffin wax, the illuminating oil and petrol refined in Burma at last show signs of definitely displacing foreign supplies in the Indian market.

The sinking and timbering of the wells is carried on in much the same way as the pits to the ruby stratum at Mogôk. The same chisel-shaped spud, or iron shoe, called a *ta-yrin*, is used for digging. Where hard strata have to be got through, which do not occur at Mogôk, the crude method is adopted of dropping a pointed lump of iron, weighing about 140 or 150 pounds, from the mouth of the shaft. They run to a depth of from 150 to 250 feet, and the hoisting up of the oil buckets and the lowering of the men is done by a wooden cylinder, which revolves on an axis supported by two upright posts. Over this is passed a rope. Two or more men take the end of the rope, and run down a declivity. Some, however, nowadays have windlasses. The miners pass their legs through two slings attached to the rope by which they are lowered. No light can be taken down, on account of the explosive gases. The fumes, moreover, render breathing difficult, so that few can stay below for more than four minutes. In order, therefore, to make the most of this time the miners tie up their eyes while they are at the pit head. In this way their eyes are in focus immediately when they reach the bottom of the shaft. This is the more necessary since it appears that the total amount of time spent at work below does not reach more than from 10 to 18 per cent. of the time occupied in descending and coming up to the pit mouth again. Accidents from choking do not seem to be common, though the diggers very often come up exhausted and streaming with perspiration. Before going down they put a hat of palm leaves on the head, as a protection against stones or the like falling from the sides of the shaft.

From observations extending over four and a half years Dr Nötling ascertained that the out-turn of oil fluctuates regularly throughout the year. The minimum of pro-

duction is in the first quarter of the year, usually in February. From March to May there is a slight rise. From May to August is the maximum flow, which is highest in August, and there is a general fall in the last four months of the year. From this it appears that the minimum of production is in the dry season, and the maximum in the rains. Dr Nötling even thinks that he has established a coincidence between the quantity of production and the level of the Irrawaddy River. In the months when the river is at its lowest the flow of oil is at its lowest, and when the river rises the production rises, and reaches its maximum with the greatest height of the river floods. Similarly, the Minbu salses appear to be indisputably controlled in their activity by the river level. The drilled oil wells show exactly the same fluctuation as the pit wells.

It is one of the peculiarities of the Yenangyaung oil-field that it was worked by a corporation from the earliest times. The joint right to dig for oil near the villages of Bemè and Twingôn was restricted to twenty-four families. These families were called *Yoya*, or hereditary, and every member of them was entitled to dig for oil. Formerly no outsider could become a well owner. The wells could only be owned by one of the *Yoya* families. The head of such a family was called a *Twin-sa-yo*; and in Burma as might be expected, women were not excluded. There were eighteen male *Yoya* and six female. The title and rights of these families descended strictly according to primogeniture. The male rights vested in the male, and the female *Yoya* rights strictly in the female, line. The *Yoya* right could never be sold to a stranger, but if a *Twin-sa-yo* had no direct issue he could, with the consent of the other *Twin-sa-yo*, sell the title to a remote member of his family. At the time of the annexation there were four *Yoya* rights which had been purchased by junior members of the family from the elder branch in which issue had failed.

The rights of a *Yoya* were as follows:—When a member of the family wanted to dig a well he had to apply to the *Twin-sa-yo* for the well site. In return for permission, the *Twin-sa*, the well digger (literally eater) had to pay

Watts & Skein]

NATIVE PETROLEUM WELLS, YENANG-YAUNG.

a small monthly rent to the *Twin-sa-yo* corresponding to the quantity of oil extracted from the well. According to the number of working wells, therefore, the *Twin-sa-yo's* income rose and fell. The *Twin-gyi-min* was president of the *Twin-sa-yo*, and it was he who settled all disputes and gave final permission to dig. In all such cases he received a small fee; and no one, not even a *Twin-sa-yo*, could sink a well without the *Twin-gyi-min's* permission.

In 1856 or 1857 King Mindôn introduced the monopoly system, under which oil was sold to him alone, and at the fixed rate of one rupee eight annas the 100 viss (365 pounds). Otherwise the customary rights of the hereditary families were confirmed in a general way.

A good many laxities seem to have crept in, but when the country was annexed the British Government treated the well owners generously. They received free permission to sell their oil on payment of eight annas for every 365 pounds. An area for reasonable extension was set aside, and each well was allowed 2 square chains, or one-fifth of an acre. Every well owner received the right of disposing of his well, by sale or otherwise, and he was permitted to use improved machinery if he chose to set it up.

In the Twingôn reserve 23·55 acres, out of a total of 296 acres, were set aside as State wells; and in the Bemè reserve, out of a total area of 153·8 acres, 7·375 were set aside for State wells. The *Twin-sas* sell all their oil to the Burma Oil Company, who pay a royalty to Government of eight annas for every 100 viss, or 365 pounds weight. The oilfields were surveyed and demarcated into blocks of 1 square mile each in 1890: Yenangyaung 90·15 square miles, Minbu 20·15 square miles, and Yenankyat 2·34 square miles.

Boring for oil was started in 1887, but it was not till 1889 that much in the way of results was attained. The system of drilling adopted was chiefly the American or cable system, rather than the European or rod system, but in either case it took a long time to get the requisite plant to the ground, and to get it set up there. These drilled wells draw the oil from strata untouched by the native pit wells. In the early stages oil was found at

a depth of 500 feet, and the yield was generally from five to twenty barrels a day, but latterly the drillings have gone much deeper, to depths of 1000 to 1200 feet. The strata are very apt to cave, and, therefore, casing is required, the cost of which necessarily increases with the depth. It has not been proved that the yield of a well increases proportionately with its depth. The total daily average per well amounts to about thirteen barrels. According to this the average yield of a well in Burma is equal to any well in Canada, but considerably below the wells of America, or Baku, where an out-turn of eighty-six barrels a day is not considered rich. There appears to be no probability of striking spouting wells. Occasional wells have flowed for a short time, but the gas pressure has invariably very soon diminished, so much that pumping has to be resorted to. The production of the Burma oilfields was 2,335,205 gallons in 1887. In 1890 it had risen to 4,310,955 gallons, and in 1898 to 21,684,963 gallons. Since then the production has been as follows:—in 1899, 32,309,531 gallons; in 1900, 36,974,288 gallons; in 1901, 49,441,736 gallons; in 1902, 54,848,980 gallons; and in 1903, 85,328,491 gallons. Besides these Upper Burma oilfields, the islands of the Arakan coast, noted for their mud salses, have also been known for many years to contain oil deposits of uncertain value. The chief operations were carried on in the Eastern Baronga Island, near Akyab, and on Ramri Island, in the Kyaukpyu district. During the six years up to 1904 the average output of the Baronga area has been 42,926 gallons, and of Ramri during the same period about 100,000 gallons, but there is a distinct tendency to decline. The main factor which has contributed elsewhere to the recent great advances in oil production, the general adoption of the bulk system of transport and distribution, has not been neglected in the development of the Burma oilfields. The Burma Oil Company have laid a pipe line from Yenankyat, through Singu, to the Yenangyaung area, and are now preparing to connect all the fields in a similar manner with their refineries in Rangoon, a distance of 275 miles. The number of tank steamers is being regularly increased, and storage tanks are put up at the

chief Indian ports. So far there are no signs whatever of exhaustion of the supply of oil.

Jade.—Jadeite, rather than jade, seems to be the character of the stone mined in Burma, though analysis seems to show that some true nephrite occurs amongst a very greatly preponderating amount of jadeite. Since, however, it is of the colour chiefly desired by the Chinese, the matter is of the less importance. It is in connection with China that jade has its chief value. It has been known in the Middle Kingdom from a period of high antiquity, and appears first to have come from Khoten and other parts of Central Asia. The jade from these mines was of a brilliant white, and was very costly. It was adopted as symbolical of purity in private and official life. For years the green variety was very rare, but was not unknown, for it is recorded that attempts were made to tinge the stone by burying white jade and copper alongside of one another in the ground. The green jade of Northern Burma was found by a small Yünnanese trader in the thirteenth century, and for years expeditions went from China to get more of it. Few ever returned, for the jade country is very deadly to natives of the Yünnan highlands, and the Chingpaw were as hostile to strangers then as they are still beyond the administrative line. Moreover, Burma and China were in a state of perpetual hostility. When the wars came to a final end, in 1784, a regular jade trade began, and by the beginning of the nineteenth century the Burmese established a military guard in Mogaung to maintain order and to protect the trade and the tax collector.

The stone has always been regarded as the property of the Kachins. Their right to mine and their ownership of the stone produced, was never called in question by the kings of Burma. King Mindôn, who was a confirmed trader, determined to buy all the jade from the Kachins himself, and appointed a high official to act as his agent at the mines. This was, however, highly unsatisfactory to the Kachins, who first protested against the exclusion of all other purchasers, and then, when they found their protest of no avail, resorted to the much more effectual method of curtailing the supply of stone, and producing

only pieces of indifferent quality. The older system of levying an *ad valorem* duty of 33 per cent. on export was resumed, but not before the King had made repeated attempts to act as middleman. The Chingpaw, however, eventually triumphed; and the Chinese view was that the scheme was foredoomed, "owing to the inherent impropriety of a sovereign descending into the arena of trade, and taking the bread out of the mouths of his own subjects."

Since the annexation the British Government has farmed out the right to collect the jade duty of $33\frac{1}{3}$ per cent. to a lessee. The workings remain in the hands of the Chingpaw as of old, and there are no signs of interruption of the old traditional methods. Jade mining is essentially speculative, and the demand and the value of the stone produced vary from year to year. The output ranges about 3000 cwts., and the value varies from a lakh and a half to twice that amount.

Some twenty or thirty years ago Sanka, on the right bank of the Uyu River, just opposite its junction with the Nanthan stream, was celebrated for its output of fine jade; but the supply is nearly exhausted, and the place is now almost deserted. It was found there chiefly in the shape of boulders, mixed with other rocks in the alluvial deposits of the river. These were found either by digging holes along the banks of the stream or by diving to its bottom. Thousands of pits may be seen dug along the sides of the low hills and in the small intervening valleys. The diameter of the pits rarely exceeds 10 or 12 feet at the mouth, and the average depth is about 12 feet. Latterly the jade is obtained from the "new mines" at Tawmaw, in the Mogaung subdivision of the Myitkyina district. Tawmaw is about $7\frac{1}{2}$ miles from Sanka; and there are other mines close at hand, called Pangmaw, Iku, Matienmaw, and Mienmaw. The road passes through fine forest scenery, with the kanyin, gangaw, and the cotton wood as the prevailing trees, and gradually ascends to a broad plateau, hundreds of acres in extent, all of which are cleared for mining purposes. The mines are all in the form of open-cast quarries, and immense quantities of stone are produced,

and tons upon tons lie about, valuable in China, but not sufficiently valuable to repay the cost of transport and the changes by the way. The Kachins do all the mining work; and the stone occurs in immense blocks, which cannot be quarried out by any tools which they possess. The method of extraction is very primitive, and also very slow. The surface of the rock is heated by large fires, and the fall of temperature during the night is sufficient to crack the jade without any necessity for pouring cold water on it. Crowbars and wedges are then driven into the cracks, and large blocks are obtained, which are broken up with forehammers and large mallets to shape them to a size convenient for transport.

Some of the deeper quarries are rendered difficult by the quantities of water which oozes from the fissure separating the serpentine from the jadeite. To combat this the Kachins cover the whole surface of the quarry with a network of bamboo, like a gigantic spider's web, which supports bamboo runnels to carry off the water. This is hoisted up by a lever pump, with an old kerosene oil tin as a bucket, and scores of these are at work in the quarries.

Quarrying cannot be carried on in the rains, and the season, therefore, lasts from November to May. The unhealthiness of the climate then compels the traders to go away, and the flooding of the mines suspends the operations of the Kachins. In the wetter quarries the floor can often only be kept dry enough for a fire to be lighted during the months of February and March. The Chingpaw quarrymen protect themselves from the fierce heat by fastening layers of plantain leaves over their bodies, arms, and legs. The heat is almost insupportable for onlookers at the top of the quarry, and the mortality among the actual workers is very considerable each season. During the dry weather about 700 men are steadily employed. The jade at the mines is purchased by Chinese traders, and an expert, or middleman, is nearly always employed to settle the price. These middlemen are without exception Burmese, or Shan Burmese, and have from early times been indispensable to the transaction of business at the mines.

They charge the purchaser 5 per cent. on the purchase money.

The Kachins of the jade mines have the reputation of being the most superstitious of the Chingpaw tribes. In their search for stone they are guided by indications furnished by burning bamboos. When the stone is found favourable omens are anxiously awaited before the discovery is announced to the community. Then at a meeting called by the chief *duwa* sacrifices are made and signs looked for to determine whether the mine should be worked at once, or be allowed to remain undisturbed for a period of years until the colour matures. The Kachins firmly believe that the colour of the jade improves with age. If the auguries are favourable to the immediate opening of the quarry the land at and round about the out-crop is marked off by ropes into small plots, a few feet square, which are then parcelled out amongst all the Kachins present. No Kachin belonging to the same family is refused a share, no matter how far away he may live.

A new quarry is opened with elaborate ceremonial, and a similar ceremonial is held at the beginning of each digging season. Apparently any Kachin can get a digging lease for a small fee. This is paid to the Kansi *duwa*, who claims to be proprietor of all the mines. If a very valuable block is found anywhere half of the price received goes to the chief.

The value of jade varies to an enormous extent. The Chinese value a really good piece at its weight in gold or more. A small fragment, of a size that would fit a signet ring, might fetch £30 or £40, though in Europe it would be worth no more than a cairngorm, if so much. The demand for jade is universal throughout China, with its population of 450,000,000, and the price of the best stone shows no tendency to fall. Burma is practically the only source of supply, and there is a nearly inexhaustible quantity of jade available. It does not, however, seem probable that European appliances and systematic mining operations are at all likely to be introduced.

Amber.—The Burmese amber mines are situated in the Hukawng Valley, an extensive flat basin, surrounded

on three sides by lofty hill ranges, which are nearly impassable, and rise in the Patkoi Range on the west to about 7000 feet. The valley is flat in the centre, but all round, except on the south, low, isolated hills and short ridges rise abruptly from the plain. It is on these low ranges, in the south-west corner of the Hukawng basin, that the mines are found, in about 26° 15′ N. and 96° 30′ E. All the existing mines, or all that are known to exist, are found in nine different localities on a single range, the Nango Taimaw, near the village of Möng Hkawn. The ridge is about 150 feet only above the plain, and the top is so nearly on one level that it would appear to have once formed a terrace skirting the higher ranges. The whole ridge is covered with such dense, impenetrable vegetation that proper examination is only possible after extensive clearing. The tertiary blue clay of which the hill is formed is superficially discoloured, and turned into a dull brown, by the oxydising influence of organic acids, produced by the luxuriant vegetation. The same causes affect the amber in such positions. It loses its colour, becomes dull and brittle, and a crust of decomposed amber often covers only a very small second kernel. The fossil resin occurs in irregularly distributed pockets, some of which are much larger than others, and the amber consists usually of flat pieces, which suggest that it is much travel-worn.

The native mode of extraction, as may be supposed, is very primitive. After the harvest is over the diggers set to work. No principle or traditionary rule guides the choice of a site. The ordinary method is to sink as near as possible to a spot where amber has been found before. If none is found another place is tried. All the tools are home-made. They consist of a pointed pick, a wooden shovel, and a basket made of split bamboo. The basket is drawn up by a length of cane, with a piece of root left as a hook. Occasionally a well-to-do digger has an iron shoe on his hoe or pick. The hoe loosens the soil, which is shovelled into the basket, and a man at the top of the hole pulls it up by the cane-root rope. The shaft is square, and is just big enough to let the man have room to do the digging. He climbs in and out by means of steps cut on

opposite sides of the shaft. The clay is so stiff that walling is not required. 45 feet seems to be the greatest depth reached by any pit. If nothing is found at that depth the pit is abandoned. Three men usually form a partnership. One man digs a three hours' shift, and the other two sit and smoke at the pit mouth, and draw up baskets of earth when required, until their turn comes to go below. The presence of pockets is usually indicated by strings of coaly matter appearing in the clay. If the pocket is too large to be worked out from one shaft others are sunk as close as possible to it, and hands are joined below. A cluster of old pits, therefore, always shows where a pocket has been found. At present the discovery of amber is a mere lottery.

Burmese amber, or burmite, has three good qualities: it is hard, easy to cut and polish, and it is very resistent against solvents. On the other hand, the colour is not good, and there are so many inclusions that even large pieces are often unfit for cutting. This last characteristic, the presence of numerous fissures, filled with calcspar and the like, is the most serious drawback, for, though a process exists by which small pieces can be welded together into one lump, the probability is that these artificial lumps would not sell sufficiently well to warrant the experiment.

Nevertheless, it has been used for centuries by the Burmese, and the cutting and polishing was formerly quite an industry in Mandalay and previous capitals. The manufacture of beads, which is the commonest article, is very simple. The amber is cut into cubes with a sharp knife. The corners are cut off, and a hole is drilled with a flat-edged needle fitted into a bamboo. The bead is then shaped with a file curved at the upper end, and finally polished, first with a dried leaf which contains a considerable quantity of silica, and then with petrified wood. The amber industry is one which is more interesting than profitable to Government.

Salt.—The areas from which salt is obtained are often spoken of as wells, but this is a somewhat loose phrase. Most consist of simple fields the soil of which is saturated with brine. This soil is collected, and piled in heaps. A cauldron-shaped hollow is made in the heaps, and plastered

with mud to smooth the surface. At the bottom a bamboo tube is inserted horizontally. The soil from the extreme edges of the heap is then put into the cauldron, and three ordinary-sized jars of water are poured on it. The water filters slowly through, and is caught in a jar placed below the bamboo rumlet.

The cauldron-shaped holes in the heaps of salt earth appear always to be of the same size, and the reason for this seems to be that the three jars of water poured in are just capable, after filtration through the mound, of filling the receiving jar, but no more. There is thus no wastage, and there is no necessity to post a man to watch a filtering cauldron. One man can keep several cauldrons working at the same time. The brine from the receiving jars is taken to the house, and there boiled in iron or earthen vessels until all the water is evaporated.

There is another method used in other quarters. Water, more or less impregnated with salt, is occasionally found to exist beneath a field. When this is the case a well is sunk, and the brine is drawn up in buckets. Unless, however, it is very heavily impregnated with salt it is not boiled down, but is poured over the surrounding fields. The water very rapidly evaporates, and leaves the salt on the surface. When enough has thus been deposited the soil is collected, and dealt with in the fashion described above. The system seems laborious, but is said to save time.

The size of the saltfield varies very considerably, and the quantity of brine in the soil is also very unequal in different places. In the village of Halin, in the Shwebo district, one of the chief centres of the salt industry, it was found that two cauldrons of the average size, worked continuously, gave three out-turns of salt in the day, each out-turn producing about fifteen pounds weight of salt. Two boiling cauldrons are usually worked side by side, but in some houses three or four cauldrons are kept going. These cauldrons are ordinarily of iron, and are almost always of the same size. In some houses, however, ordinary earthen pots are used, firmly fixed into mud ovens, some four or five, or even six, of them heated by the same furnace.

In some fields the deposit is so slight that the extraction of salt only goes on for a month or two in each year. In

others the manufacture is carried on as long as the weather permits—that is to say, from the beginning of November to the end of April in ordinary years.

The supply seems to be inexhaustible. Brine is drawn up from the subsoil to the surface during the dry months, and the only limit to the amount capable of being turned out appears to be the demand for it.

The taxing of salt in Burma is a very vexed question. At present the idea is to tax salt of local manufacture at the same rate as imported salt—that is to say, at the rate of one rupee the maund, of eighty-two pounds. Up to 1902 the custom was to levy a duty on the vessels employed in the manufacture of salt, calculated on the quantity of salt each cauldron is estimated to produce. In 1902, in certain prescribed areas, free licences to manufacture salt were issued, and the salt so manufactured had to be stored, and duty was leviable only when the salt was sold. The salt boilers at first refused to work on these terms, but now they have been accepted in two districts, and if the experiment proves successful the new system will be generally adopted. About 5500 families are engaged in salt manufacture, and prohibition would throw most of these families out of employ, though not a few combine the salt boiling with agriculture. The great difficulty is to find a means of taxing the local salt which will prevent the manufacture of more than the excise assessments cover. Of the salt imported into Burma 60 per cent. came from Germany.

The system of salt boiling at the brine wells of Mawhkeo in the Hsipaw Shan State, differs in no way from that followed in the plains.

Iron.—Iron ore is worked in several places, but chiefly from a hill called the Loi Namlin, in the North Panglông circle of Laihka. There are shafts on the north side of the hill, and on a neighbouring ridge there are a number of shallow open-cast workings. The shafts are fairly deep, and very narrow, just wide enough to enable a man to work his pick.

Each furnace has two workers: the smelter and his assistant. The smelter goes and picks out two basket-loads of ore, which is all that can be smelted at one time. While he is doing this the assistant makes out of pine

wood enough charcoal for the smelting. The furnace is mud-built, and has two openings. In the lower the charcoal is placed, and banked up to keep in the heat. The ore is broken up into small pieces like gravel, and is dropped in through the upper opening, a handful at a time, usually with a little charcoal added. An ordinary bamboo bellows is used to keep up a blast. The smelting is begun at two in the morning, and is finished by sunrise. The process is very crude, and the ore must be very rich, since 20 to 25 per cent. of metal is obtained from the ore, and the whole process does not extend over more than four hours.

Such mining settlements are scattered about in various parts of the hills. The whole village of Hpanglat, south of Loilön, in the Wa States, is made up of blacksmiths. The three circles of Hsam Tao, on the Kēngtūng-Kēnghung border, have been noted for years for the manufacture of guns from iron obtained locally. Nevertheless, much iron ore is brought in from Yünnan by Chinese caravans.

Lead.—Argentiferous galena is found in many places, but is at present only worked at one in the administered territory. This is Mawsön, or Bawzaing, in the Myelat division of the Southern Shan States. These silver-lead mines are about 1 mile north-east of the village, on the slope of a small hill, and extend over about 100 yards square. The ore is usually found at a depth of about 10 feet, but the shafts descend to about 300 before the miners begin to follow up the veins. The ore varies in quality, yielding from one to five rupees' weight of silver from each basket of about 365 pounds. The tools used are a small hand-pick, a mallet, and a cold steel chisel. Two men take it in turn to pick at the rock, while others carry the ore to the surface. The process of extracting the metals from the ore is carried on close to the village of Bawzaing, independently of the miners, who sell the rough ore at the pit head. The furnaces used are of much the same kind as those used for iron smelting. They are of cupola type, and are built on the ground, 2½ to 3 feet in height, and about 14 to 16 inches in diameter. They can reduce about five baskets of ore, weighing 1825 pounds, daily. Women, standing on raised platforms, work the

blast. As the sulphur is driven off the reduced metal accumulates at the bottom of the furnace, and is scraped out from below, and put into moulds in the ground, where it assumes the shape of massive lenticular ingots. These ingots are taken to the refining shed, and put into small reverberatory furnaces with the fuel—large pieces of charcoal—supported on fire-clay bars, above the metal, which is thus kept in a fused state for twenty-four hours. During this time, as the lead oxydises, it is removed by revolving long iron rods, round which the lead, in the form of litharge, solidifies, and accumulates in a number of successive solid layers. When all the lead has been removed in this way the silver is taken out as a button or plate on an iron ladle.

The rolls of litharge are again reduced to form metallic lead. The process is a very wasteful one throughout. The plate of silver is considered pure.

Silver is sold at fourteen rupees the quarter pound, and the rolled lead at from one and a half to two rupees for 3.65 pounds weight. In Burmese times the main profits were derived from the sale of lead, but after the annexation the sale of lead in Burma was prohibited, and the industry dwindled. A Chinaman now leases the mines, and exports the lead, mostly to the Straits Settlements. He pays Government a royalty of three rupees the 100 viss (365 pounds).

Silver is found in large quantities in mines in the Wa country, east of Möng Hka, but the mines have not been visited.

A considerable quantity of lead is extracted, as required locally, from pits at Kat Maw, near Takût, in the state of Mang Lön, east of the Salween.

AGRICULTURE

The great mass of the population of Burma is agricultural. In the census of 1901 the number recorded under pasture and agriculture was 6,947,945—that is to say, 67 per cent. of the total population of the province. When from the remainder is deducted the number of alien

immigrants from India who do coolie work the proportion of Burmans who are not agriculturists becomes still smaller. Very few Burmans live in towns. In the census of 1901 only 9·4 per cent. of the people were classed as urban. The remainder are scattered about in small villages, living near their fields. This rule applies not less to Lower Burma than to Upper Burma, and is still more pronounced in the hill states. The total area cropped in the year 1902-03 was 11,355,614 acres, and the area occupied but left fallow, was 2,892,605. But though this compares badly with the 24,500,000 acres under cultivation in England, there are 25,000,000 acres and more suitable for permanent cultivation when there is population enough in the country to take it up.

Lower Burma claims nearly two-thirds of the cultivated area, and of this six-sevenths is devoted to the cultivation of rice. In Upper Burma only half the cropped land is under rice. The remainder is made up of a great variety of field crops, of which millets, maize, and pulses cover about a third, sessamum and other seeds for the manufacture of oil for cooking purposes about 13 per cent., and cotton between 4 and 5 per cent.—that is to say, about 155,000 acres.

Rice is, therefore, so universally grown as to be overwhelmingly the largest crop. Hence it comes that Rangoon is beyond comparison the largest rice port in the world. The amount of tons exported ranges from 1,500,000 to 2,000,000 tons in the year. In the greater part of Lower Burma irrigation is not necessary. The abundant rainfall provides all that is necessary, and farming is a mere matter of routine. In all Lower Burma there are only a little over 5000 acres of land, or about 8 square miles, which have to be irrigated; whereas in Upper Burma the area under irrigation is over 800,000 acres, or something like 1250 square miles.

Cultivation in Lower Burma is easily described, and so universally the same as to be monotonous. The rice is sown in June, transplanted in September, and reaped in December or January. The soil is so rich that no manure is needed except the ashes of the stubble, which is burnt every year at the end of the hot weather. In Upper

Burma it is very different. In the central zone the rainfall is in some places quite insignificant; and even in the northern wet zone, owing to the undulations of the ground, rice is almost universally grown in irrigated land. In Lower Burma there is practically only one agricultural season; in Upper Burma there are three. In Lower Burma there is the one crop; in Upper Burma the system of rotation of crops is not unknown, and double cropping and mixed cropping are quite common. Thus on some lands jowar, a species of tall millet, rotates with cotton in alternate years; on others the rotation is cotton in one year, then the next year early sessamum, followed by a crop of jowar, and then cotton again in the third year. Maize, and even early beans, sometimes rotate with late sessamum. In some parts the rotation goes on steadily year after year without a break; in others the land is allowed a year's rest between each crop. On certain descriptions of land a crop of early sessamum is followed in the same year by a crop of late paddy or of jowar. In some favoured lands, where there is irrigation, an early paddy crop is reaped, and then immediately followed by a late paddy crop. A very few blocks are capable of even three crops.

But there is no real system, according to our ideas, of the rotation of crops, and the practice is followed in dry uplands only. In no case is it applicable to irrigated land, for the Burman will grow nothing there except paddy; neither is it applicable to upland paddy, for the cultivator always waits for good rain to sow there. By the time the hope of being able to grow good paddy has passed it is too late to think of growing anything else.

The permanent cultivation everywhere, whether in the wet zone or in irrigation tracts, is called *Lè*, or fields, and ricefields by practically universal usage. Three main kinds of *Lè* are recognised: *Mo-kaung Lè*, ricefields worked where there is a good rainfall; *Myit-sôp Ye-win Lè*, ricefields worked when rivers and creeks overflow; *Ye-shin Lè*, ricefields irrigated by hill streams and springs. In the moist Delta tracts, as soon as a layer of water covers the ground, usually in June or July, and softens the earth, six weeks before baked as hard as iron, and seamed like a

piece of crackle china, ploughing begins. The process is very primitive, and the farm implements are of the simplest possible kind. Throughout the Delta lands the *Tun*, or *Tundôn*, is still the commonest in use. This is really a harrow rather than a plough, and consists of a log of wood, usually made by the farmer himself, and furnished with from four to seven teeth. It is made of heavy *Padauk* or *Dahat* wood, if that is to be had, and is dragged about by a pair of buffaloes if the soil is marshy and heavy, or oxen on the lighter, rough soil, and scratches up the earth to the depth of a few inches. Occasionally a drove of young buffaloes is turned into the field, and driven up and down in a line to stir up the ground. In either case the village soothsayer determines the direction in which the operation is to be begun—from north to south or east to west—and he also fixes the lucky day on which work is to commence. The field is harrowed in this way four times in one direction, and then cross-harrowed four times at right angles. This tickling of the soil is enough to make it laugh with a harvest.

When the ploughing is done the seed is sown broadcast, or in nurseries, from which the young plants are afterwards taken, and set out in regular rows. In either case the seed is soaked in water for a couple of days to assist germination. The system of transplanting, it has been proved, gives the heavier crops, and is, perhaps, the commoner. It is almost universal in places where irrigated lands are found, for there hard work is the recognised lot of the people. Besides, it is done by the women, who in Burma are always very energetic where profit is to be made. Sometimes the best seed of the year is kept for sowing, but oftener the Burman is too haphazard a person for such foresight. The choosing of the site of the nursery is a matter of importance. It must be neither too wet nor too dry. Where the question has not been settled for him by the experience of scores of predecessors the Burman seems to hit upon the right place by inspiration. The transplanting takes place about a month after sowing, when the young paddy plants are a little over a foot high. The plants are pulled up in wisps, and carried on a bamboo pole in bundles of from 1000 to 1500 to the fields. There

the women thrust them into the mud, a tuft of three or four plants at a time, roughly a foot apart. It has been estimated that something like 45,000 tufts go to the acre. Anything less would be thriftless, anything more would spoil the crop through overcrowding. Ten women can plant an acre field in a forenoon.

Plenty of water is an absolute necessity for the young paddy after transplanting. If it does not get enough it droops, and turns yellow. When it is well supplied the tender green soon intensifies to a deep robustness—the reverse of an apple, which is most vigorous in its green at the earliest age. The low-country farmer trusts the south-west monsoon to do the watering for him. The up-country man, and especially the hill farmer, has to regulate the flushing himself, and especially has to guard against inundation through sudden rain squalls. Moderation in drinking is as imperative for vegetables as it is for higher organisms. Two Frenchmen killed themselves by drinking water for a bet; and if paddy has too much supplied to it, it dies. Since the skies do so much for him the Delta cultivator thinks nature is on his side, so he never troubles to weed his field. The irrigation farmers, who have so much more trouble otherwise, are diligent in keeping down weeds. They also usually carefully select their seed, and even manure their fields. The Lower Burman usually intends to topdress his nursery at any rate, but it oftenest slips his memory.

Farmers of irrigated lands are unanimous in declaring that rain water is, weight for weight, more valuable than irrigational water. It is comprehensible that at certain stages of its growth rain is particularly valuable to the plant, but why it should prefer rain to spring or river water is not so clear, and is not explained by the theorists. Irrigated lands require 5 inches of water for the first moistening. With less they cannot be ploughed. Oftenest, too, something less sketchy than the *Tundôn* harrow is necessary, and they use the *Tè*, a very primitive plough, with a stock of teak, and a ploughshare of steel or iron if it is made in the Shan States. It is in reality nothing more than a grubber, but it is much superior to the plough of the Indian ryot, notwithstanding its many defects. The

TERRACED RICE-CULTIVATION.

WEIR ON THE ZAW-GYI RIVER.
(Kyauk-sè Irrigation System.)

bit is triangular, measures 5 inches at the top, and tapers to a point. The surface of resistance is very large, and the draught of the plough is, therefore, much greater than it ought to be for its weight. The soil is partly inverted, and the furrow is triangular instead of square. The Shans very often plough their land in the autumn, and let it weather through the cold season. Then it is raked smooth, after the flushing, with the log harrow. Other agricultural implements are: a *Kyandôn*, or *Kyanbaung*, or clod crusher; a *Pauktu*, or large hoe, much used by the people on the hill slopes to turn up their soil; and a *Tèwin*, a long, narrow spade like a ditcher's, is also commonly used. The *Sulpyin*, a kind of sledge, drawn by bullocks, is used for carrying paddy seedlings from the nurseries when these are a long way from the fields.

For ages the irrigation system in the dry zone and in the hills has been excellent in theory and sometimes in practice. In Upper Burma the canals and irrigation weirs were very carefully kept. If a breach occurred, and loss of revenue resulted, the *Wun*, or chief civil official, might be sentenced to death. The *Wun*, therefore, whether he had authority or not, took to himself the powers of life and death over the *Sè-gyis* and *Kan-ôks*, the men in charge of the weirs, canals, and reservoirs. The *Sè-gyis* in their turn, apparently, were not interfered with if they killed villagers who shirked their corvees on the irrigation works when required to turn out. Orders exist from *Wuns* to their subordinates, in which weirsmen are threatened with death and crucifixion if the repair of a breach was not completed by a certain date. Verisimilitude was given by the announcement that the crucifix, if required, would be built on the spot where the breach occurred, and that the corpses of the victims were to be guarded from crows and vultures, so that the moral might be enforced, and the warning preserved as long as might be. But in the times of King Thibaw canals silted up, the mouths of channels widened into estuaries, weirs were breached and washed away, and reservoirs burst.

When we took over Upper Burma we found four canals in the Mandalay district, one in the Shwebo district, thirteen

in Kyauksè, and two in Minbu. There were also a good many reservoirs. The chief were the Meiktila Lake, the Nyaungyan-Minhla tank, both in Meiktila; the Kyauksè and Yamèthin tanks, in that district; and the Kanna tank, in Myingyan; besides a multitude of others of smaller size. All these, or at any rate the principal works, have been repaired and remodelled. The Mandalay Canal, which is 40 miles long, and has fourteen distributions, and obtains its water from the Madaya River, was opened in 1902. It cost forty-seven and a half lakhs, and will irrigate 200,000 acres. A canal in the Shwebo district is under repair and construction. The actual canal was opened in March 1906. The distributory channels, which are to measure in all about 180 miles, are about two-thirds finished, but the water-course channels for the distribution of the water to the holdings have yet to be dug. They will measure about 400 miles. The area irrigated is expected to be twice that of the Mandalay Canal. The cost will be something over 50 lakhs, and the estimated return is 8·7 per cent. The Môn canals in the Minbu district have been taken in hand, and will irrigate nearly 79,000 acres in one of the driest districts of the central zone. In Lower Burma many embankments have been built in the Delta of the Irrawaddy to protect cultivation from floods. They not only protect the crops, but bring large, new areas under cultivation, and have the further merit of returning a considerable interest on the outlay incurred on them. The weirs on the various reservoirs have been largely reconstructed and improved.

Practically all these works are in the interests of rice. The Burmans recognise infinite varieties of the rice plant: red, white, green, yellow, and black kinds, which, again, are subdivided into those with rough or smooth grain and husk, long or short, round or flat; and each subvariety has its special name, ignored by botanists, the more so since many of the so-called variants are common to the hypothecated main groups mentioned below. The farmer knows them well, and discriminates narrowly, if it is only for the purpose of securing that his seed grain is all of the one kind for the one field. The most practically useful division is probably into

Mo-saba, or monsoon paddy, and *Nwe-saba*, hot or dry weather paddy. But even this is hardly accurate, for spring rice produces the best out-turn when it is in the field long enough to catch the early rains, and wet-weather paddy receives no rain at all in the months of December and January. The recognised main classes are *Kauk-gyi*, *Kauk-yin*, and *Mayin*, to which *Kauk-ti* is sometimes added. *Kauk-gyi* is the late-rain paddy. It is sown in the nurseries in June or July, and reaped in December or January, and is in the greater part of the country the principal and most valuable crop. *Kauk-yin* is the early-rain paddy, sown in April, and reaped in July or August, in the height of the rains. It is grown on the lowest lands, which are soonest flooded. The *Yin* is a form of *Hlyin*—that is to say, quick-growing rice. *Mayin* is dry weather paddy, generally grown on lands from which floods are subsiding. It is sown in December or January, and reaped in May, but in some districts is a month or more later. *Kauk-ti* is broadcasted in the early part of March, or transplanted from nurseries in the latter part of the month. It requires a great deal of water, since it grows in the hottest months, though it is only three or four months in the ground. *Kauk-gyi* is more leisurely. The best fills in 133 days, and ripens about thirty-five days later. Rain, as distinguished from irrigational water, is said to be particularly valuable at two stages: when the ear is first forming, and when it is on the point of bursting out of its cover. The ear, once exposed to the air, does better without rain. The last dole of irrigation water is given about twenty-five days before harvest, and the field is thus dry when reaping day comes. Irrigation water is supplied, 5 inches at a time, at the rate of seven times every two months, over a period of four and a half months.

The Burmans have various names for paddy-growing soils. *Nôn* is alluvial mud; *Myewa-nôn* is a yellow clayey loam; *Shun-nôn* is a black humous loam; *Hput-kyi* is calcareous, and tends to crack wide in the hot weather, and is full of tiny land shells; *Thè-nôn* is loam with an admixture of sand; *Thè* is sand pure and simple; and *Myenet-si* is the "cotton soil" of India, crumbly and full

of holes in the dry weather, and more like mud than clay in the rains. The amount of detritus washed down by the rivers and spread about during flood times has enabled the same fields to be cultivated in many places with the same crops for hundreds of years without a fallow. It is only where lands cannot be regularly irrigated that rotation of crops is practised.

In many places, especially in the hills, water is raised by lift. These are especially used where a river has high, steep banks, or in places where natural hollows in the ground retain the water in broads, or lagoons, after the floods have gone down.

There are four common kinds of lifts: the *Kanwè*, or swing basket; the *Ku*, or *Kumaung*, or trough lift; the *Yit*, or water wheel; and the *Maunglet*, or bamboo lever.

The *Kanwè*, or water scoop, is simply a long half-cylinder of bamboo matting, with a still longer guiding handle. It is slung from the apex of three bamboos stacked together like piled rifles, and is worked by hand. The contrivance is obvious, and may be seen in Egypt, as well as in India, Siam, Tongking, and China. It is useful for lifting water from one field to another, but does not raise it more than 18 inches, whereas a *Ku* will raise it between 3 and 4 feet.

The *Kumaung* is a long, narrow trough worked on a pivot. One end overhangs the field to be watered, and is weighted with a stone or a lump of clay, and the other overhangs the water. The worker stands on a small platform, and steps on to the trough, so as to sink it in the water. When he steps off the weight tilts the trough forward, and the water runs through a hole in the trough. This water lift is most frequently used to discharge water led off from lakes and tanks in distributary channels from these channels into the fields. One *Ku* will serve a little more than 4 acres on the average, and will completely irrigate 1 acre to a depth of 5 inches in one day.

The *Maungtôn*, *Maunglet*, or bamboo lever, is equally familiar throughout the East as a means of drawing water from wells. A long bamboo working on the pivot of an upright post supports a heavy weight at one end and a

bucket attached to a rope at the other. The bucket is lowered by hand, the weight at the end of the *Maunglet* raises it up, and the man tilts the water into a bamboo runnel.

The *Yit* is what is known as a Persian wheel. It is an ordinary water wheel, with lengths of bamboo tied transversely opposite the floats. These act as buckets for lifting up the water, and, as the wheel revolves with the current, are tilted so as to empty themselves into a trough, or channel, which carries the water into the fields. These *Yit* are usually only found in hilly places. In some places in the Shan States where the rivers have a deep channel, such as the Nam Tēng, at Lang-Hkö, these wheels are 40 or 50 feet high, and raise water enough to form quite a considerable rivulet.

In the hills, and particularly in the Shan States, the valleys and the hill slopes, sometimes even quite steep inclines, are cut down into terraces, sometimes yards wide, sometimes only a few feet, rising in steps, sometimes 18 inches high, sometimes several feet. A stream is diverted, and flows from the higher to the lower terraces. The evil effects of stagnation, so very prominent in the plains, are, therefore, very seldom experienced in this terrace cultivation. The yield varies greatly. In some places a hundredfold is confidently looked for. From forty-fold to sixtyfold is the ordinary yield. The Shans call the wet cultivation *Na*, which is equivalent to the Burmese *Là*.

In the hillier parts *Hai*, or dry cultivation, the Burmese Ya, is the commonest. The place most generally chosen is a piece of forest land on the slopes of a hill or in broken, undulating land. The trees are ringed to kill them, and the branches are lopped off, and heaped round the tree trunks. These hills are then set on fire, usually just before the first rains are expected. The heat kills the trees if the ringing has not already done so. Meanwhile the land has been ploughed and harrowed in the ordinary way. The ashes are scattered over the fields, and the harrow is dragged over them once more. Stubble, leaves, and branches are well distributed over the field in small heaps, and then loose earth is raked over these heaps. The leaves and stubble below are set on

fire, and smoulder till the earth is thoroughly burnt to a brick-red. These heaps are then spread out, and the seed is sown broadcast when the rains begin. Very many Shans cultivate in this way, and practically all the hill tribes—Rumai, Chingpaw, La'hu, Akha, Wa, and Chins. The La'hu, Rumai, and Lihsaw cut down much heavier tree jungle than the others. This form of cultivation is very laborious, and it is never permanent. The cultivation of crops is possible for a longer or shorter time in different places. Perhaps four years is the average. The fields are then abandoned, and the whole village moves elsewhere. The process of burning the soil is most exhaustive and ruinous. The organic matter in the earth is volatilised, and the ash constituents only are left, in a highly soluble condition. The available plant food is thus freely taken up by the crop, which year by year becomes less. Moreover, as the slopes are often heavy, a great quantity of the fertilising matter is carried away by surface drainage.

The staples grown under this system are rice, maize, millets, cotton, buckwheat, Indian corn, sessamum, peas and beans, tobacco, and a variety of gourds and garden crops. The Miaotzu, or Mêng, and the more Chinese races especially, grow Indian corn, buckwheat, and millet; the Wa grow peas and beans to eat, and poppy, in enormous quantities, to barter and to consume. The La'hu are also great poppy cultivators, and the Akha specially devote themselves to cotton. The Rumai are the great tea planters. The yield of rice, and ground crops generally, varies enormously according to the character of the soil and the time it has been under cultivation. It is seldom below twenty-fold, and frequently rises to sixty-fold.

In the more open down-like country, such as prevails in the sub-montane parts of Upper Burma, in the Myelat, and about Tangyan and Möng Keng, in South Hsenwi, as well as in the central plain generally, where the surface has been so thoroughly deforested years ago that little remains but grass, and irrigation is in most parts impossible, a different form of *Hai* cultivation is followed. Manure, which might advantageously be used

elsewhere, replaces the wood ash. At the end of the rains, before the ground has hardened, the plot to be cropped next season is ploughed up, and left till February or March, when it is broken up with a hoe. The soil is gathered into little mounds, a foot and a half apart, in the centre of which are placed cakes of byre and stable manure, and the grass roots and other rubbish taken out of the soil. These heaps are then fired. If it rains after the heaps are made up, and before they are burnt, the work has to be done over again; and if rain comes a second time before the remade heaps have been set smouldering, the cultivation of that particular field has to be abandoned for the year. After burning, the mounds are left as they are till the first squalls and heavy rains are over. These would blow away the ashes before they could be raked into the ground. The seed is sown broadcast. The yield varies from twelvefold to twentyfold, and fields have to be left fallow every second or third year. This form of cultivation is called *Lè-pôk* in the Mogaung subdivision of Upper Burma. No manure is used there, and the fields have to be left fallow for a much longer time.

As a rule, holdings are small, seldom exceeding a score of acres, but here and there, especially in the dry zone, where the necessity of leaving land fallow exists, large farms are found running to several hundreds of acres, and in a few cases, especially in parts of the Minbu district, to upwards of 1000. The occupancy rights of a holding rest entirely with the proprietor. When he has more lands than he can conveniently work, or when he is too indolent to take the trouble of personal supervision, he hires a cultivator, who engages to work the land upon such terms as may be agreed on. But however lasting the connection may be, the tenant does not acquire any right approximating to an occupancy right. Tenants are of three kinds: 1. The *Asū-cha* tenant, who bears all the cost of cultivation, and pays the landowner as rent a fractional share of the gross produce of the land. The tenant of State lands falls within this class. 2. The *Kôn-hpet*, or partner tenant, who bears a portion only of the expenses of cultivation, and pays as rent a portion of the gross

produce. 3. The *Asū-pônthè* tenant, who pays a fixed rent in kind, and bears all the expenses of cultivation. This is comparatively rare.

In the irrigated paddy tracts the payment of water rate and the expenses of seed and harvest are matters for private arrangement. Sometimes these items are debited to the tenant, sometimes to the proprietor. The rent varies from one-fifth to one-half of the gross produce.

The Burman is much attached to his land, and will never sell it outright if he can possibly help it. Mortgaging, on the other hand, is extremely common, and some of the forms adopted appear to be invented rather to soothe the pride of the mortgager than with any contemplation of the possibility of his ever recovering the land. Even what we should call an absolute transfer is gilded with the name of *Paung-thé*, a dead mortgage, though in a deed of mortgage no time for foreclosure is ever set forth. Contrary to our custom, the mortgagee almost invariably enters into possession as soon as the bond is made out, and the mortgager does not remain a tenant at sufferance.

Custom seems to have varied very greatly, but in most cases the mortgagee was bound to agree to redemption at any period, after the lapse of three years, that the mortgager wished, and seemingly not before. There was, in fact, almost invariably a clause inserted in every mortgage bond, that the land should not be redeemed for three years (*Thôn-hnit, Thôn-thī*—three years, three crops). Mortgages were practically always usufructuary. It is sometimes agreed by the parties that the redemption price shall be higher that the sum first received by the mortgager. Another curious feature is the additional money which is paid, sometimes six months, or a year or more, after the original mortgage is concluded, and without in any way prejudicing the equity of redemption. No interest is charged on the money loaned; the mortgager, or any descendant to the tenth generation, may redeem at any time he can. In no case does foreclosing, the fixing of a time beyond which the mortgager cannot redeem, seem to have been recognised. The advantage to the mortgagee is that he enters into the possession of the land; and if the mortgager owned plough-cattle, the mortgagee may use

these to work the land, taking to himself three-quarters of the crop, and giving the remainder to the mortgager. In this there is a sort of resemblance to the form of pledge known to English law as a Welsh mortgage, though in Burma there is no suggestion of automatic redemption by process of time. The whole system was of the most easy-going kind, quite characteristic of the Burman. The method of recording title-deeds, with a soap-stone pencil on the blackened surface of a *parabaik*, and this in a single copy only, retained by the mortgagee, is in keeping with the rest of the procedure. This record is of the most perishable kind, in writing which is no more permanent than the mark of a slate pencil. Nothing exists beyond this except the *ex-parte* statement of the contracting parties, which cannot be of much value regarding a transaction more that five or ten years old.

Owing to the infrequency of sales it is not easy to determine what the price of land was in Burmese times, but it seems to have ranged from twenty-three rupees the acre for dry-crop land, up to 160 for wheat land, and to as much as 250 for naturally irrigated paddy land. Thickly planted orchard land and gardens have realised as much as 700 rupees the acre—the orchard and garden plants being, of course, included.

Almost all cultivators have cattle of their own, and do all their agricultural work themselves. But in a few districts where there are large holdings both labourers and cattle are occasionally hired. The rates of hire for cattle vary very greatly. In the Minbu district the rate in the northern half is, for one pair of buffaloes for the season, twenty-five to thirty baskets of paddy; for one yoke of oxen for the season, twenty baskets of paddy. In the southern half of the district the rates are respectively thirty-five to forty-five baskets and twenty-five to thirty baskets of paddy. But the rate varies from year to year, according to the greater or less number of cattle available. A field labourer usually gets for the ploughing season, which lasts four months, twenty rupees, with his food; for the reaping and threshing season of four months, fifteen rupees with his food. In the neighbourhood of Rangoon the indolent, low countryman hires Madras coolies at the

current rate, but in the greater part of the country districts hired labourers are not common. In small villages, where the people are poor, mutual help is common in all agricultural operations except ploughing.

Tea.—The chief special crop is tea. This is most extensively and best cultivated in the Northern Shan State of Tawngpeng Loilông, but there is a good deal of cultivation also in the Katha district, in Möng Lông, and in the Pet-kang district of the Trans-Salween State of Kēngtūng. The plant is indigenous, and wild tea shrubs are found over all the hills. The Loilông State is a mass of hills ranging about 6000 feet above sea-level, and little else but tea is grown on them. The soil is a dark brown, clayey loam of considerable depth, and covered on the surface with large quantities of decaying vegetable matter. The tea shrub, or tree, is allowed to grow with one stem often thick enough to be called a trunk. It luxuriates in the shade, and has a leaf of about 9 inches in length when fully developed. It does not stand much pruning. For a plantation, pieces of land covered with dense forest are usually chosen. Blue oak, or scrub jungle, is said to be the best, and land covered with pine forest is seldom planted. The gardens are almost invariably situated on the slopes of the hills. The ridge is left under primeval jungle, and both slopes are planted nearly down to the foot. In some places these slopes are almost precipitous, and on such slopes the plants are usually much smaller, and have many blanks from the dying-off of trees. The gardens are not laid out on any system, but are planted quite at random.

The seed is collected in November, and sown in nurseries in February, or later. The plants are kept there till they are about 2 feet high, generally in the second year, and are then planted out in August or September on the cleared and burnt slopes. No manure is used, but the plants are freely watered during the dry season. Weeding is only done before the rains, and after October, when the ground is often dug up with country hoes. The trees are never pruned, either to a special shape or to regular dimensions, but are allowed to grow and straggle freely. The Palaungs say the plants die off if they are pruned,

Vacant places in a garden are filled up every year. Each cultivator has his separate small garden, and there are no large plantations worked by capitalists or by the united labour of a village.

The leaves are first picked in the fourth year, and the trees seem to continue bearing to ten or twelve years. Three crops are recognised, which extend from the month of March to the end of October. This also seems to represent the number of flushes. The middle crop, or picking, between the months of May and July, is considered the best, and makes the best tea, which is called *Swè pe*. The picking is apparently carried on quite at random: any and all kinds of leaves are picked. The first crop, which is said to be coarse, is generally manufactured into wet, or pickled, tea, called by the Shans *Nēng yam*, and by the Burmese *Letpet*, or *Lapet*. After they have been picked the leaves are spread out on trays, and laid for two or three days in the sun to be dried, and are then steamed. This is done in wooden jars which have a false bottom of bamboo grating. A cauldron, also of wood, is cemented on to a round iron plate, which is laid on the top of an oven, cone-shaped, and made of earth or bricks. A sloping excavation under the oven serves for a furnace. When the water in the cauldron has reached boiling point the steaming jar is fitted tightly into the neck of the cauldron, so that the steam rises to the leaves through the bamboo grating, and removes a certain amount of tannin and glucose moisture. The damp leaves are then thrown into small wells made of brick, and are weighted down. There they ferment, and the result is the salad, or pickled, tea in its primary state. The Burman, before he brings it into ceremonial use, adds salt, garlic, and assafœtida, dowses it in oil, and then adds a few millet seeds. There does not seem any limit to the time that the stewed leaves will keep in the brick pits.

The middle, or *Swè pe*, crop is generally converted into dry tea. The flushes are steamed over-night, and the next morning the leaves are compressed, and rolled, then loosened, and spread out on bamboo mats to dry in the sun. While drying, the leaves are rolled three or four times during the day. When perfectly dry it is *Letpet*

chauk, dry tea, and is collected, and stored away in baskets. Much of the dry tea goes to Western Yünnan and the Shan States. All the salad tea goes to Burma. The tea infused from the Tawngpeng leaves is not very palatable to European taste. The Shans always take it with salt. The late Dr Anderson said the tea-tree was *Elæodendrum persicum*. Sir Joseph Hooker says it is *E. orientale*. Latterly, much of the tea seed has been sought for from Assam. There seems no reason why tea gardens should not be started on enlightened principles.

Opium.—Very great quantities of opium are produced in the Shan States, chiefly beyond the Salween, and along the Chinese border. In Kokang, and in most of the Wa States, the poppy is the chief crop, but it is also grown in all parts where there are Chingpaw, Palaungs, or La'hu. It is most common at heights over 4000 feet, but it grows freely enough below that altitude. The opium is, however, said to be inferior—whether in flavour or strength is not clear.

The poppy cultivated seems to be most like the *Papaver officinale*, with white flowers, solitary flower stalks, somewhat ovate capsules, and white seeds; but it is usually called the *Papaver somniferum*, which has generally red or violet - coloured flowers, numerous flower stalks rising together, globose capsules, and black seeds. The *P. somniferum* is generally cultivated in the mountainous parts of the north of India, and the *P. officinale* in the plains of Bengal, where the poppy fields are described by Sir Joseph Hooker as resembling green lakes studded with white water lilies. In the Shan States it is the hills that are so clad, at any rate in the Wa States, where miles of slopes are covered with the poppy, the ridges like the crest of a breaking billow, the hollows like a snow-drift in a fold of the hills. Elsewhere the fields climb up steep ravines and follow the sheltered sides of ridges; but everywhere the crops seem to thrive best on the steepest ground, and everywhere white blossoms predominate, though in almost every field there are a few scattered coloured heads which fleck the snowy sheet. There are two kinds of white—a dead matt surface, and a ribbed corolla, which has a slight gloss on it. Some of the petals

are tipped with red, others are wine-red, purple, and purple turned up with red. No botanist has as yet determined the species or the variety, for some botanists deny that the species are different.

The poppy is everywhere a very delicate plant, and is peculiarly liable to injury from insects, wind, hail, or unseasonable rain. The crop is, therefore, always a very hazardous one, and the produce seldom agrees with the true average, but commonly runs in extremes. While one cultivator is in despair, another makes huge gain. One season does not pay the labours of the cultivation, a fortunate season enriches all the cultivators. If this is the case in Patna, Malwa, and Benares, it is much more so in the Shan States, where the plants seldom grow to more than 3 feet in height, and the capsules average the size of the Indian bazaar egg rather than that of the dorking, to say nothing of the human fist, variable in size though that is.

The seed is sown in November, the plant sprouts early in January, and flowers at the end of the month, or in the beginning of February, and the sap is collected in March or April. This is gathered in the usual way. The pods are gashed with a double or triple bladed knife (the *nushtur* of India) in the early morning, and on the following morning the sap is scraped off, and stored on plantain leaves. The cultivators, especially the Wa poppy farmers, are fond of using old kelts for this purpose instead of the scoop, the *sittuha* of India. The kelts are said mostly to come from Yünnan, where also they are used for the same purpose in the huge poppy fields near Tali-fu. None of the tribes, so far as is known, prepare or inspissate the opium in any way. It is smoked as it is gathered. The La'hu and Wa use a pipe, which, if not exactly the same, is very like the *yen-tsiang*, the orthodox "smoking pistol" of the Chinaman, and they smoke reclining on a mat. Many of the Shans, Kachins, and Palaungs smoke opium in ordinary metal or clay pipes, sitting up, or even walking about. In such cases the opium is always mixed with, or rather saturated into, chopped, dried plantain leaves. In every case, however, the opium is much milder than even the "black commodity," or "black earth," grown

by the Chinese, which is far below the "foreign medicine" of Malwa or Benares both in potency and flavour.

The average return in Kokang appears to be roughly from four to five pounds to the acre. This compares badly with the thirteen pounds said to be regularly obtained from the Patna, Benares, and Malwa fields, but they are prepared, and the only preparation in the Shan Hills is the clearing and burning of the jungle. Very little crosses the Salween westward, almost all goes to Western China, but a certain amount makes its way to Kēngtūng and beyond. In ordinary years a viss, 3.65 pounds, of opium may be bought in the Kokang poppy fields for six rupees. The same rates prevail, so far as is known, in the Shan States, but there the transactions are all by way of barter for salt, rice, or guns. The character of the harvest has also a very great deal to do with the prices.

In Kokang and the Wa States the out-turn runs to tons. West of the Salween, Loimaw is the only place where opium is systematically grown for profit. The cultivators are all Chinamen, and the amount produced in a season reaches about 4000 pounds. The price ranges from twelve to fifteen rupees for three and a half pounds. No doubt a very great deal is smuggled into Burma by opium roads —tracks only passable by coolies, and not known to many.

It is to be noted that there are no victims to opium in the opium-producing districts, any more than there are in Ssu-ch'uan, where the people are the wealthiest in China, and half the crops are poppy. It is only in places where opium is prohibitive in price that there are victims to opium. If a man is accustomed to take opium he must have it to soothe his nerves under excessive fatigue; if he lives in a malarious district it is necessary to kill the bacteria. When such a man is poor, and comes to a place where opium duty is high, he has to starve himself to get the anodyne for his muscles, quivering under the weight of loads which no white man could carry, or to soothe the wracking fever in his bones. He dies of want, and opium is denounced. Where opium is cheap the people are healthy and stalwart, and the women are fruitful. East of the Salween the universal opinion of opium is that of the Turk who stamps on his opium lozenges *Mash Alla'h,*

the gift of God. Some of the Wa eat as well as smoke opium; but, so far as is known, regular opium eating is rare, and none of the races drink it in the form of an emulsion like the *Kusumba* of the Rajputs. West of the Salween the European cant about opium has penetrated. A Shan either tells deliberate lies or says he only smokes when he has fever. The Rumai is pious and hypocritical, and says his opium is intended for his ponies or for cases of malarial fever. There are, of course, cases of excess, but the opium victim is never the hideous spectacle of the man sodden with alcohol or the repulsive bestiality that the man becomes who takes food to excess.

Cotton.—Cotton is not nearly so much grown as it was in former days, particularly in Lower Burma and in the more accessible parts of Upper Burma. The yearly increasing import of cotton goods is responsible for this. In the hills very many tribes still grow their own cotton, and the women still clean, dye, spin, and weave their own and the menfolk's clothes, and a great deal of raw cotton is exported to China. But, as a whole, cotton cultivation cannot be said to be in a thriving state. The Burma cotton is the same as that grown in most parts of India, consequently the objection that it is too short in the staple is a defect that is much exaggerated, for it has been found very possible to use Indian raw cotton when the American supply has failed. The further drawback that it is very badly cleaned is one which is very capable of amendment.

Though cotton has been cultivated in Burma so long that legend says it was brought down by Brahmas from the skies, who fostered it for the purposes originally assigned to the scriptural fig leaf, the cultivation cannot be said to have had a fair trial. Cotton is still sown principally on hill clearings, on the poorest class of soil, and as often as not mixed up with paddy. If the ground has been manured at all it has been in the most cursory and ineffective way, and the ploughing of the ground does not extend far beyond mere tickling. But the gathering in is still more unbusiness-like. The cotton hangs often long after it is mature, and when it is plucked is often left for days on the ground, accumulating all sorts of impurities.

The advice of an expert is not wanted to remedy this. The cotton is sold raw, by weight; and it is to be feared that rudimentary trade instincts foster the notion that sand and stones are so much profit, which is far from being the view of the purchaser.

Spinning and Weaving.—Spinning and weaving are in the most primitive possible state, and, therefore, very slow and laborious, which further tends to promote the purchase of foreign piece-goods and yarns. The cotton boll is separated from the pod, and picked by hand; the seeds are got rid of by pressing the boll between two small wooden revolving rollers worked by hand. The cotton is pressed, and put in a funnel-shaped basket. This is turned round and round, and the cotton thread is caught on the string of a bow. The cotton fibres are thus separated, and made ready for preparing thread. They are wound round small stocks, and united into thread on a small spinning jenny, and made up into small balls. The thread is then soaked in rice-water, pressed on a flat board, and dried in the sun. It is then wound on a frame made of two horizontal bars, and is combed fine with the inside of the skin of the fruit of the *sal-thwa*, a species of screw pine. After this it is transferred to a circular frame, and thence on to hand-reels, when it is ready for the loom. This is worked by a small pedal attached to each of the two bars. The shuttle is a hollow piece of wood, which holds the ball of thread, and is thrown between the two lines of thread composing the warp. The Karens, and many of the hill tribes, have a much more primitive method of weaving. There is no loom. The two ends of the warp are fastened to anything convenient, and the loops in the middle are passed round a stick about 1 inch in diameter. The threads are arranged one by one to the full breadth of the warp, which is usually about 18 inches. The stick is fastened to the body of the weaver by a cord fastened to each end and going round the body. The weaver sits on the ground, and pulls one warp tight towards her, and throws the shuttle through in the ordinary way. The process is very slow, but the cloth made is very thick and durable.

From the point of view of art, the cotton fabrics, whether

of Burma or the hill states, have not much to recommend them. The patterns are mostly stripes or checks, but the tints are usually skilfully blended. The most elaborate designs are seen in the curtains, or *kulagā*, used for screening off rooms or hanging on walls. Here the art advances to the pictorial stage. Some of the Shans make curious sleeping mats, or coverlets, and pillow covers. The patterns are often zigzag or diamond-shaped, in red or black on a white ground.

Silk.—Silk weaving is also not nearly so much practised as it was. It was once a great and lucrative industry, and the weavers of Sagaing and Amarapura were especially noted. The importation of foreign machine-made silks is responsible for this, and it is to be noted that Japanese silks have of late years been steadily supplanting those of English manufacture. Silk is still grown in the country, principally by people calling themselves Yabein, but it has never been a very popular industry. Since the taking of life is involved in getting the silk from the cocoons, rigid Buddhists have always avoided it, and the Yabeins are considered outcasts. For the same reason, most Burmans will have nothing to do with the sticklac trade, because they "fear hell." The insect must be killed to get the lac. Still, there is no Burman who does not wear silk, if not habitually, certainly on fête days. There is always, therefore, a good sale for Chinese and other raw silk, and fabrics are still made, some of them so elaborate as to require 100 shuttles.

Loom.—The loom consists of a frame, with four small perpendicular posts forming a rectangle, measuring about 6 feet by 4. These are connected by bars at the top, in the middle, and at the bottom, a few inches from the ground. Upon these bars rest a pair of rollers. The nearer of the two is for rolling the finished fabric on; the further is for the threads which form the warp. To separate these into two rows, between which the shuttles may be passed, are two comb-like frames, closed by a bar at the side where the teeth would be. The teeth of this comb are made of stout cotton threads. The combs hang from the longitudinal bars of the main frame, to which they are attached by looped cords. Below the combs are two pedals for the

weaver, which are connected by cords with the combs, so that the weaver by alternate pressure of the pedals may alternate the two series of threads of the warp. In front of the combs is another frame, made on the same pattern, but with fine strips of bamboo instead of the cotton threads of the combs. This, which is called the Yathwa, is to press the threads of the weft close together. The shuttles are usually made of hard, black wood and the spindle of hard bamboo. The threads for the warp are arranged near the weaver's seat, and are looped on the roller. After the threads have been passed through the pressing comb they pass alternately through the lifting and depressing combs, and then pass over the top bars of the frame, and are gathered in a bunch, and secured, so that the worker can pay out the warp threads as the fabric grows.

Four main classes of designs are recognised: the *Balá*, with thirty-seven patterns; the *Acheit*, with thirty; and the *Gaik* and *Sat*, with one pattern each, but varied according to the number of colours employed. These patterns are much more elaborate, and the fabrics are more durable, than those of the imported silk fabrics now so universally bought and worn. They were also much more expensive, and are, therefore, nowadays confined to the well-to-do, and to those who are content to have one good article and do not seek for constant changes.

Pottery.—This, like weaving cotton or silk, is an occupation pursued only in the dry-weather months, when there are no agricultural operations going on. In a very few places there are villages which are entirely devoted to making pottery, but this is the exception. Perhaps on account of this fitful character the pottery nowhere rises to the very highest rank; and there is no such thing as porcelain made, and it does not appear even to have been attempted. Possibly Burmese potters' work is as good now as ever it was, but it is quite certain that it has not improved, and that the work of hundreds of years ago was as fine as that of to day. The old Sawankalôk pottery of Siam is greatly prized; but there is nothing like it made now, and it does not ever seem to have been emulated or imitated in Burma. Apparently, however, the makers of Sawankalôk pottery were Chinese, and, no doubt, immi-

grants from the great establishments of the Middle Kingdom. Doubtless pottery as an art came to Burma from China, and it is, perhaps, for this reason that the best potters in the country are Shans. Those of Papun are, perhaps, the most noteworthy in Burma proper, and the Shan potters of Lawk-sawk and Möng-küng still turn out very characteristic and elegant work.

The characteristic of Burmese art is boldness and freedom of design and a just eye for proportion, and this appears in their pottery work. There is nowhere the finish in detail that is to be found in China and in India; but, on the other hand, the Burmese make both glazed and unglazed ware, while the art of glazing is not known in Bengal, and is not commonly practised in the Punjab.

The jars of Pegu were formerly famous, and are often referred to by old writers as "Martabans." They are still made, and some of them are capable of holding 150 gallons, but they are not now the monopoly of the province. Some are made in Upper India, where, curiously enough, they bear the old name of Martabans. Pegu is nowadays noted for its domestic pottery, cooking pots, water jars, goblets, flower pots, and lamps of curious shape, nowadays not much used. Twante, near Rangoon, is noted for its glazed ware. The goblets of Tavoy have a great name throughout Burma for keeping water cool. They are very porous, and are coloured black. Many have to be filled with water from the bottom, so that insects and dust are kept out. There is a funnel-shaped opening which runs up inside the goblet, and the water is decanted through a horn-like spout. The fancy flower jars and stands and flower pots of Papun and of Pyinmanā are worth noting, and some of the same work from the Shan States is remarkable for the clever blending of colours. Bassein work also has some artistic merit. Flower pots, recalling somewhat the *trisul* emblem of Buddhism, are made in Bassein town, where the double potters' wheel is in use.

Much care and ingenuity is everywhere bestowed on the manufacture of flower vases for the pagodas, alms-bowls for the monks, and the little circular lamps, lighted at the end of Buddhist Lent, and on festival days generally. The vases and lamps are usually red. The alms-bowls are

made black by smearing the freshly moulded pots with sessamum oil and baking them in huge jars.

In the Shan States the slag, called *Chaw*, or *Bwet*, from the argentiferous lead mines, is used for glazing. It is yellow, and has as much as 90 per cent. of lead in it. A vitreous glaze is obtained by smearing green pots—that is to say, unfired pots—with a liquid mixture of this substance pounded up, and clay, or water in which rice has been boiled, and firing the pots in a kiln. To obtain a green glaze, blue-stone (sulphate of copper) is pounded up, and mixed with the *Bwet* and rice-water.

The pottery is sold for very low prices. It is, therefore, not surprising, perhaps, that the manufacture is only carried on as an occupation in the slack farming-time. Glazed pottery is slightly more profitable, because there are not so many breakages in the firing.

Miscellaneous Crops.—Other supplements of the main occupation of growing rice are the planting of betel gardens or groves of areca palm, the growing of sugar-cane, tobacco, toddy palms, plantains, and occasionally orchards, besides a great variety of garden crops. A betel plantation, with the vines trained on bamboo lattices, looks not unlike a hop garden. Trenches run between the rows, and are periodically flushed with water. The labour of constructing a betel-vine garden is considerable, but when it is laid out it is permanent. Leaves are not plucked till the second year, and sometimes the vines last seven years. When the plant ceases to bear it is cut down, and new plants are obtained by bringing down branches to the soil, and earthing them over till they strike new roots. Immense quantities of leaves are consumed by betel chewers, who wrap the areca nut, with lime and cardamoms, in the vine leaf.

The areca palms are grown in nurseries, and planted out in from one to three years' time. The nurseries are shaded by pineapples, limes, plantains, or cocoa-nut palms, planted for the purpose. The palms fruit in ten years, and last a lifetime if properly tended. They thrive best in ground made marshy by natural springs. There are usually about 1200 trees to an acre.

Sugar-cane, tobacco, and plantains in most places are

grown only in small plots, for local consumption only. It seems certain that very good tobacco could be produced in Burma if experts took the cultivation in hand. The Burman is satisfied with drying the leaf in the sun.

TRADE

Burma has been visited by traders as far back as we can find historical writers. Indeed, there is not wanting the usual enthusiast who identifies the country with the Land of Ophir, whence Solomon obtained his gold. The high-flown descriptions of Hieronimo di Santo Stefano, Fernão Mendez Pinto, Cæsar Fredericke of Venice, and even of Marco Polo, may have led up to this idea. In any case, it is certain that Arab dhows and Chinese junks came from very early days, and were succeeded by Portuguese galleons and Persian sailing ships. But in those days the trading towns were rather Akyab, or Bassein, Martaban, or Syriam. Moulmein is entirely a British creation, and Rangoon, though it was begun by Alaungpayā, dates its prosperity from the British occupation in 1852. Yet it is now the third port in British India. Only Calcutta and Bombay surpass it, and this is the growth of little more than half-a-century. At the present day nearly every commercial flag in the world may be seen in Rangoon harbour, and in the streets are to be seen natives of every country—from Japan to Russia, and from Sweden and Norway to the Pacific coast.

Ralph Fitch, in 1586, was the first British trader to visit Burma. He went to Pegu, and mentions the Shwe Dagôn Pagoda as having near it a monastery "gilded with gold within and without"; but in those days Dalā, on the other side of the river, was the only secular village, and the trade went either to Pegu or to Syriam. Fitch describes Pegu as a place of great magnificence, and the streets as "the fairest I ever saw." He spent most of his time, however, in Chittagong, then subject to Arakan.

Martaban and Syriam were opened up to European trade by the Portuguese. The Dutch obtained a footing in the island of Negrais, on the extreme western verge of

the Irrawaddy Delta. Later they established a factory at Bhamo—not the present town, but the old one, at the confluence of the Taping with the Irrawaddy. The East India Company established factories and agencies in the early years of the seventeenth century at Syriam, Prome, Ava, and Bhamo. The different European traders, however, quarrelled among one another, and with the Burmese, and they were all expelled about the middle of the seventeenth century. The British did not come back till 1698, when they rebuilt a factory at Syriam and established agencies at Bassein and Negrais. The Dutch and Portuguese never returned; but the French settled at Syriam, and became powerful rivals of the East India Company traders. Alaungpayā put a final end to Syriam, razed it to the ground, and would not permit foreign factories in any part of his dominions. But in the time of his successors the British merchants came back again to all the old places, except Syriam, whose place was now taken by Rangoon.

No shipping statistics are to be obtained of an earlier date than the beginning of the nineteenth century. From 1801 to 1811 the average number of vessels that cleared out was from eighteen to twenty-five yearly. In 1822 it was calculated that the utmost amount of tonnage likely to find employment annually between Calcutta and Rangoon was 5400 tons. After the First Burmese War, from 1826 to 1852, the average number of arrivals and departures was only 125, of which no more than twenty were European vessels, the rest being from the Madras and China coasts—coasting schooners, and junks and *prahus* from the Malay States, and *kattus*, native Indian craft. Heavy duties in kind, vexatious regulations, and the conduct of the Burmese authorities generally, acted as a great hindrance to enterprise. After the annexation of Pegu in 1856, when the whole coast of Burma fell into our hands, trade increased rapidly, and has gone on doing so with hardly any perceptible check. The teak trade may be said to have begun with the establishment of the port of Moulmein. Saw mills were built, and shipbuilding yards came into existence, and 123 vessels were launched at Moulmein during the quarter of a century between

1830 and 1855. The rice trade may be said to have begun in 1830. Akyab was at first the main rice port, though a great deal was shipped from Moulmein also. But since 1852 the growth of Rangoon has been assured, and it has completely overshadowed all the other ports both in the shipment of rice and teak.

In the old days the exports were very different. According to Ralph Fitch they were principally the precious metals, gold and silver, rubies, sapphires, and spinels, benjamin, musk, long pepper, lacquer, wax, tin, rice, and some sugar. Cæsar Fredericke speaks of Mergui as a place where every year ships went for "veizine, sappan wood, nyppa, and benjamin." According to Fitch: "In India there are few commodities which serve for Pegu, except opium of Cambaia, painted cloth of Saint Thome, or of Masulipatam, and white cloth of Bangala, which is sent there in great quantity. They bring thither also much cotton yarn, red-coloured with a root they call saia, which will never lose its colour. It is very much sold, and very much of it cometh yearly to Pegu. By your money you lose much."

The exchange question seems thus early to have been a trouble. Later, arms were, of course, the principal import. San Germano says boats from China brought wrought silk, paper, tea, and various kinds of fruits, and took away cotton, raw silk, salt, birds' feathers, and wood oil to make lacquer, looking-glasses, pottery, muskets; and articles of iron and brass, with woollen cloths of various colours from the Isle of France, had the best sales, and returned the highest profits. Already in his time a teak trade had begun, and there were two or three English and French shipbuilders established in Rangoon. One reason of this was the prohibition against carrying specie out of Burma. Merchants, when they had sold their cargo and taken in another of teak wood, had to spend the remainder in building a new ship. Cotton, sandal wood, porcelain, and other wares also came from China, camphor from Borneo, and pepper from Achin, in Sumatra. European goods were sent from Mecca—woollen cloths, velvets, scarlets, and the like.

Exports—Whatever may have been the case formerly,

there is now no manner of doubt as to the fact that rice and teak timber are the chief articles of export from Burma, and the value of the rice exported is more than ten times that of the teak. It was not so in the early days; in fact, in the beginning of last century the exportation of rice and of the precious metals was absolutely prohibited. Trade in those days was seriously handicapped. Up to a few years before the First Burma War of 1824-25 all square-rigged vessels were obliged to unship their rudders, and land their arms, guns, and ammunition. Ultimately they were relieved from the necessity of unshipping their rudders on payment of 32 ticals (Rs.41) to the local authorities. At this period the duty charged on all imports was 12 per cent. On all exports except timber the duty was 5 per cent., and on timber it was 1 per cent. In the year 1805 the articles of export reached a value of Rs.653,602, of which timber represented a value of Rs.461,153 and treasure Rs.57,874. Orpiment to the value of Rs.38,788 was the next item. In the same year the imported articles reached a value of Rs.245,232, of which piece-goods, with Rs.126,202, was the most important item, opium being the next with Rs.15,110, and woollens Rs.5176. Trade steadily declined till the First Burma War. In 1820-21 the exports from Rangoon were only valued at Rs.244,548, including Rs.23,555 of treasure. The imports in the same year were worth no more than Rs.95,443, and it is curious to find that 17,845 bags of rice were actually imported from Calcutta.

Upon the close of the first war Akyab immediately became a large rice port, while Moulmein then, and until 1893, remained the chief teak port. It was passed by Rangoon in 1894, which now exports more than three times the amount, and, in fact, roughly 90 per cent. of the gross trade of the province.

But in the interval between the First and Second Burma Wars, when Akyab, and especially Moulmein, were growing rapidly, vessels trading to Rangoon were subject to many vexations. A royal present of one piece of cambric, one piece of Palampar, and one Pulicat handkerchief, was made by the master of each ship on his arrival. The port charges varied from 10 rupees to 500, and were

levied according to the tonnage of the ships. The local governor took these. The anchorage dues went to one of the queens. The pilotage fees were 10 rupees the foot of draft, but vessels were not obliged to take pilots. Customs dues on imports were levied in kind, at the rate of 10 per cent. for the king, and 2 per cent. for the customs officials. When a ship arrived the cargo was landed at the customs house, and the cases were opened in the presence of the owners or the consignees. 12 per cent. was taken, and the remainder was stamped to show that duty had been paid. The amount annually remitted to the capital on account of customs dues was about Rs.211,000. In the period between the two wars the average number of arrivals and departures was no more than 125, of which English vessels between 100 and 1000 tons numbered no more than 20. During the same period the number of clearings from Moulmein was considerably over 300 vessels, and from Akyab considerably over 200.

In 1862 the three provinces were united to form British Burma, and from that year onward the figures showing the trade of all ports were amalgamated into one set of returns. The total value of the imports in that year was Rs.26,300,227, and of the exports Rs.26,017,088, or Rs.52,470,315 in all. This is entirely sea-borne trade, and includes both foreign and coasting. Under foreign trade is included all trade with countries not under the Government of India, while coasting trade means trade with India. Inland trade is quite distinct. In 1866-67 the value of exports was Rs.23,140,620 and of imports Rs.25,553,850. Ten years later, in 1876-77, the value of exports had risen to Rs.55,166,540 and of imports to Rs.47,094,040. In 1883-84 the figures were respectively Rs.87,302,560 and the Rs.73,134,510. In 1887-88 the value of exports was Rs.89,135,440 and of imports Rs.101,351,450. In 1893-94 exports had risen to Rs.114,058,201, when imports had fallen to Rs.98,504,075. In 1899-1900 the sea-borne trade in exports was Rs.186,434,445 and in imports Rs.125,865,435.

Since the British occupation rice has been the characteristic export, and in value amounts to about

two-thirds of the gross total. Teak represents in value about one-sixth; next come raw cotton, pulse, and a variety of gums and resins, cutch and lac. Hides and horns form a considerable item, and latterly the export of petroleum has been increasing very notably. At first, when the means of transport were not so rapid as they are now, the mills in Rangoon confined themselves to only rough-husking the paddy. It was found that "white rice"—that is to say, perfectly husked rice—would not stand the long sea-voyage to England in sailing ships. Consequently for many years the grain set out was in by far the greatest quantity what is known as "five parts cargo rice." The grain had still on it an inner pellicle, and was mixed with about 20 per cent. of unhusked rice. The opening of the Suez Canal, and the much more general employment of steamers, has, however, put an end to this, and most mills have changed their machinery, and the proportion of white rice to cargo rice is now practically the inverse of what it was a quarter of a century ago.

The rice in the husk, invariably called paddy, is brought down in the cultivator's boats, and measured at the wharves as it is discharged, and is then stored in the mill. There it is winnowed, carried up to the top storey, and there passed between the grinding stones: if for cargo rice, revolving just sufficiently far apart to remove the outer husk; if for white rice, close enough to take off both the outer and inner pellicle. Then it is re-winnowed by a blast, which carries off the loosened husk, sent in a cataract down a funnel, and shot into bags, which are sewn up by bevies of Burmese girls. Everything except the sewing is done by steam machinery; and latterly the mills have been lighted by electricity, so that work may go on day and night.

Each firm has its brokers and buyers. The former, as a rule, live on the mill premises. The rice season begins roughly with the beginning of the year. Each firm advances money to its buyers, and takes a mortgage on his boats as a security. The broker also frequently stands security for the buyer. The buyer then goes out to the farmers, and buys up grain. He either brings it

down to the mill or arranges with the cultivators to bring it themselves. In the former case he sells it to the mill owner at current rates, and is paid in cash. The brokers meet the cultivators' boats in the Rangoon or Pegu Rivers, and take over the cargoes. They are paid by a percentage on every bag, whether bought by themselves or by those for whom they have stood security. Competition yearly becomes keener, and, since the rice mills have only a limited amount of frontage on the river, there has been for years a custom of taking delivery in cargo boats moored in the river. These barges belong to the mill, and can remain anchored until there is room for them to come alongside the wharves. This saves time for sellers who are anxious to return to their homes. Some firms have also a number of small light-draught steamers which go out to meet the rice boats coming down, and tow them in. This regrating is good neither for buyer nor seller, but the difficulty of communication prevents its disappearance. Few merchants' assistants know Burmese, and practically no cultivators know English, so it will be long before middlemen disappear. Latterly the system of "buying against advances" has become more and more common. The brokers go up-country during the rains, before the crops have ripened, and make large advances of the firms' money to the cultivators on the mortgage of the growing crops. The rice grower is bound to sell his harvest at current market rates to the firm which has made the advance, and he has also to pay interest on the money advanced. When the system first began there was generally a stipulation that a certain proportion of the crop was to be sold at a fixed low rate for the 100 baskets; but the Burman is a hopelessly improvident person, and usually gets into the hands of the chetties, the money-lending caste from the Madras coast, so chaffering and haggling is forced upon him. The Rangoon rice merchants are, moreover, a most cosmopolitan body. It might be hoped that they would be scrupulously honourable if they were all British, but they are not; and in some places, unhappily, scruples do not exist, and honour is lamentably inconspicuous. The

largest and richest firms do their best to crush out the smaller, and the smaller cultivate every form of craft, Eastern and Western, to preserve their existence. The Burma ports lie off the beaten track of commerce. Consequently vessels have to be chartered long before the rice begins to come down to the mills, and before the character of the harvest—heavy, middling, or poor—is known. With the charters forward sales are also made. If there is a bumper harvest, and paddy is cheap, all goes well, but if the crops are bad from scanty early rains, or too abundant late rains, and paddy is dear, then matters are serious, for the more bags of rice the shipper sends home the more money he may lose. The difference of a few pence the stone of rice at home may mean the gain or loss of hundreds of pounds on a single ship's cargo.

With the prosperity of Burma the price of paddy has grown enormously. In 1819 the price of ten baskets of unhusked rice—a basket is roughly a bushel, a little more than nine gallons—was a rupee, more or less. In 1855-56, about three years after the annexation of Pegu, paddy reached three times the price that it was before the war, and the price has gone on rising ever since. In 1848-49, when Akyab was already a rice port, and a certain amount was sold in Moulmein, 100 baskets of unhusked rice fetched 8 rupees, cargo rice was 22 rupees, and fully husked rice 31 rupees 8 annas. In the year of the Second Burma War, 1852-53, prices had already risen to 35 rupees the 100 baskets for paddy, 65 for cargo rice, and 100 rupees for husked rice. In 1872 paddy averaged 55 rupees the 100 baskets, and in 1878, after several violent vicissitudes in intervening years, the price in January was 93 rupees and in April 130. This was the first heavy rise—from 72 in the previous year and 55 for the 100 baskets in the year before that—and was due to the great famine in Madras and the consequent great demand for rice. The rupee was worth more in those days. Of late years the average price for 100 baskets of unhusked rice has ranged from 100 to 110 rupees, though it has always been cheaper at Akyab and Moulmein than in Rangoon and Bassein.

With the rupee at 1s. 4d. this means £6, 13s. 4d. to £7, 6s. 8d. the 100 bushels of unmilled grain. Heavy or light harvests produce considerable fluctuations, and outside causes, such as the Indian famine of 1896, or heavy shipments for Japan just before the war with Russia, raise the demand and the price. Again, in 1900 over 1,000,000 tons of rice were shipped to India owing to the famine, and prices at the opening of the season began at from 110 to 115 rupees the 100 baskets.

The area under cultivation has been expanding through all those years, but the prices do not fall. There is simply a larger turnover of money, for it cannot be too often repeated that the Burman is not a saving man. What he gets he spends, with all convenient rapidity, and it is usually directly or indirectly for the benefit of the importing merchant. Therefore the old Scottish saying: "May the free hand always be full," might well be a Rangoon merchant's toast. The area of rice cultivation in Upper Burma, now close on 2,000,000 acres, is not enough for the wants of the people, and rice has to be brought from Lower Burma. At the present time close on 6,500,000 acres are cropped with rice in Lower Burma. The area increases so steadily that exact figures are of no use, except in an annual report, and 25,500,000 acres are ready for the plough when cultivators can be found.

In 1873-74, twenty years after the taking of Pegu, the amount of rice exported was 483,904 tons. An exceptional amount of rice was sent to India that year, and in the following year there was a drop to 385,622; but in 1877-78 the amount was 456,374 tons, with a value of 30,203,390 rupees, against the 22,571,297 rupees of 1874. In 1889 the amount of tons of rice sent to Europe was 708,930; to India, China, and Singapore 245,129 tons; and to Upper Burma 58,504 tons. In 1894, 729,965 tons went to Europe and America; 594,504 tons to India, China, and the Straits Settlements; and 36,531 tons to Upper Burma. In 1899 the tonnage sent to Europe and America was 867,415; to India, China, and the Straits 684,016; while that to Upper Burma has latterly not been recorded; but apart from this, the total tonnage exported for the year was 1,551,431 tons, against the 1,012,563 tons of 1889. In 1902-3 the export

was much below the normal, and between the 1st January and the 30th June of that year 1,423,000 tons were exported. The greatest export in any one year was in 1900, when in a period of ten months 1,906,738 tons were exported.

By far the greatest amount of Burma rice goes to England, but great quantities go to Bremen and Hamburg, and France, Germany, and Holland also take a great deal. Rice of a specially fine quality, with a glaze on the surface, is manufactured for Italy. 1,000,000 tons of rice is worth a little more than £5,000,000 sterling, and brings in a revenue in the shape of export duty of about £400,000. Rice dust is swept up in the mills, and is used by Chinamen for fattening pigs. For a long time the paddy husk was useless, and had to be shot into the river to get rid of it. There were many schemes for utilising it as fuel, but none of them were very successful. Latterly a great deal of rice bran, resulting from the much greater manufacture of white rice, has been exported

Teak.—Teak-trees were always the property of the Crown in Burma, and the ownership in all forests, reserved and unreserved, whether in Burma proper or in the Shan States, still vests in the British Government. The export of teak was never forbidden as that of rice was, but at first it went out mainly in the shape of ships built in the Rangoon River. It was the French who first instructed the Burmese in shipbuilding, and apparently the *Gimpara*, of 680 tons, and the *Agnes*, launched in 1786, were the first vessels built. From the beginning of the nineteenth century ships were built regularly, and ranged from 1000 tons burden down to 50 tons, or occasionally even less. In the period between the First and Second Burma Wars twenty-four vessels, with an aggregate tonnage of 5625, were constructed in the Rangoon River. The largest was the *Mariam*, of 500 tons. Teak in the form of planks, with an export duty of 5 per cent., was also exported, and the value reported in 1805 was 461,153 rupees.

Systematic teak trade, however, first began in Moulmein. It took some years to build a port there, for Moulmein was merely a small fishing village at the time of the Treaty of Yandabu. In 1836 the amount of timber revenue realised

was Rs.20,804. In 1846 this had risen to Rs.88,869 and in 1856 to Rs.206,359. From that year on the export of teak in tons is recorded. In 1856 it was 28,779 tons. Ten years later it was 48,190 tons, having been 118,976 the year before (1865-66). In 1877-78 the export was 123,242 tons. Shipbuilding was also begun in 1830, when the *Devil*, a schooner of 51 tons, was built, and from that time on till 1856 the industry was fairly brisk, and 123 ships were built. The largest was launched in 1856. This was the ship *Cospatrick*, of 1418 tons, which was eventually burnt on a voyage with emigrants from England to Australia. Others were the steamer *Malacca*, of 1300 tons, built in 1853; the ship *Canning* of 1022 tons, built in 1854; and the ship *Copenhagen*, of 1017 tons, built in 1855 From the rise of Rangoon onwards the importance of Moulmein declined, and the shipbuilding industry dwindled, and has now quite disappeared. Until nearly the end of the century, however, the exports of teak from Moulmein were in excess of those from Rangoon. This was because vast quantities of teak came down the Salween River from the forests of the Southern Shan States, from Karen-ni and from Siam. But these forests have gradually become exhausted from reckless felling, and Moulmein is never likely again to equal its former shipments. The forests in the Irrawaddy drainage, on the contrary, are strictly conserved, and the export may be expected to steadily increase. In 1893-94 the shipments from Moulmein were 85,722 tons and from Rangoon 85,623 tons. In 1896-97 Rangoon exported 207,405 tons and Moulmein 65,986. In 1899-1900 the figures were: for Rangoon 209,303 tons and for Moulmein 62,983 tons. The average value per ton of teak in 1893 was £4, 18s. 2d., in 1897 £5, 11s. 3d., and in 1900 £5, 12s. The value of the 272,286 tons exported in 1900 was, therefore, £1,524,797.

The teak logs, after being killed by girdling, are dragged by elephants to the forest streams, and float out in the time of the rains. Sometimes two or three years, sometimes five or even more, pass before the log completes the journey from the forests to the collecting stations, where the logs are gathered together, pay tribute, and are sorted out according to the marks of the various contractors and

lessors who own them. These hammer marks are put on in the forests, and each timber trader pays a fee for his hammer, which has to be regularly renewed. At the collecting stations the logs are rafted, and taken down to the timber yards. In the forests practically all the handling of timber is done by elephants—"the huge earthquaking beast that hath between his eyes a serpent for a hand." In the saw mills much is done by machinery, but much also is done by elephants, and the intelligence exhibited by the great animals in the piling of squared logs and the stacking of sawn planks is still one of the sights of Rangoon.

The working of the forests is dealt with in the section on that subject. On the first occupation of Burma the system which prevailed was to lease the forests to different private firms, who paid a royalty to Government. These leases have now almost all fallen in, and the system now adopted is to extract the timber by direct Government agency, through contractors of the Forest Department. The great collecting station is that of Kado, not far up the Salween from Moulmein. There the logs as they come in are stored until they are sold by their owners, and cleared from the depot on payment of the Government royalty, or after the levy of a duty of 7 per cent. *ad valorem* on all such teak timber as has been floated down the river from foreign territory. Monthly public auctions of timber are held at the Government Timber Depot in Rangoon; but the best logs are always put aside for the use of the Bombay dockyard, for Calcutta, and Madras, and for Government requirements generally in every part, wherever they may be required.

Cutch.—Next in value to rice and teak comes cutch as an export. This is the substance formerly, and still to a certain extent, known as *Terra japonica*. It is a dark substance obtained by boiling down chips of an *Acacia* called by the Burmese the *Sha*-tree. This grows best in the dry zone; but excessive boiling has ruined many of the plantations, and the trade, though it is recovering, is not by a good deal of the importance it was some years ago. In 1896 the export amounted to 7827 tons, of a value of 33,550,000 rupees. The trade is beginning to revive again,

but it is still from 1000 to 1500 tons less than it was in that year. Cutch is largely used for dyeing sails, fishing nets, yarn, and the like, and it gives a rich dark brown colour.

Other Exports.—A considerable amount of india-rubber, both from the *Ficus elastica* and from various tree creepers, is exported, and the amount may be expected to increase. Raw hides and horns also form a flourishing export. The value ranges over twenty lakhs of rupees, while rubber aggregates twelve to thirteen lakhs. A very considerable amount of raw cotton is also exported, to a value of over twenty lakhs, and this is a cultivation which might be immensely increased and improved. Lubricating oil and paraffin wax are also a rapidly increasing export, though the supply of refined oil from the petroleum wells is not enough by 2,000,000 gallons for the illuminating needs of the province.

Inland Exports.—The value of the inland export trade to Western China, Siam, Karen-ni, and the Shan States amounts now to a value of over £2,000,000 sterling, and is steadily, though not very rapidly, increasing. With better communications, and especially with a railway connection with, or to the borders of, China, it might be expected to increase with a rapidity which would make Rangoon the chief of the Indian Government ports. At present the chief exports are raw cotton, piece-goods, yarns, oil, jade, betel nuts, and petty articles, such as candles, soap, and matches.

Imports.—Just as rice and teak are overwhelmingly the largest exports, so cotton, silk, and woollen piece-goods and textures, and cotton twist, and yarn, are by a long way the most important imports. Till comparatively recent years Manchester silks, to the value of twenty-five to thirty lakhs of rupees, had the market to themselves; but there is now a very rapidly increasing import of silks from Japan, and it seems probable that this supplanting of English manufactures is likely to continue. Raw silk, to the value of fifteen lakhs, is also imported, though a considerable amount of silk of a somewhat coarse but strong texture is produced in the country. The monkish robes are, perhaps, the only garments which are still exclusively

made from native-grown silk. The Burma-woven waist-cloths and skirts are more durable and elaborate in pattern than the machine-made garments, but they are very considerably more expensive, and are seldom worn, except on ceremonial occasions. Cotton and woollen textures and yarns come chiefly from the United Kingdom and from Bombay. Jute is not grown in Burma. There is no reason why it should not be, except the scarcity of labour, but owing to this, practically all the bags for the rice trade are imported. They come from Calcutta, and are tautologically called gunny-bags—the English and the Sanskrit word meaning the same thing. For a similar reason, though sugar-cane grows very well, not nearly enough sugar for the needs of the population is produced, and large quantities of sugar are imported from the Straits. So also is the cocoa-nut oil with which maidens so plentifully endue their glossy tresses. Tobacco also does well, and if it were cured might supply a nation of smokers, but vast quantities of very mild tobacco come from England. There are signs, however, that the cheap cigarettes from Japan may supplant this. The matches of Japan have practically ousted all others. Swedish matches for long outsold those of British manufacture; now they have had to give way to the boxes from the Land of the Rising Sun, with their countless variety of labels, collections of which are not unknown among the Burmese. These matches go in great quantities across the frontier, and the amount imported comes to a total value of over Rs.600,000. Among other minor imports, cheap and nasty cutlery, cups and saucers with "Remember me," "Forget-me-not," and "A Present," in gilt lettering, on them, come from Germany, and quite undersell British manufactures. So do looking-glasses, glass ware, lamp shades, and similar articles from Austria. France and Belgium send hundreds of thousands of the tiny wax candles which burn on festival days before shrines in all parts of the country. Possibly British manufacturers could not make them cheaply. They certainly make no attempt to catch or to lead the taste of the native purchasers.

Of the foreign import trade it may be said that Rangoon consistently takes from 90 to 95 per cent., and of the

remainder a great deal is received at that port and transshipped to others. The proportion of the coasting trade taken by Rangoon amounts to from 60 to 70 per cent., and of the total import trade of the province about 80 per cent. The inland import trade comes to a great many places—chiefly to Moulmein, in Lower Burma, and, in Upper Burma, to Mandalay, Bhamo, Kyauksè, Meiktila, and Pyawbwè. The registration of inland import trade, however, has been very faulty, and there is reason to believe that it is far from representing the total volume. In 1899-1900 the value of the inland trans-frontier import and export trade amounted to Rs.20,709,710, but the amount of trade with the Shan States was undoubtedly considerably greater than that which was recorded. Bullock caravans scatter as soon as they come to the plains, and very many of them travel at night, when the registration clerks are asleep. The trade with the Northern and Southern Shan States represents about 59 per cent. of the total inland trade.

SEA-BORNE TRADE OF BURMA.

Average for five years ending:—

	1906-7	1907-8	1908-9
FOREIGN TRADE—	Rs.	Rs.	Rs.
Imports	88,373,129	111,493,567	131,306,270
Exports	157,157,050	177,888,144	129,725,954
COASTING TRADE—			
Imports	90,307,220	112,221,505	94,998,958
Exports	89,446,749	160,450,857	184,193,403
Grand Total of Trade	420,284,139	568,972,019	540,829,162

Customs.—The Sea Customs Department was not established in Burma till after the Second Burmese War, when there were separate establishments in Akyab, established in 1855, and in Moulmein established in 1856. In 1862 the three provinces were united to form Lower Burma, and

from that year on the figures showing the trade of all the ports were amalgamated into one set of returns. By 1878-79 the value of the trade had trebled in value, and reached a total of Rs.167,658,245. The tonnage of vessels which entered from and cleared for foreign ports was 381,130 and 525,636, and the tonnage of vessels employed in the coasting trade was 1,347,017. The great bulk of the carrying trade then, and still, is in British bottoms. Practically the whole of the coasting trade between Burma and the rest of British India, which amounted in 1899-1900 to a total of 2,571,926 tons, of a value of Rs.140,603,460, went under the British flag. To foreign countries 734,850 tons were cleared, and of this British ships carried 629,967 tons and German vessels only 37,328. It would be well if the same proportions held in other British possessions.

In 1889-90 the total value of Burma sea-borne trade was: imports £6,375,001, exports £6,776,800—a total of £13,151,801. In 1894-95 imports fell to £5,551,259, but exports rose to a value of £9,113,847, with an aggregate value of £14,665,106. The figures for 1899-1900 were, imports £8,291,029, exports £12,428,963—a total of £20,819,992.

The chief Customs authority is the financial commissioner, under whom the chief collector of Customs administers the port and Customs at Rangoon, with an assistant collector and a superintendent of preventive service. Moulmein, Akyab, and Bassein have collectors in charge of the ports. At Rangoon also, with its great preponderance of trade, there are a port officer and assistant port officer, whose duties in the other ports are performed by the Customs collectors. The proportion of imports to exports remains fairly consistent: imports amount to two-fifths and exports to three-fifths. The value of the exports which go to Europe has passed £4,000,000 sterling, and is steadily increasing.

The report on the maritime trade of Burma for the official year 1903-04 shows that the aggregate was the largest on record. Excluding Government transactions, 61·82 per cent. of the trade was with foreign countries, and the balance coasting trade. The foreign imports were valued at Rs.82,625,707, as against Rs.59,554,645 during

the preceding year—that is, an increase of 58·8 per cent. The foreign exports of Indian merchandise were Rs.158,209,018, as against Rs.154,737,035 the preceding year—that is, an increase of 2·2 per cent.; and the foreign merchandise re-exported Rs.479,689, as against Rs.284,874 the preceding year—that is, an increase of 68·4 per cent. In coasting trade the imports of Indian produce were Rs.65,141,402, as against Rs.60,949,315 the preceding year, an increase of 6·9 per cent.; and the imports of foreign merchandise Rs.12,743,352 against Rs.11,624,075, an increase of 8·9 per cent. The coasting exports of Indian produce were Rs.53,136,482 against Rs.58,670,354, a decrease of 9·4 per cent.; and the exports of foreign merchandise Rs.9,030,769 against Rs.8,452,020, an increase of 6·8 per cent. Exclusive of Government transactions, but including gold and silver, the total foreign trade was Rs.244,023,767 against Rs.217,774,983, an increase of 12·1 per cent.; and the aggregate coasting trade Rs.155,991,103, a decrease of 3·4 per cent. The total maritime trade was thus Rs.394,670,251, or roughly £26,250,000 sterling, as against Rs.373,766,086—that is, an increase of 5·6 per cent.

The great increase was partly due to bumper crops and an accommodating money market, but the growth is unchecked. The most notable increases were in consignments from the following countries in lakhs of rupees:—the United Kingdom 131 lakhs, Austria-Hungary 6, Belgium 9, France 6, Germany 16, Holland 7, Russia 2, United States 6, China and Hongkong 6, Japan 22, Java 5, and the Straits Settlements 8, lakhs of rupees.

Taking the whole foreign import trade, the United Kingdom contributed 58·67 per cent., as against 59·39 per cent. the preceding year. The Straits Settlements came second with 11·72 per cent. against 14·79 per cent.; Japan third with 6·02 per cent. against 4·61; Germany fourth with 5·88 per cent. against 5·40; Belgium fifth with 3·74 per cent. against 3·64. Holland with 3·26 per cent.; the United States with 3·06; France with 2·23; China with 2; Austria-Hungary with 1·66; and Java, with ·79, came next.

It is increasingly evident that the Japanese silk piece-goods are steadily ousting the European-made goods from

the market by their greater durability, superior lustre, and better value generally. The imports of matches from Japan also increased from Rs.948,919 to Rs.1,203,516.

The total value of the foreign exports of Indian merchandise was Rs.158,209,018 against Rs.154,737,035 the preceding year—that is, an increase of Rs.3,471,983. There are increases under almost every head, but rice decreased. The United Kingdom took 2,503,116 cwt. of rice, Austria-Hungary 2,933,743, Germany 4,708,525, Holland 2,444,871, Japan 6,967,684 (against 4,078,921 the previous year), and the Straits Settlements 7,209,691 (against 9,291,029). Turkey in Asia appears for the first time in the returns, and it is somewhat surprising to find it absorbing some 30,000 tons of Burma rice. The exports of cutch were Rs.1,911,943 against Rs.1,318,921. The caoutchouc export had almost disappeared, but in 1903-4 it took a jump upward, though the quality is not what it ought to be. The exports of raw cotton were Rs.2,638,785 against Rs.1,982,401. Japan took less, while the United Kingdom took much more. English spinners, however, report that the cotton is too irregular for their requirements. Production is increasing, but carelessness in picking the pods results in stained cotton and inferior quality. The export of raw hides increased from Rs.1,925,969 to Rs.2,479,370. The value of the teak exported rose from Rs.6,513,881 to Rs.8,825,067. 15 per cent. of this went to Ceylon and 72 per cent. to the United Kingdom.

The Straits Settlements took 21·65 per cent. of the total foreign exports, Japan 19·37 per cent., the United Kingdom 15·65 per cent., Germany 10·35 per cent., Egypt 5·9 per cent., and then Holland, Austria-Hungary, the Philippines, America, China, Ceylon, Turkey in Asia, and Java followed in that order. It is not possible to compare the figures with those of previous years in the case of European countries, since the Customs Report of 1903-04 is the first which substitutes the ultimate destination of cargoes for the old formula "Port Said or the Channel for orders."

The Customs revenue shows that the import duty increased from Rs.4,812,149 to Rs.5,593,097, while the export duty declined from Rs.9,674,024 to Rs.8,764,302.

During the year 1138 vessels of 2,129,830 tons entered and cleared at the ports of the province from and to foreign countries, as against 1120 vessels of 2,085,936 tons the preceding year. Of these 905 vessels, with a tonnage of 1,756,125 were under the British flag—that is, 82·45 per cent. of the whole. 77 German vessels, of 173,844 tons; 92 Norwegians, of 101,983 tons; 19 Austrians, of 50,318 tons; 13 French; 6 Russian; and 26 others, entered and cleared in the foreign trade.

Coasting Trade.—Provisions from Indian ports increased considerably—from a value of Rs.7,817,983 to Rs.8,413,953—in articles for native consumption—such as ghi, butter, flour, and the like. Grain and pulse also showed an increase. Spices increased from Rs.5,489,436 to Rs.5,735,716, the bulk of this trade being betel nuts from Bengal. The coasting trade in sugar has steadily improved since the revision of the countervailing duties in 1902, and the imports in 1903-04 were Rs.960,138, chiefly from Madras, as against Rs.762,249 in the preceding year. The imports of hardware and cutlery increased from Rs.778,394 to Rs.1,002,997. In metals also there was an increase from Rs.1,428,046 to Rs.1,712,876. Tobacco declined, in consequence of a short crop in Bengal and Madras, from Rs.5,920,382 to Rs.5,401,588. The coasting trade in oils was valued at Rs.6,552,228, against Rs.6,630,685 in the preceding year. The imports of Bengal coal advanced from Rs.3,376,549 to Rs.3,805,951, and the imports of seeds Rs.2,015,688 to Rs.2,563,704. The growing demand for Indian-grey yarns in Upper Burma and Western China accounts for an increase in yarn imports from Rs.4,406,431 to Rs.4,890,697. The coasting imports of cotton goods amounted to Rs.8,612,906 against Rs.7,468,084, the growth being especially marked in coloured fancy goods.

Of coasting exports, cutch showed an improvement, hides declined, and skins improved. The exports of lac increased from Rs.817,642 to Rs.1,582,716. The exports of petroleum products developed in the most striking way. In 1903-04 the total exports of kerosene were 36,588,842 gallons, or more than double the figures for the preceding year. The exports of paraffin wax were 35,969 cwt., which does

not exceed the average of the past few years. The exports of candles were 5,663,305 lbs., which is four times the export of the preceding year; and the exports of lubricating, batching, and other oils were 3,609,211 gallons, which is up to the average. All parts of India, and the several ports of the province, took greatly increased quantities of mineral oil. Altogether the coasting exports of mineral oils increased to Rs.20,430,945 from Rs.11,820,901. The locally made candles are displacing those of English manufacture, and are competing more and more successfully in foreign markets. Large shipments were made to China, the Straits Settlements, and Australia. Australia alone took 38 per cent. of the total value; and smaller consignments were sent to the United Kingdom, to Turkey in Asia, Cape Colony, and other parts of Africa, and the adjacent islands; Persia, Siam, Japan, and the islands of the Eastern Archipelago.

The number of ships in the coasting trade which entered and cleared, in 1903-04, at the various ports in the province was 8254, as against 6398 the preceding year, and the tonnage was ,714,462, against 3,383,643 the preceding year. The coasting tonnage under the British flag was 95·49 per cent. of the whole.

TRANSPORT

By H. J. Richard

The various means of transport in Burma may be ranged, in their order of importance, under the three subheads of *Waterways, Railways,* and *Roads.*

Rice and timber contribute 90 per cent. to the total seaborne export trade of the country. The whole of the timber, and quite three-fourths of the rice, are carried by waterways from the forests and fields where they are produced to the ports of export. Of the thirty-seven districts in the province, nine are deltaic—exclusive of Rangoon town—and six are littoral, in character. Of the latter, four are small and unimportant. These nine deltaic and two larger littoral districts are Hanthawaddy, Henzada, Tharrawaddy, Pegu, Bassein, Myaungmya,

Pyapôn, Ma-ubin, Thatôn, Akyab, and Amherst. They contain 43 per cent. of the total population of Burma proper, and they pay about 44 per cent. of the total land revenue and taxes. These districts, especially the deltaic ones, are well equipped with natural waterways. Their most important means of transport always has been, and probably always will be, by water. In three of the most progressive of them there are no railways and few made roads.

The census of 1901 showed a large increase during the previous ten years in the number of people depending on land transport for a livelihood, but only a very small total increase in those depending on water-transport. This was supposed to indicate a gradual supersession of boat transport by cart transport. The detailed figures for each district, however, do not show the existence of any distinct tendency in this direction. An increase of about 80 per cent. in the number of people supported by land transport had taken place in Upper Burma, where waterways are not so plentiful as in Lower Burma, and where a great development of road construction had taken place during the decade. But the people depending on water-transport in Upper Burma had also increased, and were 27 per cent. more numerous in 1901 than they were in 1891. In Lower Burma the total of the land-transport people increased by 22 per cent., while the total of the water-transport people decreased by 4¼ per cent. In the Pegu, Thayetmyo, Henzada, Akyab, and Kyaukphyu districts, where the aggregate number of water-transport people fell off by nearly 37 per cent., the increase in land-transport people was only a little over ½ per cent. above the average for Lower Burma. On the other hand, in Rangoon, Hanthawaddy, Prome, and Toungoo, where the aggregate number of land-transport people had increased by 62 per cent., the water-transport people, instead of falling off, had increased by 20 per cent. In the Pegu district there was a falling off of 6000 in the number of people supported by water transport, and in the Bassein district—now Bassein and Myaungmya—there was a falling off of 1200 in boat makers. These abnormally large decreases must be due to some special cause, but there

is no distinct indication that the cause is to be found in the increase of land transport by carts. There was also a large falling off in the water-transport people of Akyab, Kyaukhpyu, and Thayetmyo, where there was practically no increase in land-transport people. No very great increase of water-transport people is to be expected in Lower Burma to correspond with the increase of land-transport people of Upper Burma, as there has been no development of waterways in the lower part of the province like the development of roads in the upper part. These waterways are very much the same now as they always have been. A few lengths of navigable canals constitute the only additions which have been made since the country came under British rule. There can be little doubt that a very large proportion of the transport work of Lower Burma is done by water. Between the village canoe, paddled by a few Burmese girls, conveying fruit and vegetables to the local market, and the large cargo steamers of the Irrawaddy Flotilla Company there are innumerable vessels and craft, of all descriptions and all sizes, engaged in the carrying business of the country. If to the work done on rivers and creeks be added the trade on the tidal rivers between the ports and the sea, and also the local trade along the 1200 miles of coast - line, it will be admitted that waterways must, for the present at all events, rank first under the head of Transport.

The native of Lower Burma loves water. Wherever he can he fixes his habitation by the bank of a river or a stream. All the gentler associations of his youth cluster round his native waterway. The river-side is the meeting-place of the village maidens and the playground of the village children. The Burmese boatman, as he lazily paddles his canoe, or drifts downstream in his heavily laden boat, finds the river in harmony with the romantic, as well as with the indolent, element in his character, and it will seem doubtful to those who know him whether, in the absence of some strong compensating advantage, he will ever readily abandon his beautiful waterways for dusty roads.

Waterways.—The basin of the Irrawaddy River from its northern frontier to the sea, bounded on its eastern

and western sides by mountain ranges, embraces the major portion of the land of waterways in Burma. The main river, which runs practically through the middle of the country from north to south, is navigable all the year round to Bhamo, a distance of nearly 1000 miles by water from Rangoon, for large steamers of 4 to 6 feet draft. It averages over a mile wide in the dry season, and when in flood is 4 to 5 miles wide in places. There is a rocky defile 30 miles long, which ends 10 miles above Bhamo. This defile, properly called the Third Defile, hinders navigation in the dry season, and practically stops it altogether in the wet season. At the upper entrance to the defile the whole river rushes between two projecting masses of rock, about 50 yards apart, called the "Gates of the Irrawaddy." From here to the end of the defile the channel is studded with pinnacles and ridges of rock, around which the water rushes with great force, causing dangerous whirlpools and eddies. The sanguine skipper of a Government steam launch, with a general on board, once ran down the defile when in flood. They got through safely, but the experiment has not been repeated. Above this obstacle the river is again good for a distance of over 80 miles up to Myitkyina. About 30 miles above Myitkyina the river bifurcates. The eastern branch is useless as a line of communication; the western branch was navigated in boats by Major Hobday in 1891 as far as 26° 15′ N., beyond which point little is known of it.

Turning now downstream, the important tributaries of the river may be noted. The first met with on the left hand is the Namtabet River, which was used by the Transport Department during the military operations in the mountains to the east, which form the Chinese frontier. The next is the Mogaung River, which runs in on the right bank about 15 miles above Senbo. This river is navigable for fairly large boats during the dry season as far as Mogaung and Kamaing. There are a few rapids in its course, but they are not very dangerous. The jade stone from the jade mines is carried down the hills by coolies to Nan-ya-seik; it is there loaded into dug-outs, and transhipped to large boats at Kamaing; thence it formerly went down the Irrawaddy, but it is now unloaded

at Mogaung, and taken by rail to Rangoon for shipment to China. The Mogaung River is navigable for steam launches during the wet season, and launches have been through, *via* Kamaing and the Indaw River, into the Indawgyi Lake. Just above Bhamo the Taping River comes in from Yünnan. It is not navigable for any great distance, as it soon becomes a mountain stream. The Shweli River, which runs in on the left bank about 20 miles above Tigyaing, is navigable for boats for a considerable distance. The Madaya River, which runs in on the left bank about 25 miles north of Mandalay, is navigable for boats for a moderate distance, but it is now crossed by a weir, constructed in connection with the Mandalay Irrigation Canal. The Myitngè River, which runs in near Ava, is navigable for steam vessels for about 30 miles of its tortuous course through the flat, but ceases to be navigable above, where it issues from the hills. The Mu River, which runs in on the right bank at Myinmu, is navigable for boats well up into the Shwebo district. This river is also being crossed by a weir in connection with the Shwebo Irrigation Scheme. The Chindwin River, the principal tributary of the Irrawaddy, joins the main river on its right bank 12 miles above Pakôkku. It is navigable for steam vessels for 260 miles of its course in the dry season and for 400 miles in the wet season. Its principal navigable tributary, the Myittha River, which runs in at Kalewa, is crossed by a reef of rocks a few miles above its mouth, where boats have to be unloaded, and reloaded above the rapids. Above this obstacle the river is navigable for boats for a considerable distance, in a course running parallel with the foot of the Chin Hills. Below the mouth of the Chindwin are the Kyaw, Salin, Mon, and Man Rivers on the right bank, and the Pin and Yinzun Rivers on the left bank, none of which are of much value as navigable waterways. Farther down, below Thayetmyo, the Mindôn Stream on the left bank, and the Bhutte on the right, and also the Naweng, running in at Prome, are navigable for boats for moderate distances. Below this the river receives no more tributaries of any importance, and it soon begins to spread out in offshoots. The first offshoot is the Ngawun, or Bassein, River, which is thrown off from

WA SUSPENSION BRIDGE.

A DIFFICULT FERRY ON THE SALWEEN RIVER.

the left bank a few miles above Henzada. Formerly this river was navigable throughout the year for steamers plying between Bassein and Henzada, but owing to changes in the course of the main river near where the Ngawun branches off, the head of the latter now silts up, and steamers can only get through during the period of floods. During the dry season steamers from Bassein now only run up as far as Ngathaingyaung. The next offshoot, the Panlang Creek, is thrown off from the right bank at Yandun. This is a valuable connecting-link between the Irrawaddy system of waterways and the Rangoon River. In former years the large steamers of the Flotilla Company used this channel in going up country, and saved the eight hours' steaming which it now takes them to go round by the Bassein Creek and China Bakir River. During recent years the first few miles of the channel have been silting up. This is caused; partly by a movement downstream of the entrance of the creek, partly by a meeting in the creek of the tides running up from the Rangoon River on one side and from the Irrawaddy River on the other, and partly by defective regulations in connection with the use of the channel for floating down rafts of timber to Rangoon. These matters are now receiving attention, and it is hoped that this useful waterway will again be open all the year round. A few miles below Yandun the river begins to divide into numerous branches, forming a network of tidal creeks, which furnish a splendid system of natural waterways to the rich alluvial plains of the lower Delta.

Next to the basin of the Irrawaddy, but far below it in the scale of importance, comes the basin of the Salween River. The area served by waterways in this basin is hemmed in by hills and mountains. 90 miles above Moulmein the Salween is blocked to any further navigation of any kind by cataracts and rapids. The river is navigable for steam vessels from Moulmein to Shwegun and to the mouth of the Yunzalin River. Above the rapids, which extend for a score of miles, it is navigated in stretches by native boats, and is supposed to be possible for steam launches as far up as the Kun-long Ferry. The Yunzalin River, which runs in on the right bank about 80 miles

above Moulmein, is navigable to Papun for small, flat-bottomed boats propelled by poles. The progress up-stream is slow, and the cost of carriage is high. Traders from the Shan States come down the upper reaches of the Salween by boat to Kyaukhnyat, from whence they cross the hills to Papun, and continue their journey towards Moulmein down the Yunzalin by boat. The Domdami, the Gyaing, and the Attaran Rivers, the other important tributaries of the Salween, are all three navigable for steam launches in their lower reaches and for considerable distances farther up for boats. There is a boat connection between the basins of the Salween and the Irrawaddy during the wet season—from the Domdami River, through the Kyauksarit Stream, and across the Kyaikto plain to the Kyaikto Canal. But the channels are tortuous, shallow in places, and choked with weeds, rendering the navigation slow and difficult. It was at one time intended to extend the Kyaikto Canal to the Domdami River, and thus provide a continuous line of inland water communication from Bassein, in the extreme west of the province, *via* Rangoon, to Moulmein, in the extreme east. But a threatened encroachment of the mouth of the Sittang River on the proposed line of the canal, and the expected sanction to a line of railway from Pegu to Martaban, to pass along the same route, put a stop to the project. Between the basins of the Irrawaddy and Salween lie the Sittang and Bilin Rivers, falling into the Gulf of Martaban. The Pegu and Sittang Canal, which joins the latter river above the influence of the bore, was constructed for the purpose of avoiding that danger. The route *via* the Pegu River, the canal, and the Sittang was at one time the only line of communication between Rangoon and Toungoo. But the journey by country boat was slow and tedious, and this line of waterway was at once superseded by land transport when the railway was opened. It is, however, still used a good deal for the transport of grain to Rangoon; and all the timber floated down the Sittang passes through the canal. The Bilin River is not of much use, except for local boat traffic, owing to the dangers of the bore at its mouth. The other navigable rivers in Tenasserim are the Tavoy River, and its numerous small tributaries, which form

a complete though small system of waterways; the Tennasserim, Legnya, and Pakchan Rivers, navigable for boats for considerable distances. There is also a large boat traffic by sea amongst the numerous islands of the Mergui Archipelago.

In Arakan the principal waterways are the Nāf Estuary; the Mru River, an arm of the sea 50 miles in length; the Kulodan, or Arakan, River, which runs into Akyab Harbour; and the Lemgu River—all navigable to a certain extent for steam vessels. The Dha-let and An Rivers, farther south, are navigable for large boats for 25 and 45 miles respectively.

The navigable canals in the province are the Pegu-Sittang, the Kyaikto, and the Tunte Canal. The Pegu-Sittang Canal, which runs from Tawa, on the Pegu River, to Myitkyo, on the Sittang, is 39 miles long. Its locks at Tawa and Myitkyo are 240 feet long by 30 feet wide. It is fed through the Myitkyo lock, where the Sittang River is tidal. There is a branch, about 4 miles long, from Thanatpin to the town of Pegu. The Kyaikto Canal takes off from the left bank of the Sittang, just below the town of that name, and runs to Kyaikto, an important centre of a rice-producing district. It was continued a few miles farther, when the work was stopped, as already mentioned. Its total length is about 20 miles; it has a lock at the Sittang River and a regulating weir and lock for small boats at the Kyaikto River. The Tunte Canal is merely an open cut to improve an old channel. Practically the whole of the carrying work done by river steamers and launches in the Irrawaddy and Salween basins is now in the hands of the Irrawaddy Flotilla Company. They have 120 steamers and launches, as well as a very large number of flats and cargo boats. They run the express steamers weekly, each way between Rangoon and Mandalay, conveying passengers, mails, and cargo, and calling at the principal intermediate stations. The journey is done in six days up and five days down in both wet and dry seasons. Occasionally during the wet season the down-trip is done in four days. An express steamer and a cargo steamer leave Mandalay weekly for Bhamo, both conveying passengers and cargo. The express steamer takes three

days going up and two and a half days coming down; the cargo steamer six days up and three days down. The service on the Chindwin River is carried on from October to May by stern-wheelers, and from June to September by larger paddle steamers. The former run up to Kendat, and the latter to Homalin, 147 miles above Kendat.

There are three sailings a week from Rangoon to Bassein —distance, 248 miles; time occupied, 30 hours; bi-weekly services between Rangoon and Henzada, and Rangoon and Pyapôn; daily services between Rangoon and Yandun, and between Prome and Thayetmyo. During the season of floods steamers run bi-weekly from Bassein to Henzada, and in the dry season from Bassein to Ngathaingyaung. The *Ferry Services* are from Rangoon to Kyauktaw and Thongwa; to the Hlaing River stations; to Ma-ubin *via* Tunte; and to Yandun and Pyapôn *via* Ma-ubin; from Bassein to Daga River; from Henzada to Myanoung; from Pakôkku to Myingyan; from Mandalay to Sagaing, Ava, and Myinmu; and from Mandalay to Kyaukmyaung and Thabeitkyin. In the Salween basin there are launches running daily from Moulmein to Duyinzeik in conjunction with a steam tramway from there to Thatôn; from Moulmein to Shwegun, on the Salween; from Moulmein to Kyundo, on the Gyaing; and from Moulmein to Kya, on the Attaran River; also a launch service, four times a day, from Moulmein to Kado, and a service, three times a day, from Moulmein to Natmaw.

The Arakan Flotilla Company run steamers from Akyab to Buthidaung three times a week; a bi-weekly service from Akyab to Paletwa; and weekly services from Akyab to Kyauktau, Akyab to Pauktau, Minbyu and Myebon, and from Akyab to Pauktau, Minbyu and Myaung Bwe. They have also weekly services between Myebon, Kyaukpyu, and An, and a daily service from Moungdaw to Tak Naf, Nilla, Nga Kurah, and Taungbya.

The sea-going services along the coast-line of Burma are as follows:—The steamers of the British India Steam Navigation Company sail weekly from Rangoon in one and a half days to Sandoway and in two days to Kyaukpyu; at fortnightly intervals from Moulmein to Yek Bar, Tavoy River, Palaw, Mergui, and Bokpyin; also three times a

week from Rangoon to Moulmein in nine hours. The steamers of the Asiatic Steam Navigation Company sail from Rangoon to Moulmein every alternate Thursday.

Railways.—The railways in Burma are all on the metre gauge (3′·3⅜″), and are all single lines, with the exception of a few short lengths of double line in the suburbs of Rangoon and Mandalay. The permanent way is of steel rails weighing 50 pounds to 41¼ pounds to the yard. The ruling gradients are 1 in 200 on the Prome and Mandalay line, 1 in 60 on the Mu Valley line, 1 in 100 on the Myingyan branch, and 1 in 25 on the Lashio branch. The first railway in the province, from Rangoon to Prome, 161 miles in length, was opened to traffic in May 1877. This line is now called the Irrawaddy section. The Rangoon-Toungoo line was opened to Nyaunglèbin, the 93rd mile, in February 1884, and to Toungoo, the 166th mile, in July 1885. On the outbreak of war with Upper Burma, at the end of 1885, this line was rapidly pushed on to the frontier, and in October 1886 its extension to Mandalay was sanctioned. The line was opened to Pyinmana, the 225th mile from Rangoon, in May 1888; to Yemèthin, 274th mile, in November 1888; and to Mandalay, the 386th mile from Rangoon, in March 1889, two years and five months after the date of sanction—a creditable performance, considering that the country was more or less in a state of war during the period of survey and construction. The branch line from Thazi, on the main line, to Meiktila Cantonment, 13 miles long, was opened in January 1892; and in 1898 it was continued to Myingyan, on the Irrawaddy, and was opened in November 1899. This branch passes through the only district where famine relief works of any magnitude have been necessary in Burma. The earthwork of the line was carried out as a famine relief work in 1896-97. The line from Sagaing to Mogaung, called the Mu Valley section, was begun towards the end of 1889. It was opened to Shwebo, the 53rd mile from Sagaing, in July 1891; to Wuntho, the 153rd mile, in April 1892; to Nankan, the 168th mile, in November 1894; to Mohnyin, the 242nd mile, in October 1895; and to Mogaung, the 295th mile, in March 1896. The branch line from Nabha to Katha, on the Irrawaddy, 15 miles long, was opened in

November 1895. During the survey of the Kawlin-Nankan Section the Wuntho rebellion broke out, and the engineers employed on the survey in that district had to run for their lives. The line here entered a fertile stretch of country, which had previously been completely land-locked. It was cut off from access to the Irrawaddy by a range of mountains, over which no cart roads then existed; and it was said that grain exported from the Wuntho state used to be carried in baskets, on women's heads, across the hills, to be loaded into boats on the river near Tigyaing. The decision to undertake the construction of the Mu Valley Railway, especially that portion of it from the northern border of the Shwebo district to Mogaung, was largely influenced by strategical considerations. Owing to the absence of communications this portion of the country continued to be in a very disturbed state long after the annexation. But, from a purely commercial point of view, it soon became obvious that the line should not terminate at Mogaung, but should be carried on to touch the Irrawaddy River. The extension to Myitkyina, a further distance of 37 miles, was accordingly sanctioned in December 1895, and the line was opened in January 1898. Previous to the advent of the railway the greater part of the stretch of country between Mogaung and Myitkyina was devoid of human habitations, and abounded in large game. Travellers passing through the district in 1891 were obliged to light fires around their camps at nights, to protect their transport animals from the attacks of wild beasts. The branch line from Sagaing to Alôn, on the Chindwin River, 70½ miles in length, was begun at the end of 1898, and was opened to traffic in April 1900.

The railways, so far, in Burma had been confined to the plains. With the exception of a few miles on the Mu Valley line there had been no hill work. In 1895 it was finally decided to construct a railway to the Shan Plateau. This line, which had been surveyed a few years previously, rises to an elevation above the sea-level of 3500 feet. The plain section, 13½ miles long, from Myohoung, 4 miles below Mandalay, on the Rangoon-Mandalay section, to Sèdaw, at the foot of the hills, was opened in

January 1898. The first hill section, from Sèdaw to Maymyo, 26 miles long, with a ruling gradient of 1 in 25, was opened in April 1900. The line was opened to Nawnghkio, a total of 74 miles from Myohoung, in the following month. From this point the line begins to cross the famous "Goktcik Gorge," where an iron viaduct 300 feet high was built on a natural bridge, itself some hundreds of feet above the bed of the stream. This difficult section of the line was opened to Hsipaw, 127 miles from Myohoung, in June 1901. The section from Hsipaw to Lashio, 51 miles long, and a total distance from Myohoung of 178 miles, was opened in March 1903. This line, from Myohoung to Lashio, is called the Mandalay-Kunlông section. It has been surveyed as far as the Kunlông Ferry, on the Salween, and it was thought that it might some day be continued to Yünnan, or Talifu, in China. Any extension beyond Lashio is, however, in abeyance for the present.

Previous to the annexation of Upper Burma, and for a few years afterwards, transport in the Shan States was carried on entirely by pack animals. Carts were unknown except in a few of the valleys, where they were merely used for local purposes. There was no through traffic by carts, as there were no cart roads from the plateau to the plains. The opening of a cart road from Mandalay to Maymyo, Hsipaw, and Lashio revolutionised transport. But before the Shan people had become quite accustomed to this new and improved method of carriage the railway came along, ran up the sides of mountains, crossed ravines and gorges, and covered journeys in a few hours which the Shan carrier had from time immemorial reckoned in weeks for his pack animals. About the time when the railway was opened there might have been seen near Maymyo Station a locomotive, a string of carts, and a drove of pack animals: a group typical of the evolution of transport which had taken place with such startling rapidity.

In 1898 the restless railway engineer began to turn his attention to the populous districts which lie between the Irrawaddy and Ngawun Rivers. He had not yet opened ground anywhere to the west of the Irrawaddy, in Lower Burma. Thirty years before, his brother, the

hydraulic engineer, came this way, and found the land a wilderness, swept periodically by the spill-waters of the great river and its offshoot. He threw up earthen barriers, and compelled those rivers to carry their surplus waters to the sea. Those waste lands have now become rich rice-producing regions, supporting a large population, and returning a large revenue to Government. The first railway through this district, from Henzada to Bassein, a length of 85 miles, was commenced in 1899, and was opened in December 1902. A connecting-link, 28 miles long, from the left bank of the river opposite Henzada to Letpadan, on the Irrawaddy line, was opened in March 1903.

The railways now under construction are: a line from Pegu to Martaban, 121 miles in length, and a line from Henzada to Kyangyin, 66 miles in length. Surveys have been made for another hill railway to run from Thazi Station, on the Mandalay line, to Taunggyi, the head-quarters of the Southern Shan States. Owing to the difficult nature of the country it is believed that the line is intended to be a light railway of 2 feet 6 inches gauge. If the line is worth making at all along the route selected, it would seem desirable to construct it on the same gauge as all the other lines in the country.

The question of linking up the railways of Burma with those of India has received attention from time to time. Two routes have been surveyed: the first, starting from the left bank of the Irrawaddy, in the Minbu district, crossing over the Arakan Mountains by the An Pass at an elevation of 4000 feet, and running through the Akyab district, would join the Indian system at Chittagong. The second would start from Mogoung, run up north through the Hukong Valley, and, crossing the mountains at about the same elevation as the first, would join the Indian system in the neighbourhood of Dibrogarh. It has been argued that Burma, having a very good port of her own, had better direct her attention for the present to the development of her internal communications. The linking-up scheme has, therefore, been hung up for a time, but will doubtless be revived some day.

All the railways in Burma were constructed and managed by the State up to the time when they were handed over to the Burma Railway Company. The whole of the construction work was done departmentally by the engineers of the railway branch of the Public Works Department. Many of these officers had served in Burma for some years, and knew the country, the people, and their language. The work was carried out by them, perhaps, more economically than would have been possible by means of any other agency.

Roads.—The roads in Burma maintained by the Public Works Department are classified under the heads of Metalled Roads, Unmetalled Roads, Roads cleared only, Bridle-paths, and Paths cleared only. The standard width for all district roads is 16 feet at formation level. In the case of metalled roads 10 feet in width of the formation is metalled, leaving an earthen berm of 3 feet on each side. The width of land taken up varies from 60 to 100 feet. The bridges are mostly of timber, and the culverts of masonry. The unmetalled roads may be bridged and drained throughout, or only partially bridged and drained. The roads cleared only are merely the ordinary cart tracks kept clear of jungle growth. The bridle roads are mostly hill roads for pack animals. Paths cleared only are the usual pathways of the district cleared annually of jungle growth.

Waterways and railways are the main avenues of commerce in the province, and as feeders to these highways roads fulfil their true function. As through lines of communication over long distances they are comparatively of little value. They are extremely useful for administrative and police purposes, and the want of them was very much felt during the military operations in the country. But if they were all removed at a stroke, retaining only the important bridges, it is doubtful if the main industry of the country, the production of rice, would suffer very much. During the dry season, when the grain is being carted from the fields, the ground is hard, and carts can make tracks for themselves anywhere. Agricultural districts in remote and land-locked localities could never be developed by long lines of road communication, for

the simple reason that the cost of carriage would swallow up all the profit on the grain. In such districts grain in excess of the requirements of the local inhabitants has little or no value. The railway to Toungoo opened out districts of this kind, with the result that large areas of waste and forest land were rapidly brought under cultivation.

In Lower Burma the average annual cost of the maintenance of metalled roads is about Rs.930 per mile, and of unmetalled roads about Rs.230; in Upper Burma the corresponding cost is Rs.710 and Rs.170 respectively. The high cost of metalled roads is due to the scarcity of good stone for road metal and to the high cost of labour. In the suburbs of Rangoon and Mandalay, and of the larger towns generally, the metalled roads are fairly good, but in the districts they cannot always be said to be so, and they are sometimes rather bad. The tendency of cart bullocks to follow in a worn track causes the road surface to be worn into two deep furrows, while the metalled surface in the middle remains intact. It is also very difficult to get country roads properly consolidated. In places where there is not enough road work to make it worth while to keep a steam road-roller the roller has to be drawn by bullocks; and as the Burmese never shoe their bullocks they are very reluctant to hire them for dragging heavy rollers over rough, sharp stones. In many places the roads are metalled with laterite, which makes a very good surface, but soon wears through under heavy traffic. In the Delta districts, and in the open plains, where stone or laterite are not procurable, the roads are metalled with burnt clay, which makes a good surface, but is rather expensive, and does not wear well. The wheels of the Burmese carts are now nearly all iron-tyred spoke wheels. Formerly they were made of three pieces fastened together to form a solid disc of wood, tapering from the centre to the circumference. These were excellent wheels for muddy ground, in which they did not stick fast, but they were most destructive to metalled roads. They were the only wheels to be seen in Upper Burma in 1885-86, but they were soon rapidly replaced by the iron-tyred wheels, and very few of

them are now in use, except in the remoter parts of the country.

The main lines of road in Burma and their length, are as follows:—the Rangoon, Pegu, and Tazôn road, with branches, 73¾ miles in length. The Rangoon and Prome road, 177 miles in length. The Henzada and Ngathaingyaung road, 49 miles in length. The Ywathit and Taungdwingyi road, 35 miles in length. The Satthwa and Natmauk road, 37½ miles in length. The Myingyan Meiktila and Thazi road, 72 miles in length. The Pakôkku and Kan road, 166 miles in length. The Kyaukmyaung, Shwebo, Yeu, and Paga road, 68 miles in length. The Indaw and Mansi road, 61 miles in length. The Wuntho and Pinlebu road, 42 miles in length. The Kadwna and Malè road, 56½ miles in length. The Bhamo and Chinese frontier road, 50 miles in length. The Monywa and Yeu road, 32 miles in length. The Thazi and Taunggyi road, 106 miles in length. The Mandalay, Maymyo, and Lashio road, to the boundary of the Northern Shan States, 57 miles in length, and the Ruby Mines road, 61½ miles in length. The latter three roads are hill roads connecting the Shan Plateau with the plains of Burma proper. The first rises to an elevation of 4000 feet, the second to 3600 feet, and a branch of the third rises to 6000 feet at Bernard Myo. These roads were the means of introducing wheeled transport into the Shan States, the effect of which was to cause a marked reduction in the prices of all articles of European manufacture in the local bazaars. They have been extremely useful roads for the carriage of imports from the plains, and for the carriage of the lighter classes of exports to the plains, but, for reasons already mentioned, it is doubtful if they have done very much to stimulate the agricultural development of the Shan country. The Mandalay, Maymyo, and Lashio road has already been superseded by a railway, and steps are being taken to supersede the Thazi-Taunggyi road also.

The roads in the Shan States and Chin Hills consist of a total length of 85¾ miles of metalled roads, 137 miles of unmetalled roads, 125 miles of roads cleared only, 320 miles of bridle-paths, and 44 miles of paths cleared only.

These do not include roads constructed and maintained at their own expense by the Sawbwas of each state.

CURRENCY

Except in Arakan, coins were not used in Burma until the middle of the nineteenth century, when King Mindôn had dies engraved in Paris. Before that time gold and silver ingots were used, as they still are in a great part of China. Both metals were alloyed in proportions which depended upon the whim of the melter, so that the lumps of silver had to be assayed, as well as cut, up before business could be transacted. Dealings were, therefore, largely in the way of barter, since it was too much trouble even for the leisurely Burman who cared to drive a bargain, and most of the men are much too easy-going for that. Chinese gold leaf was much used, and still is, by travellers, because it can be very easily carried, and equally easily cut and weighed, and moreover, if a man has a fit of piety, he can easily use it for gilding a pagoda or an image. The Chinese leaf always has a stamp showing its degree of purity; and these marks are perfectly well known to all Burmans, and especially to the women, who, as has been pointed out, are very much more business-like and energetic than the men.

In the Shan States these ingots of silver and books of gold leaf were used for very much longer than in the plains, and even to the present day, in out-of-the-way states, and by travellers and caravans, gold is very much used. It is very much more easily carried, and more readily packed in safety, than bags of the cumbrous rupee. The ingots of silver were very easily made. Six ticals of pure silver (a tical is a little more than half-an-ounce troy) were melted together with one and a half ticals of copper wire, and then as much lead was added as brought the whole to a weight of ten ticals. The metals were placed in little saucers of sun-dried clay,

planted in nests of paddy husk, and covered over with charcoal. Bellows were used to produce a rapid, strong temperature, and when the whole was at red heat the charcoal was taken away, and a flat brick disc covered with moist clay was pressed down on the amalgam. There resulted a saucer-shaped button. This was cleaned as far as might be, and then marked with dots of cutch, to show the approximate weight and degree of alloy. A Shan *da* soon cut off whatever weight might be wanted. In some of the Shan States figures of some sort, a leogryph, the spire of a religious house, Buddhist emblems of various kinds, were impressed, and specimens of these may still be seen hung round the necks of small children; but they were never in any sense coins such as we understand them.

In the fifteenth century Arakan became for a time tributary to the King of Bengal, and, as a result, the Arakan rulers not only, although still Buddhists, used Mohammedan titles and designations, but even issued coins bearing the Kalima. This was perpetuated by the annexation of Chittagong by the King of Arakan, and it is principally on coins struck in that province that the title of Sultan and the Kalima emblem appear. They range from about 1500 to 1750, and were, at any rate originally, probably a sort of recognition that Chittagong was outside of the territory of the Burma race. These Arakanese coins, however, have long been non-current, and never were in use in Burma proper, or in the time of direct British influence in Burma.

Shortly after he ascended the throne King Mindôn established a gold and silver currency. The silver coins corresponded in size and in values with the rupee and its submultiples, as used in British India, but in British Burma they were only taken at a discount, owing to the amount of alloy in them. All the silver coins were stamped on the obverse with the peacock, the emblem of royalty, and ranged from one *mu*, a two-anna piece, the eighth of a rupee, through one *mat*, a four-anna piece, the quarter of a rupee, and the *ngamu* or five *mugale*, the half-rupee, to the *kyat*, or *dingga*, the rupee. These peacock coins were all called in after the annexation, and

from being worth considerably less than their face value have now come to be worth a good deal more as curiosities. The Indian rupee, half-rupee, quarter and two-anna pieces are now in universal use, even in the remotest hills. King Mindôn's copper coins were also the same as the Indian coins, and were stamped with the peacock. They were *tabya*, one pice, or three pie, and twelve pie, or four pice, *tabè*, the sixteenth of a rupee. These also have disappeared, and are replaced by the British-Indian coins of the same denominations. The single pie of India practically does not circulate in Burma, though legally it is current. King Mindôn also had a leaden coin, a most amorphous-looking thing, recalling the old round tical of Siam, but not so definitely shaped. These leaden coins were supposed to be stamped with the image of a hare, but it was seldom visible. They were never popular or in much general use, and had practically disappeared before the Third Burma War. Specimens with a clearly defined hare on them would now be worth a considerable sum as curiosities. The gold coins were of the same size as the four-anna and two-anna silver coins. The larger had a nominal value of five rupees, and had the figure of a lion on the obverse. The smaller was struck from the same die as the silver two-anna piece, and had the figure of a peacock. They never were much used; and the gold two-anna piece practically did not circulate at all, and was chiefly used to fill silver or gold cups given as royal presents to distinguished visitors or subjects. They have no counterpart in the Indian coinage, and are now extremely rare.

The hillmen, probably from a confusion with the peacock rupee, for long would not accept the earlier rupees of the time of the East India Company, bearing the uncrowned heads of Queen Victoria, William IV., or George IV., except at a discount—*Kyat-mu-din*, fourteen annas. Proclamations to the effect that they were perfectly legal tenure were of no effect. These coins are all now being called in by the Treasury.

Money, however, has no attractions for a Burman. When he has a lucky speculation he makes haste to get rid of the profits. He builds a pagoda, a monastery, a rest-

house, digs a tank, or puts up a wayside waterpot stand, or he gives a feast and an open-air dramatic performance, free to the whole neighbourhood. The women are more fond of accumulating pieces of silver, but they usually convert them into jewellery, necklaces, armlets, rings, gold or silver cups, or precious stones. In this shape they are easily stored, and easily converted into coin if need requires. From the official's point of view the Burman is a very trying person. He will not hoard his gains; he has no desire to become a capitalist. He spends with both hands, and is quite happy. From the point of view of the philosopher and the moralist he is technically right. Gold and silver are mere dross; merit is all that is worth acquiring against a future existence, and if this can be acquired by pious foundations that is all money is good for. The result is that the hoarding native of India and the speculative Chinamen are much more conspicuous in the towns of Burma than the native of the country. He is content if he appears as a bright-hued dot in the resplendent colour scheme of a Burmese festival crowd.

Finance.—The revenue system of Burma, as of India, is quite different from that of England. In England the Revenue Paying Departments remit everything to one central bank, and imprests on this central bank, the Bank of England, are issued to the Spending Departments. This is not so in India. There is no such central depository, and the disbursements of the Military, Civil, and Public Works Departments and other services are not defrayed from one central chest. On the contrary, each district, so far as may be, provides its own ways and means, and carries on its own financial transactions. The starting-point of the financial system is, therefore, the district treasury. This office receives the revenues of every kind collected within the limits of the district, and makes, directly or indirectly, all the payments for services rendered, including the cost of collecting the revenue, which falls due within the district limits. Each district treasury is in the charge of one of the officers on the staff of the deputy commissioner of the district. This treasury officer, in addition to his special duties, usually also performs all

the ordinary work of an assistant commissioner, and is a magisterial officer as well.

The district is the financial unit of administration. All revenue collected within the district is paid directly, and without any delay, into the district treasury, and is then at once available for the public service. The treasury is thus regularly put in possession of funds, from which it defrays all expenditure within the district, and any excess revenue not needed for that purpose is transferred to treasuries where funds are needed.

The Indian provincial budgets, as well as the main budget for the Empire, differ correspondingly from the home British budget. The budget is opened, on the reports from the treasuries, considerably before the close of the financial year, hence it becomes necessary to frame a revised estimate for the year. This revised estimate itself covers only about ten months of actual revenue and expenditure, with the estimates for the remaining two months of the expiring year. Then, within a comparatively short time from the actual close of the year, the telegraph wire supplies the actual figures of the revenue and expenditure for the whole year. This often varies considerably from the revised estimate. There are thus three statements before the public: the budget estimate, the revised estimate, and the completed accounts—all relating to a single year's finance.

At present a contract is entered into every five years between the Imperial Government of India and the Provincial Government of Burma, as of all other provinces, for the regulation of financial matters. It was not always so. Up to 1871 the Central Government retained in its own hands the entire control of finance, and issued money to meet the demands of the provincial governments. The provincial governments had the duty of collecting the greater part of the revenue, each in its own limits. They had no responsibility for the financial administration, and each government was chiefly concerned in endeavouring to secure for itself, from the Central Government, as large a share as possible of the common fund. The Bay of Bengal was a great obstacle to the claims of Burma, and the province consequently came off badly as a rule.

In 1871 Lord Mayo's government gave to each province a fixed permanent grant of the revenues collected within the limits of the province. Out of the grant thus made the charges for services specially affecting Burma were to be paid, but excess of expenditure over the grant was to be met by revenue raised locally. In 1877, and later, this system was modified and developed. A fixed grant of money is now no longer made, but the whole, or more commonly a proportion, of certain taxes, or other receipts collected in the province, is assigned in order to meet either the whole, or a proportion, of the charges incurred for the various branches of internal administration within the province. The idea is that the Provincial Government is thus given a direct interest in the efficient collection of the revenue, and that the collections are in consequence improved. No provincial government, however, may alter taxation, or the rules under which the revenues are administered, without the assent of the Government of India. Besides this, the province is subject to the general supervision of the Central Government, and the conditions with regard to the maintenance of the great lines of communication, the creation of new appointments, the alteration of the scales of salaries and various other matters. Irrespective of these, the Provincial Government has a free hand in the administration of its share of the revenue.

The civil accountant-general is the financial adviser of the Local Government, and has a staff of a deputy and three assistant accountants-general, with a commissioner of paper currency, but he has no power beyond giving advice. The financial commissioner is, subject to the control of the lieutenant-governor, the chief revenue authority. His most important work is in connection with land revenue and agriculture, in which he has a variety of assistants.

Provincial Settlement. — Arrangements between the Central Government and the Provincial Government, commonly called the Provincial Contract, are concluded for periods of five years. Towards the close of each quinquennial period the provincial finances are reviewed, and an estimate of the expenditure thought necessary is made.

A proportion of the provincial revenue sufficient for that expenditure is then assigned. Thus under the Provincial Settlement of 1897-1902 the Local Government retained the whole of the provincial rates—three-quarters of the revenue for stamps, a half of the revenue from assessed taxes from the forests and from registration, one-third of the land revenue, one-half of the excise, and a large part of the departmental receipts, with the exception of railway and irrigation and military receipts. Under the 1902-07 Settlement Burma did not get off so well. India abandoned no revenue to Burma, and, on the other hand, she now takes half the land revenue instead of one-third, and one-third of the stamp revenue instead of one-fourth. The results of the first year's operation of the present Provincial Settlement were that the net revenue sent by Burma to India was 352 lakhs, as against 271 lakhs in the last year of the old Settlement; while the provincial revenue fell short of provincial expenditure by 30 lakhs of rupees. The theory is that both Governments benefit proportionately by any increase of revenue accruing during the quinquennial period. The Local Government retains any balance which it may have accumulated by careful administration during the expiring period.

The general opinion, however, is that from the very outset the provincial contract system, which began from the 1st April 1882, has been by no means advantageous to Burma. The proportions of revenue allowed may have been enough for long-established provinces, but they were quite insufficient to meet the rapidly expanding requirements of a young and growing province. During three years out of the first five the Burma balance sheet closed with a considerable deficit, which had to be made good out of the Imperial share. For some years before the annexation of Upper Burma, British Burma each year handed over to the Indian Government a sum exceeding a crore of rupees (£666,666), and the mercantile community clamoured against the assigning to other provinces of the money so badly needed in Burma for roads, railways, and other communications. Out of gross revenue receipts, which amounted to over £1,820,000 in 1885-86,

the net surplus share which went to the Imperial Government, after expenditure for liabilities had been deducted, was as nearly as possible £743,000, against a total provincial allotment of £828,000. This proved insufficient; but in 1886-87 India took a net revenue of £900,000 as her share under the contract, leaving only £966,000 to cover all provincial expenditure. Conditions improved a little in succeeding years, but it was not till 1897 that the provincial contract system was extended to Upper Burma. The terms were considerably better, and the first year of its operation resulted in a surplus to the Local Government of £113,513. Burma soon repaid the expenditure on the Third Burmese War, which was advanced from Imperial funds, and since 1891 has more than paid its way. A large and rapidly increasing surplus revenue led to the less favourable Provincial Settlement of 1902-07.

The following figures show the financial prosperity of the province:—

Year	Revenue		Civil Expenditure		Surplus
	Lower Burma	Upper Burma	Lower Burma	Upper Burma	
	£	£	£	£	£
1886-87	2,266,000	148,667	1,259,334	518,666	636,667
1891-92	2,901,334	804,000	1,592,000	1,339,334	774,000
1896-97	3,338,666	875,334	1,864,667	1,351,333	1,098,000
	Amalgamated £		Amalgamated £		
1897-98	4,564,704		2,989,864		1,574,840
1902-03	4,644,446		2,294,630		2,349,816
1903-04	5,034,527		2,501,785		2,532,742

The principal details are made up as follows:—the land revenue of Burma in 1892-93 was Rs.22,676,570, with charges amounting to Rs.4,399,510. In 1897-98 the land revenue was Rs.26,462,700, with charges amounting to Rs.4,579,110. In 1902-03 the amount in pounds at fifteen

to the sovereign was £2,224,650, with charges amounting to £373,500.

The salt revenue in Burma, including duty on salt imported by sea and excise on salt manufactured locally, was in 1892-93 Rs.1,622,130, in 1897-98 Rs.1,567,440, and in 1902-03 £122,013, while the charges for collection were respectively Rs.6540, Rs.6420, and £755.

The stamp revenue in 1892-93 was Rs.1,554,890, in 1897-98 Rs.1,701,070, and in 1902-03 £175,591, with charges aggregating Rs.39,650, Rs.48,340, and £4,534.

The excise revenue was in 1892-93 Rs.4,747,370, in 1897-98 Rs.4,215,790, and in 1902-03 £384,333, while the charges were respectively Rs.60,760, Rs.192,306, and £31,783.

The forest revenue in 1892-93 was Rs.5,660,000, in 1897-98 Rs.7,215,260, and in 1902-03 £449,270, while the charges for each year were Rs.1,802,820, Rs.2,196,610, and £192,684.

The provincial rates and charges for cess on lands for roads, schools, hospitals, etc., district post and the like services, were for 1892-93 Rs.1,020,820, for 1897-98 Rs.1,246,650, and for 1902-93 £112,023, with charges amounting to Rs.46,550, Rs.50,860, and £4730. The assessed taxes and charges were for 1892-93 Rs.764,730, for 1897-98 Rs.1,014,960, and for 1902-03 £83,188, with charges totalling Rs.17,050, Rs.33,220, and £2642 for the respective years.

WEIGHTS AND MEASURES

Time.—According to the national system, still used by old-fashioned people and in out-of-the-way places, the day and the night are divided into four periods of three hours each: from six to nine, *ti(t) chetti,* the first watch, which in former days was marked by one blow on the gong or drum at the town guard; the second quarter from nine to twelve, called *hni(t) chetti,* the second watch, two blows; the third watch, *thôn chetti,* three blows; and the fourth, *le chetti,* four blows. The minor divisions of time, for as-

tronomical purposes—such as the casting of the horoscope and the calculation from this of lucky days and the like—are exceedingly minute; but in ordinary life allusions were never common, and now only exist in religious books. The unit was a *nara*, the period of time in which ten flashes of lightning, or ten winks of the eye, might take place. Four *nara* made one *kana*, an instant of time; twelve *kana* made one *kara*; ten *kara* made one *byan*; ten *byan* made one *bat*; and four *bat* made one *nayi*—the word which is commonly used now for the English hour. There were sixty *nayi* in the Burmese day (*yet*), and other subdivisions of time were six *byan* equal to one *bizana*, and fifteen *bizana* equivalent to one *nayi*, or hour. Fifteen *yet* made up a *bekkha*, a side of the moon, or half month; two *bekkha*, one *la*, or month, and twelve *la*, one year, or *hnit*. The ordinary year consists of lunar months, of twenty-nine and thirty days alternately, divided into the waxing (*lasan*) and the waning (*labyigyaw*, or *lasôt*), of fifteen days each, alternately with months of fifteen days waxing and fourteen days waning. Every third year, or, more accurately, seven times in nineteen years, a thirteenth month is intercalated between the fourth and the fifth.

The Burmese year and the names for the months are still retained. The date on which the year begins in the month of April is determined by the astrologers in Mandalay, and was formerly published through the medium of the monks and the district officials. Now the British Government determines the exact date and hour, and intimates it in the Official Gazette.

The months correspond more or less with our months. They are as follows:—

Tagu, 29 days, March to April.
Kasôn, 30 days, April to May.
Nayon, 29 days, May to June.
Wazo, 30 days, June to July.
Wagaung, 29 days, July to August.
Tawthalin, 30 days, August to September.
Thadingyut, 29 days, September to October.
Tasaungmôn, 30 days, October to November.
Nadaw, 29 days, November to December.

Pyatho, 30 days, December to January.
Tabodwè, 29 days, January to February.
Tabaung, 30 days, February to March.

Astrologers always refer to the months by the names of the twelve signs of the Zodiac, called Yathi.

These are :—

Tagu, represented by Meit-tha, or Mésha, Aries, the red ram.

Kasôn, represented by Pyeit-tha, or Wrashaba, Taurus, the white bull.

Nayôn, represented by Medôn, or Mithuna, Gemini, a woman and man.

Wazo, represented by Karakat, or Karkkataka, Cancer, the red crab.

Wagaung, represented by Thein, or Singha, Leo, a red lion.

Tawthalin, represented by Kan, or Kanya, Virgo, a virgin of a dark colour, in a ship, holding some ears of corn and a lamp.

Thadingyut, represented by Tu, or Tula, Libra, a white man, holding a pair of scales.

Tasaungmôn, represented by Pyeit-sa, Scorpio, a scorpion.

Nadaw, represented by Dhanu, Sagittarius, a centaur of a golden colour, holding a bow.

Pyatho, represented by Makara, Capricorn, a sea-monster.

Tabodwè, represented by Kôn, or Kumbha, Aquarius, a white man, with a water jar.

Tabaung, represented by Mein, Pisces, two fishes looking opposite ways; menses.

There are reckoned to be three seasons: the cold, the hot, and the wet. The cold season, Saung-dwin, or Hemanta utu, lasts from the first waning of Tasaungmôn to the first waning of Tabaung—from the end of November to the beginning of March. The hot season, Nwe kāla, or Keimmanta utu, lasts from the first waning of Tabaung to the first waning of Wazo—from the beginning of March to the beginning of July. The wet season, Mo kāla, or Wathanta utu, lasts from the first waning of Wazo to the first waning of Tasaungmôn—from the beginning of July to the end of November.

There is a division of days corresponding to that into weeks in the European system. The seven days are named after the sun, moon, and planets, exactly corresponding with our own. The first and eighth of the waxing, the full moon and the eighth of the waning, are "duty," or worship, days, and mark off the Buddhist religious weeks. The day of the full moon is especially the day to see the Shwe Dagôn, or any pagoda, unless there is some special festival.

Burmese chronology recognises five different eras, but only the current era (Thagayit) is ever practically used. It was, established by the Yahan Pôppasaw when he usurped the throne of Pagān in 638 A.D. Thus the year 1905 A.D. is the Burmese year 1266-67. The Era of Religion dating from the death of the Buddha Gautama (B.C. 543) is used occasionally in religious books and in inscriptions. It is always called Thathana Thagayit, the Year of Religion.

Among the common people a variety of picturesque phrases mark time: before the sky lightens; the earliest cock-crowing time; when the sun is a span above the horizon; when the monks go a-begging; the monks' returning time; breakfast-time, usually about eight; dinner, time, usually about five; sky-closing time; brothers-don't-know-each-other time; children's-go-to-bed time, about eight; lad's-go-courting time, an hour later; when grown-ups lay their heads down; all-the-world-quiet time, and many more, mark definite periods. Duration of time is similarly counted: a breath's space; the chewing of a betel, about ten minutes; the boiling of a pot of rice, twenty minutes; the smoking of a cheroot, about half-an-hour, and so on.

The English measurement of time is, however, more or less accurately known now, even to the ends of the Shan and Chin Hills.

Length.—The book measures of length are very elaborate. A san-chi, or hair's breadth, is taken as the unit. Ten hair's breadths make a hnan, a grain of sessamum seed; 6 hnan make a muyaw, a grain of rice; 4 grains of rice make a finger's breadth, let ti(t) thit; 6 make a thumb's breadth, lemma; 8 let-thit make

1 maik, the breadth of the palm, with the thumb extended, about 6 inches; 12 thit make 1 twa, a span, or 9 inches; and 2 twa or 3 maik make 1 daung, a cubit, 18 to 19 inches. The twa and the daung are the two commonest measures, and every girl thinks that from her elbow to her finger-tips is the proper cubit, whatever her opinion of the proper span may be. 4 daung make 1 fathom, or hlan—literally, a span's length. 7 daung, or cubits, make a ta, which may be considered the unit of land measure. 500 ta make ngaya-dwin, which is assumed to be the equivalent of the English mile, and is actually 1609·33 metres. 1000 ta make the daing, the Burmese mile, a little more than 2 English miles. The yuzana, which measures 6400 ta, is never used out of books, but is very common in works of religion. Other rarely used long-distance measures are the ôt-thapa, the kawtha, and the gawut. The ôt-thapa is equal to 20 ta, the distance that the lowing of a bullock can be heard. The kawtha measures 20 ôt-thapa; and 4 kawtha make 1 gawut, 4 of which measure a yuzana. The span, the cubit, the ta, and the daing may be said to be the only commonly used national measures, and it is characteristic of the country that the two former vary according to the personal equation and the sex of the measurer, and the two latter according to the nature of the country, whether flat or hilly. The ta for measuring a flat surface is 7 cubits, but for measuring a drain or ditch it lengthens to 8. Among the peasantry rough estimates are common, such as a call's distance, perhaps 100 yards; the sound of a musket-shot, quarter to half a mile; a before-breakfast walk, say 8 miles; the hill people speak of a place being a hill, or a range, or two ranges' distance; people on the rivers, so many reaches; and a night on the road, or two nights' sleeping distance, is very common.

Capacity.—Technically measures of capacity start from the ear of corn. 1 ear, ta-hnan, ought to contain 200 grains; and 200 a sé, or grains, make up a let-sôn, as much as can be placed on the ends of the fingers curved to form a cup. 2 let-sôn make 1 let-sôt, or a fistful. 3 let-sôt make 1 let-hpet, as much grain as can be heaped on the palm of the hand; and 2 let-hpet make 1 let-kôt, a

double handful. 2 double handfuls make 1 kôn-sa, enough rice for the meal of one person; and 5 kôn-sa make up a pyi, the sixteenth of a basket. So far for the easy-going, hospitable, unbusiness-like Burman. When it comes to business the man is still very haphazard, but the Burmese woman is often eminently practical. The basket and its submultiples are the recognised measures, and, no doubt, will always remain so. The basket used to vary locally, and still does in the Shan States and elsewhere in the hills. There are the Lake basket, and the Kēngtūng basket, and the Hsen-wi basket, and many others. But in Burma proper the tin, or basket, has been brought to the standard of the British imperial bushel, and measures 8 gallons, or 36·386 litres. The salè is the sixty-fourth of this, and contains a pint, or 0·567 litres. 4 salè make a pyi, 2 quarts, the sixteenth of a basket, the "tubby" of the native of India and the commissariat, or supply and transport officers. 2 pyi make a sa-yôt, an eighth of a basket, or a gallon measure. 2 sa-yôt make a seit, a quarter of a basket, or 2 gallons. 2 seit make a gwè, half-a-basket, or 4 gallons, and 2 gwè make the basket. It is not necessary to remember more than the salè, pyi, seit, and tin. A basket, or bushel, of unhusked rice weighs about 46 pounds, and of cleaned rice, about 60. Liquids are never sold by capacity, always by weight.

Weight.—In olden days the standard of weight began very low in the scale. The parama nu-myu are subtle atoms, invisible to man, but visible to the highly advanced in religion, and to the nat-dewas, the celestial beings. 36 of these make 1 a-nu-myu, a particle the size of the motes one sees dancing in a sunbeam. 36 a-nu-myu make 1 ka-nyit-ché, a gross particle, such as the dust which falls from a palm leaf when a character is written with the metal style. 7 of these make an ôk-kaung, a louse's head; 7 ôk-kaung, a mon-myin-se, a grain of mustard seed. 3 grains of mustard seed make 1 of sessamum, hnan, and 4 hnan-sé 1 san-se a grain of rice. 4 grains of rice make 1 chyin-yue, a seed of the *Abrus precatorius*, or Indian hemp; and 2 of these make 1 yué-gyi, a seed of the *Adenanthera pavonina*, which weighs 3·99 grains, or 0·53 grammes. 4 yué-gyi make 1 pé-gyi, which is the sixteenth

of a tical, and weighs 1·06 grammes. 2 pé-gyi make 1 mu-gyi, 2 mu-gyi 1 mat, 4 mat 1 tical, or kyat. The kyat, or tieal, weighs 255·64 grains, or 16·96 grammes. 100 kyat make 1 beit-tha, or viss, which weighs 3·652 pounds avoirdupois, or 1·696 kilogrammes. 10 beit-tha make 1 kwet, 36·52 pounds, also called kwet-tasè. The viss, tical, and its submultiples are the only weights in common use. In native times the standard weights were shaped in the form of the Hentha, or Brahminy, goose, or sometimes with the animal representing the royal birthday. The Hentha weights are the only form seen nowadays, and British weights are steadily supplanting them.

PART IV

ARCHÆOLOGY—ARCHITECTURE—ART—MUSIC

There are practically no archæological or architectural remains, or any buildings of any interest, in Burma except those connected with religion. Ruined cities there are in abundance; but the royal buildings were of teak, and these have absolutely vanished. The palace of Manuha at Pagān, mentioned below, is practically the only non-religious building existing that is of exceptional interest. The Indo-Chinese custom was that for every new ruler, at any rate for every ruler of note and energy, there was a new capital. Old sites were often taken up again. Ava was a notable example in various dynasties. Some of the cities were ruthlessly razed to the ground, and some have actually been ploughed up. But there are many ancient cities still, and in the Shan States they may be counted almost by the score. In the recesses of a dense forest, which it would hardly be an exaggeration to call primeval, one comes upon a vallum, on which trees 8 feet, 12 feet, and 15 feet in girth are growing. The rampart may enclose a square of half-a-mile, a mile, a mile and a half to the side; and round the outside there is an obvious moat, 15 or 20 feet wide and 10 feet deep, but now choked with cane brake, or filled with huge forest growth instead of water. The wall of sun-dried brick has long since mouldered away into scarp and counterscarp, but still it is from 10 to 20 feet high; and the work of thousands of men is not altogether thrown away, since it still arouses curiosity, which is not always gratified, for many of these monuments to the vanity of human wishes have not even names among the local villagers. Inside there is usually nothing to be seen except blank jungle, unless, perhaps, other ridges show that there was an inner city, or that the whole was

divided into three strips, as seems quite commonly to have been the case. Here and there a tumulus suggests that there may have been a brick building, a pagoda or a harem, a library or a refuge tower, but the banyan-trees have strangled it, and the white ants have made it a simple cone of earth. It is possible that some of these may have been like the woodland or mountain fastnesses of the Celts, which Cæsar describes in Britain, and some of which may still be seen in the Carnarvon neighbourhood and elsewhere, designed to afford the people a retreat, and protection for themselves and their flocks in times of excursions and alarms; but it seems more probable, in the absence of all reference to such works, that they were once really cities, and now remain merely as texts to point a moral or adorn a tale. Nothing can be more complete than the effacement of all trace of human dwellings in Chieng-hsen and Sèlan, which we know to have been powerful capitals.

It is practically much the same with Tagaung and Pagān, on the Irrawaddy, which in their time were far-famed centres, but now, with a scanty sprinkling of casual huts, have not much more life about them than the mosses on an old wall or the saxifrages that variegate a ravelin.

Nothing remains but the temples and pagodas. There is, therefore, a great tendency to call Pagān with its self-asserted 9999 shrines, a religious city, and to compare it with Mecca, Kieff, Lhassa, Benares, but it was no more a purely religious city than Ava or Amarapura. If Mandalay were abandoned, or Rangoon, or Pegu, nothing would be left within the generation but the religious buildings. The same thing is characteristic of all Indo-Chinese cities.

Pagān is frequently compared to the ruins at Angkor, north of the Tale Sap, on the borders of Siam and Camboja, and to the stupendous structure at Boro Bodôr, the great Buddhistic ruin in the Kadū district of Java; with the Chandi Sewu, or Thousand Temples (really 238), not far off at Brambánan. It is very certain, however, that there is little or no resemblance between the existing Pagān temples and those now cleared at Champanāgara, Angkor. Both palace and temples are much more Indian

in character in the Chiampa capital. Boro Bodôr is more Buddhistic, and has terraces and corridors like those of the Pagān shrines, with scenes from the life of Sakya Muni and the Jātakas. The whole three undoubtedly have the same inspiring spirit, but each has its individual character, and shows the influence of the people on the original Indian architects. The common story is that Anuruddha, or Anawrat'ā, the King of Pagān (whose classical name is Arimaddanapura), swept down on Thatôn (Saddhamma-Nāgara) in the year 1050 A.D., and carried off everything—king, monks, sacred books, and the people, whom he employed to build temples at Pagān on the model of those which had existed in their old home. No remains whatever, or only of the most indistinguishable character, now exist at Thatôn; and it has been suggested that the capital Anawrat'ā sacked was not Thatôn, but Angkor. It has also been thought that the city of the Calaminham, Timplan, of which we are told by Fernão Mendez Pinto may be Champanāgara, and the Temple or Pagoda of Tinagoogoo, one of the prototypes of the fanes at Pagān. Mendez Pinto's account of the route to Timplan is beyond the comprehension of any geographer or of any sane man; but he lost all his notes and papers many times over, and he wrote his book in his old age. In the same way, the builders whom Anawrat'ā carried off are not likely to have taken plans with them into captivity, and they constructed the Pagān temples, doubtless, on the scheme of a mingling of confused memories and the suggestions of a different kind of landscape.

As if to prove that Pagān was really the capital of the country, and not a mere holy town, there may still be traced the ramparts and gates of the walls which enclosed it. Near the Shwe San-daw Pagoda, also, is to be seen a cromlech, or dolmen (figured in Yule's "Mission to Ava"), which may be a relic of the old serpent-worship, that the Royal Chronicle tells us was put an end to by Anawrat'ā more than 1000 years after the fabled founding of Pagān. The pagodas and temples, no doubt, outnumber, as they have outlasted, everything. Nevertheless, it is a mistake to say, as Forchhammer does, that "the history of Pagān is essentially a history of religion.

With the exception of Manuha's palace, there is not at present a building left in Pagān that has not been erected in the service of the most powerful Buddhist hierarchy that existed since the time of Asoka." This suggests, though, no doubt, not intentionally, a comparison with Lhassa, and nothing could be further from the fact. The monks were, doubtless, as respected, or perhaps more respected, than they are now, but they were not rulers. They had no temporal power, and it is the names of kings, not of monks—of Anawrat'ā, Kyanyit-tha, Narapatisithu, and Kyaw-zwa—that live in the Ananda, Shwezigôn, Bodhipallin, and Kyaukku Temples. The city was full of monks; but there were 30,000 wearers of the yellow robe in Mandalay in King Mindôn's time, and no one has dreamt of calling Mandalay a religious city. Pagān extended hospitality to the scattered bands of Buddhists, fugitive from all parts of India. From the tenth to the thirteenth century it was the most celebrated centre of Buddhist religious life and learning in Indo-China. Fraternities came from Ceylon, called Sīhaldīpa, from the conquered Hamsavati (Pegu), from Ayuttara (Siam), Kampoja (the Shan States), from Nipal, and from China, and the King, Narapatijayasūra, gave each sect or fraternity separate quarters to live in. But they lived and wrote and wrangled, and excommunicated one another, after the manner of other religious sects, without claiming any temporal power or thinking that the city was theirs.

Burma is constantly called the land of pagodas, and the name inevitably suggests itself to the traveller on the Irrawaddy. But there are at least three distinct types of buildings, all of them religious, which may be classified as follows:—

1. Solid pagodas, or topes enshrining relics, such as the Shwe Dagôn Pagoda, Rangoon.

2. Carved and ornamented wooden monasteries (*pôngyi kyaungs*), including the royal palace at Mandalay, rest-houses (*zayats*), wooden shrines, *theins*, *tazaungs*, and the like.

3. Masonry temples, such as the Ananda and others, peculiar to Pagān and other old sites in Upper Burma.

PAGODAS AT MÖNG HENG.

PAGODAS AU MAWKMAI.

Pagodas.—Probably the Pagān temples interest visitors most. Architecturally they are much the finer, there is far greater variety, and one at least reminded Archibald Forbes of "Milan Cathedral strayed out into the waste." But from the point of view of numbers, importance, historically and in the eyes of the religious, and in antiquity, they cannot compare with the pagodas.

The word pagoda is a puzzle. Yule hesitates between *dagoba*, shaken up between the teeth, and *bhagavat*, meaning divine. But when one thinks of the old voyagers who wrote "rodger" for rajah, "upper rodger" for *upayaza*, and converted *mantri* into mandarin, it is hardly possible to hesitate. It must be a hurried shot at dagoba, a relic shrine, or at any rate it must be by *bhagavat* out of *dagoba*. However that may be, the word pagoda denotes the same class of buildings as are known in India as *topas*, or *stupas*—that is to say, the solid brickwork relic shrines, or monuments raised over relics of the Buddha Gautama or some other Buddhist saint. The essential point about a pagoda is that it is solid, and, therefore, the common name given to Maha Myat Muni, in Mandalay, of the Arakan *Pagoda* (which is, doubtless, the building meant by Mr Kipling when he sings of "the old Moulmein Pagoda") is wrong. It would more correctly be called the Arakan Temple. The Burmese word for pagoda is *zedi*, and the Arakan Temple would never be called a *zedi*.

The common classification of pagodas, or *zedis*, is as follows:—

1. *Dat-daw Zedi*, those containing relics of a Buddha or Rahanda.

2. *Paribawga Zedi*, those containing implements or garments which have belonged to the Buddhas or to sacred personages.

3. *Dhamma Zedi*, those containing books or texts.

4. *Udeiksa Zedi*, those built from motives of piety, and containing statues of the Buddha or models of sacred buildings.

The last two classes are by far the most numerous, and might almost be called the private pagodas, since they are most often put up by individuals or bands of relations.

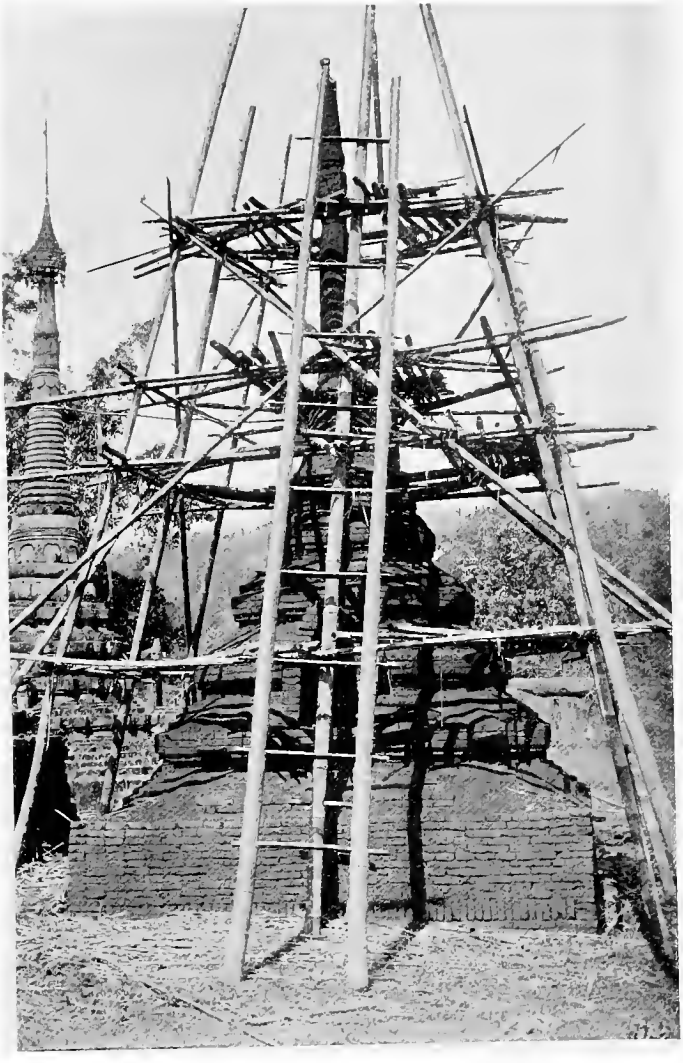
The erection of such a shrine is considered a work of the greatest possible merit. The pious founder receives the title of *payātagā*, and is assumed to be sure of the most favourable trans-incorporation in another existence.

By far the greater number of Burmese pagodas are built of brickwork, covered with stucco, though stone is also used here and there, as in the case of the laterite pagodas of Thatôn, in Lower Burma, and here and there in the Shan States. The outside is usually whitewashed, and in the case of rich founders, or where the pagoda is looked upon as village property, or has become widely noted, it is gilt either all over or only the spire. Gilding is a favourite way of acquiring merit among the Burmese. Their most sacred pagodas, images, and monasteries are all heavily gilt, not always to the advantage of the details.

In most cases it is quite impossible to ascertain the exact age of a pagoda. Noted pagodas always have a *thamaing*, or palm-leaf chronicle, but the details and dates are not always convincing. It seems probable, however, that shrines of this kind were erected in Burma and the Shan States as far back as the time of King Asoka, called Dhammathawka by the Burmese. He reigned in the middle of the third century before the Christian era, and sent missionaries far and wide, besides causing over 80,000 relic shrines to be built. Nothing earlier than this can be expected, for even in India nothing has been discovered which can be placed further back with any degree of certainty.

The Shwe Dagôn Pagoda is possibly the most interesting example of the growth of these buildings. It began by being a simple, humble, relic shrine, and gradually grew to its present noble dimensions. After the annexation a passage was cut from the niche facing the eastern entrance to the centre of the pagoda. It was found to be throughout of solid brickwork, and the first pagoda was found to have had seven casings added to it. The original relic shrine is said to have been 27 feet high, and to have been erected in 585 B.C. This may be, but the date of the successive casings is not recorded.

It is this peculiar method of construction which makes t so difficult to study the development of pagoda-building



HOW A PAGODA IS BUILT.

PLATFORM OF PAGODA.

in Burma and to determine their original dates of erection, for the oldest and most interesting remains are all hidden from view by successive shells, almost certainly of different styles. The modern Burmese pagoda is unquestionably the direct lineal descendant of the ancient Indian Buddhist *stupas,* and through them of the sepulchral tumuli of the Indo-Chinese, or Turanian, races, although it now bears no resemblance to the low, round mounds from which it originally sprang. In India and Ceylon there are, however, fairly complete series of *topes* and *dagobas,* dating from the third century B.C. to about the time when Burmese architecture may be said to begin, with the rise of Pagān in the ninth century of our era. The chain is continued in Burma up to the present day, and we can, therefore, follow the evolution of the pagoda over the immense period of over 2000 years. A few of the older forms of pagodas unmistakably show their Indian origin, and would cause hardly any surprise if met with in India. These older forms are much more massive and simple in outline. In process of time they fined away, and became more elaborate and slender, so much so that one can generally fairly accurately judge of the modernness of a pagoda by the degree of attenuation it has attained. The Shan pagodas are much more slender in the spire than the Burmese. They retain the *hti,* or umbrella, which the Siamese pagodas discard. The style is decadent, though it is impossible to deny that the modern pagoda has gained in elegance what it has lost in grandeur. The date when the present shape began is not yet known. It is only by breaking into old pagodas that we could really find out anything about them. This is, of course, impossible in the case of those which are still revered and looked after by the people. But there are ancient pagodas in out-of-the-way places which are quite neglected, and might be explored without giving offence. There is an especially great field for this in Pagān, and scientific investigation there would settle many obscure and disputed points in the ancient history of Burma. All the larger pagodas stand on a wide, open platform. On this, surrounding the main shrine, are a number of smaller pagodas, shrines, or *tazaung-pyathats,* packed full with images of the Buddha;

rest-houses, or *zayats*, for the convenience of worshippers from a distance; altars for lights, incense, and flowers; bells of all sizes; flagstaffs carrying metal-work crowns or *htis*; sacred birds and *nats*; drinking-water stands, or *ye-o-zin*; and many other things placed there by those in search of *kutho*—merit against another existence. On the four sides of the pagoda, facing the cardinal points, porch-like image shrines are usually erected. The entrances opening on to the *saung-dan*, or staircase approaches, occasionally very long, are generally guarded by a couple of *chinthe*, grotesque leogryphs, and the parapets flanking the steps are sometimes formed into the image of *nagas*, with long, scaly bodies and tails.

The Burmans divide important pagodas, such as the Shwe Dagôn, into twelve parts:

(1) The base, with the surrounding pagodas, called the shoe; (2) the three terraces, called *pichaya*; (3) the bell; (4) the inverted *thabeik*, or alms-bowl; (5) the *baung-yit*, or twisted turban; (6) the *kyalan*, or ornamental lotus flower; (7) the plantain bud; (8) the brass plate for the *hti*, or umbrella; (9) the *hti*; (10) the *seinbwin*, or artificial flowers; (11) the vane; (12) the *seinbu*, or bud of diamonds.

A less elaborate division is into four distinct parts:

(1) The *square masonry or brickwork terrace*. At the corners are frequently found the strange, winged human-headed lions, with double bodies, known as *manussiha*, or man-lion, and recalling the ancient Assyrian winged lions. At Pegu there are two such terraces round the Shwe-hmaw-daw, with a double ring of miniature pagodas.

(2) A *high plinth* of a boldly moulded stepped contour, generally of elaborate polygonal form in plan.

(3) The *bell-shaped* body of the pagoda, divided into two portions by an ornamental band.

(4) The *spire*, consisting of a number of rings; a lotus-leaf band, with a bead moulding in the centre, and leaves above and below, pointing in opposite directions; a terminal carrot-shaped cone, surmounted by the gilt metal-work crown, or *hti*, indicating the sanctity of the building. The *hti*, or umbrella, is made of pierced iron-work, generally of beautiful design, and richly gilt. It consists of

THE MODERN ORNATE STYLE OF PAGODA.

RURAL PAGODA, NORTHERN SHAN STATES.

several rings rising in diminishing stages, and finished off with a long iron rod. It has a superficial resemblance to the Pope's tiara, or triple crown. Small bells of every kind of metal are usually hung to these rings, and tinkle with the slightest breeze. Several old *htis* (which have been replaced by others at different times) may be seen on the Shwe Dagôn platform.

Monasteries.—Next to pagodas the monasteries are the most numerous and characteristic buildings in Burma. They are all built of wood, and have, therefore, neither antiquity nor special architectural value, for the material does not admit of it. The buildings also frequently suffer from an excess of ornamentation, and thus lose dignity, besides bewildering the eye. One of the finest *pôngyi kyaungs* is that of the Queen *Supayalat* at Mandalay, properly called the *Myadaung kyaung*, which exhibits all the beauties and all the defects of the style. The light pavilions, with their profusion of gabled roofs, and the graceful spire rising in diminishing stages, make a highly picturesque group, but the wealth of ornamentation lavished on gables, ridges, eaves, finials, and balustrades scatters the attention, and is far from the chaste canon of Japanese art.

The wood for a *kyaung* is usually selected from the best and most seasoned logs. The posts are sometimes excessively large. They are planed round, and painted, or lacquered, red, and in some cases are wholly or partially gilt. The staircase is generally of brick and stucco work, and the steps, according to a long-established custom, must be in odd numbers, which are supposed to bring luck. There is a verandah, called *zingyan*, on three sides of the kyaung, in which the monks walk about when they are wearied with silent meditation.

On the eastern side a small building, a little higher in the flooring than the main structure, is attached, and an image of the Buddha Gautama is placed there. Over this separate *hpaya kyaung* is placed the *pyathat*, a tiered spire, with an umbrella, or *hti*, on the top, both of them marks of sanctity. The *pyathat* has either three, five, or seven roofs, according to the dignity of the building. It was only used for royal palaces, monasteries, the *ham*, or

palaces, of Shan chiefs, who had a triple tier, and occasionally in the houses of the highest officials by special rescript of the king.

Technically there should be no more rooms than two in a monastery—one at the corner of the south-west part of the building and another on the west side. The former is used as a storeroom, and the latter for the younger members of the house to sleep in. The *pôngyi*, prior, or head monk, sleeps (*kyein-thi* is the honorific word) at the corner of the south-east of the building—that is to say, in the part closest to the *hpaya-kyaung*. The north-eastern part is used as the schoolroom and for the reception of visitors, and has the appearance of, but is not really, a separate room. Outwardly a monastery looks as if it had several storeys; but they are in reality never more than one storey high, since the national, and still more the monkish, feeling is strongly against having any one's feet over his head. The open, pillared hall underneath is for this reason never utilised, except as a playground by the schoolboys, who have not yet arrived at any notions of personal dignity.

The Burmese monastery style so strongly resembles that of the wooden temples of Nepaul that there can be little doubt that they have a common origin. Although the Burmese monastic buildings are, owing to their material, of quite modern date, they are particularly interesting, because they never vary in design, and there is little reason to doubt that they reproduce the traditional forms of ancient wooden architecture in India, Assyria, and elsewhere. They may represent to us the wooden palaces of Nineveh, and hint at the architecture of King Solomon's Temple, built of the cedars of Lebanon.

The *pôngyi kyaung* always occupies the best and quietest site near the town or village. It stands in a spacious compound, called the *hparawaing*, shaded by immemorial trees, and often planted with fruit and flowering shrubs, or rare and curious plants. The monastic library is always separate from the main building, and almost always built of brick, as a safeguard against fire. The whole demesne and curtilage is marked off by a fence, sometimes a brick wall, sometimes a ridge of earth planted with shrubs, sometimes

SHAN-CHINESE MONASTERY AND PAGODA, NAM HKAM.

SHAN-CHINESE MONASTERY AT NAM HKAM.

a hedge of cactuses, or occasionally a mere railing. But it is scrupulously respected, and within a certain distance of this, usually marked by pillars, the taking of life of any kind is forbidden. The Burmese monastery is never very large, and does not accommodate more than three or four monks with their superior, besides a few novices and lay scholars. There is never any approach to the rabblement that dwells in the Tibetan lamaseries.

Masonry Temples.—In this class are included the large, square brick temples of Pagān, such as the Ananda, the Thapinyu, the Gawdapalin, and many more peculiar to Pagān. These are admirably described in Yule's "Mission to Ava in 1855," a book which every visitor to Pagān should read. Unlike the pagodas, their purpose is to contain not relics, but huge presentments of the Buddha. This influences their form, and they all rise up in gradually diminishing terraces, like the huge bulk of Omi Shan in Ssu-ch'uan, and are capped by a swelling spire, very like that of the ordinary Hindu Siválaya, and still more resembling the *sikras* of the Jain temples of Northern India. They are of very considerable size, and the larger reach 200 feet in height. The Thapinyu has only one cell in the centre of the building right under the *sikra*, but the Ananda has four, representing all four Buddhas of this world cycle, standing square to the four cardinal points. Shafts of light from cunningly placed slit windows illuminate the features with a singularly striking effect.

Nothing quite like the Pagān temples is to be found anywhere else. They should be seen by every visitor to Burma. The buildings are mostly cruciform in plan, the details of ornamentation may almost all be traced to Indian art, but the arches and vaults resting on their pilasters, with base, capital, and cornice, and the construction generally, are quite foreign to Hindu architecture, and rather recall the architecture of Rome, and yet so blended with original designs to be found nowhere else, that it can only be said that vastly more study, for which as yet no funds have been forthcoming, is required.

Temples, in the strict sense of the word, have always, even from the earliest times, been rare in Buddhist countries. The only Buddhist structure of the kind

still existing in India is the Mahā Bawdi at Budhgaya. It is believed to have been built about A.D. 500, and a model of it is to be seen at Pagān. The adoration of images is, of course, no part of the Buddhist faith, and, so far as is known, no representations of the Buddha are to be seen in the older Buddhist sculptures. It is thought that the general use of images, and the construction of temples to hold them, did not appear in Buddhism till some time after the commencement of the Christian era. In this connection it may be remarked that the last Buddha, Gautama, is canonised by the Romish Church under the name of St Josaphat.

Images.—Now, Burma abounds with images of Gautama, and Mandalay is a great place for their manufacture. So also is Birmingham. They are ordinarily made of brass, alabaster, and wood; or, in the case of the larger ones, of brick and plaster, and the smaller of silver, gold, amber, and precious stones.

Only three kinds of images are recognised:

1. *Seated images*, called by the Burmese *Tinbinkwe*. In these Gautama is represented sitting cross-legged, with the left hand open on his lap, and the right hand resting on the right knee, with the fingers pointing downward. This is the conventional attitude of Gautama sitting in meditation under the bodhi-tree, when he attained to supreme wisdom. The original of this class of images is probably the one which once stood in the temple at Budhgaya, a temple erected near the very *pipal*-tree under which the Buddha is said to have attained the divine enlightenment. The oldest and most sacred of this class of images in Burma is the Mahāmunī image in the Arakan Temple, near Mandalay, which is said to have been cast under the Buddha Gautama's personal supervision. This form is by far the most common.

2. *Standing images*, called *Mayat-taw*, representing the Buddha in the attitude of teaching, with his right hand raised. This is the class to which the huge images in the Pagān temples belong.

3. *Recumbent images*, known as *Shinbinthalyaung*, of the conventional attitude of the Buddha at his death, when he attained to the blissful state of Nirvāna, or Nēkban,

the eternal rest. In these images Gautama is represented as resting on his right side, the head supported on the right hand, while the left arm is lying at full length on the left leg. An example of this is the colossal figure, 181 feet long, near Pegu. These standing and lying images are both far from common.

These are the only types found in Burma, and the conventional attitude never varies. The face is usually well formed, of a calm, dignified expression, especially in the older images; the quite modern ones have not infrequently a disagreeable simper. The lobes of the ear are long, reaching down to the shoulders. The hair is tied in a knot on the top of the head, and represented in peculiar little curls, or points, all close together, and somewhat resembling the rough exterior of a jack-fruit. Some of the Pagān images have faces which are more Aryan than Mongoloid. The same type is seen in the Eastern Shan States.

Want of time and opportunity prevented Yule from seeing the Kyaukku Temple and Manuha's palace. The *Kyaukku Onhmin* is the oldest and the most interesting of the ancient historical buildings at Pagān. It is not often seen, for it stands in the extreme northernmost point of historical Pagān, between one and two miles from the present town of Nyaung-u, where the Irrawaddy Flotilla steamers stop. The approach is difficult from all sides. The gorge which holds the shrine runs due east for half-a-mile, and then bends north till it reaches the Irrawaddy. The temple stands on an elevation, so that its base is a little above the high-water mark. It has three distinct storeys and lateral terraces, all built against the south side of the gorge. The lowest storey, with the exception of the upper tiers, which are of brick, is built of blocks of stone, a greenish, fine-grained, hard sandstone which is quite distinct from anything in the geological formation of Pagān or its neighbourhood, and may have been brought from Pōpa Hill. The blocks are well hewn and joined with mortar, closely fitting, but not polished, and the dry air of Pagān has so preserved them that the fine chisel marks are still visible. There is only one door, which stands in the centre, and huge blocks of stone

mark the approach to it. This part of the temple has suffered much from earthquakes, and the rents have been repaired with bricks, whose red hue contrasts curiously with the tender green of the stone wall. The upper retreating storeys are built of brick, and partly intruded into the excavated side of the gorge, so that their weight rests only in part upon the substructure. They differ in style from the lower, and are supposed to have been additions made between 1187-92 by King Narapati-sithu. The first two storeys have no outer south façade, and are built on to the side of the gorge. The topmost storey rises a little above the edge of the banks of the ravine.

The façade of the lowest storey runs 52 feet due east and west, and has a height of 40 feet. The central door is 6 feet wide and 12 feet high. The arch of the porch appears to have been semicircular, but only the western part remains. A beam of fossilised wood forms the architrave. The steps leading up to the entrance are immense plain stone slabs. About 3 feet from the ground a scroll of the leaf-and-tongue design, cut in low relief, runs along the three sides of the temple. On the face of the two sides of the porch, just above the lintel, there is a scroll showing an ogre disgorging festoons of a pearl design. Above the porch a scroll of the same pattern runs round the three sides of the shrine, and is followed by a strip of moulding, ovolo and band. In the tier above, quadrangular equidistant holes, with remains of wooden beams, seem to show a vanished portico, protecting the entrance against rain, for the sun never touches the façade. On each side of the entrance is a perforated window of peculiar style and ornamentation. Both jambs of the central door are minutely carved. At the base on either side is the figure of a nude female and two clownish-looking men. A sheepish grin of tongue-tied affection appears on the face of both, and both have their eyes bashfully lowered. One sits, and the other stands, with his hands folded across his chest. All three figures have abundant wavy and curly hair, quite unlike that of modern Burmans. In the involutions of the arabesques above the woman's figure sits a royal personage in full court dress. Then

follow griffins, peacocks, ducks, and many more representations of avatars of the Buddha, all in low relief.

Inside is a dark, vaulted hall, with two immense plain stone pillars on each side, supporting a groined ceiling. This hall measures 42 feet from east to west and 25 feet from north to south. In the centre of the south side is a colossal stone image of Buddha, 22 feet high, in the usual sitting posture. The right shoulder is uncovered, and the robe falls in graceful folds over the body and knees. The eyes are horizontal and half closed, the nose is straight and fairly large, the jowl square and heavy. It rests on a throne 9 feet high, constructed of well-hewn stone slabs, set up in a succession of bars, showing an outline of band, ovolo, and astragal moulding. Three sides of the interior wall, north, east, and west, have three equidistant rows of niches one above the other, and seven niches to each row. The stone sculptures which, no doubt, filled them lie ruined on the floor. They represent Gautama in the calm repose of *parinirvana*, with adoring monks above and laymen below, some praying, some dancing.

On the south side—that is to say, the back of the hall—are the passages to the caves which tunnel through the hill. They are dug out of a coarse-grained sandstone, and formerly went right through the hill, and opened on the southern slope. They are all now blocked up by landslips. The passages wind round in elliptic curves to the caverns, and are from 4 to 6 feet wide, and from 5 to 6 feet high, and the chambers along them measure about 6 feet every way. There are traces of paintings and inscriptions on the plastered walls of the hall, faint and defaced, but there are none in the caves—nothing, in fact, except votive clay tablets showing the Buddha seated under a trefoil-headed pagoda, with the Buddhist creed formula written in an ancient Pali character, somewhat like those of Asoka.

The terraces which rise on the western side, from the base of the gorge to the summit, are supposed to be really defences run up against the Chinese-Shan invasion, and to have nothing to do with the Kyaukku Temple. This temple, like the famous Mahāmunī Shrine on the Sirigutara Hill, near Payāgyi village in Arakan, is undoubtedly

a remnant of North-Indian Buddhism, which existed in Burma before the introduction of the Southern Buddhist school from Ceylon and Pegu. Buddhism as it now prevails in Burma is decidedly an offshoot of the Southern Buddhist school. In and round the Kyaukku Temple lived the Burmese monks of the old school—the Marammasamgha, after they had been excommunicated by the zealous Môn monk Chapada, who had returned from Ceylon, where he had obtained the Upasampadā ordination from the monks of the Mahā-vihāra. All historical mention of the Kyaukku Temple ceases with the death of the renowned monk Ariyadhamma, who inhabited the cave temple till the year 998 B.E., which is A.D. 1637.

The prison-palace of King Manuha, the last of the Thatôn kings, whom Anawrat'ā brought captive to Pagān in A.D. 1057, has many features in common with the curious first storey of the Kyaukku Temple, and was, no doubt, built at the same time, and by the same architects, as also was the *Pitakataik*, or library, set up to receive the five elephant loads of palm-leaf manuscripts which Anawrat'ā brought with Manuha from Thatôn. Manuha's palace is at Myinpagān, and is built of the same greenish sandstone as the Kyaukku Temple, but the stones cover only 10 inches of the exterior wall. The side facing the interior is of brick, but the four pillars supporting the roof of the central chamber, the throne-room, are stone, and have minute carving of the same character as that seen in the Kyaukku Temple. The palace has also perforated windows, with ornamental designs similar to those of the Kyaukku Onhmin. The architectural style of the *Pitakataik* differs in a good many respects, prompted by the use to which it was to be put, but there are the same sandstone windows, with like designs. The ornamentation of the later huge temples is more grandiose, but less delicate in detail, and the features of the Buddhas in particular are more *grosse tête*, with flat noses, short necks, and a heaviness in the features and figure generally.

Notable Pagodas.—The pagodas which ought to be seen in Burma, besides the Shwe Dagôn and the temples at Pagān, are the Shwe-hmaw-daw at Pegu; the various shrines at Ava, Sagaing, and Mandalay; the Kaung-

hmudaw, near Sagaing, once celebrated throughout all Indo-China for its sanctity, and still held in great reverence; the huge, incompleted mass of the Mingôn, with its enormous bell; and the Shwe-zet-taw, in Minbu district. The annual festival of the last is a good example of the country religious fair. So is that of Shwe-yin-hmyaw, in the Thazi subdivision of Meiktila, not very far from the railway. Farther afield, and especially interesting owing to the varied races of the visitors, are the pagoda festivals of Pindaya, with its caves crammed with images, and of Möng Küng, also in the Southern Shan States. Bawgyo, or Maw-hkeo, near Hsipaw, in the Northern Shan States, is very easily accessible by the railway, and has a great annual festival.

It is one of the blots on our administration that not enough money is devoted to archæological research. There are many secrets hid below the debris in Pagān-Tagaung, the ancient Hastinapura, the oldest Indian settlement in all Burma. If money were forthcoming for excavation, light would almost certainly be thrown upon many dark points in the earliest history of India and Burma, and upon a civilisation that appeared when new Pagān was founded, but then steadily declined. The few finds are merely tantalising. At Tagaung terra-cotta tablets, bearing Sanskrit legends in Gupta characters, have been rescued from tourists, who came from "west of the Mississippi" and thought the "bricks" would be cute things for a rockery. The oldest inscription yet found is that in Sanskrit on a large stone slab from Tagaung. It records in the Gupta alphabet of Samvat 108 (A.D. 416) the fact that Gopāla left his original home at Hastinapura, on the Ganges, and, after various successful wars with the Mlech-chas, founded New Hastinapura, on the Irrawaddy. Two red sandstone slabs now lying in the courtyard of the ancient Kuzeit Pagoda are the oldest in Pagān. The oldest is dated Gupta Samvat 163 (A.D. 481), and records the founding of a pagoda. The other is dated in Saka Samvat 532 (A.D. 610) and records, in the North-Indian alphabet, the presentation of an image by two sakya mendicants from Hastinapura. There are very many other tablets, ranging from the eleventh century onwards,

mostly in the Square Pali alphabet, and others of unknown date bear legends in Cambojan, Môn, Burmese, and Nāgari characters. They are of great value and interest, but insignificant compared with what excavation at Tagaung might reveal.

The palace at Mandalay is being repaired and conserved. It is absolutely modern, like everything in Mandalay, which dates from 1856, but it is of interest because it was built in scrupulous adherence to ancient models and traditions, both as to scale and as to the relative position and number of the buildings. The arrangement of the Public Audience Hall and the Private Audience Hall and of parts of the private apartments have resemblances with the Diwan-i-am and the Diwan-i-khas of the old Moghul palaces at Delhi and Agra, and further point to an Indian first home for the Burman race rather than a Mongolian.

Burman domestic architecture is of the most primitive kind, and no more permanent than the life of an insect whose existence spreads over the short compass of a summer's day. The houses all stand on piles, and consist of a few poles, walls of bamboo matting, a thatched roof and floors of thin planking, or, more commonly, of split bamboo. Houses of timber are growing commoner, but they are on the same general model. There are brick-built houses with tiled roofs, also of the same pattern, but the true Burman does not like them: they are usually a concession to an ambitious wife—*dux femina facti.*

ART

Sculpture, Wood Carving, Lacquer, Silver and Gold Work, Drawing, Painting, and Embroidery

It is not merely with gin that the European demoralises the primitive races. European art of a certain kind has a no less cankering and disastrous effect. The art which starts with the theory that everything must be symmetrical and orderly and geometrical seems to be purely European, but it is as infectious as cholera and as deadly as the plague. The chief feature of a design, according

to this scheme, must be invariably in the centre: a rose on one side must be balanced by a rose on the other and the posies on either rim must correspond. If there is a nymph posing on the left hand facing inwards, the nymph on the right dare not pirouette, and must face her back again. Of all artists the Japanese have shown us that this mechanical symmetry has no charm, and yet even the Japanese artists have fallen under the blight, and some people seem to love to have it so. Objects seem to be manufactured or musumis painted by the gross, and wherever things are turned out by the gross, art pines away and dies.

The Burmese craftsman of any kind was never the equal of the Japanese, but still, in wood carving and in silver-work, the forms of art which have most suffered from the Western taint, there was a directness of scheme, a facility of detail, a strength of conception, and a sort of bold dash, which resembled Japanese workmanship more than any other.

Sculpture.—Probably everywhere, and certainly in the East, all forms of art were in the beginning intimately associated with religion. Architecture, sculpture, painting, drawing, and probably also music, and even poetry, have all been at one time or another principally devoted to the honour of supernatural beings, imagined to have power over mankind for good or for evil. Almost all forms of Burmese art are still mainly devoted to the service of religion. It has been so in almost all Buddhist countries, where culture almost invariably settles round the monasteries. The result is cramping in a way, for the subjects are restricted and cramping, and the field never strays farther from the legendary and the traditional than is implied by individual boldness and freedom of design. It is genius inside a pill-box.

This is especially the case in Burmese sculpture, or rather, as in the vast majority of cases it is, in moulding. The Buddha of the conventional type enormously predominates as the chief subject, and other efforts go little beyond being accessories, such as the leogryphs which form propylæa to the temples, the dragons which coil up stairways, the ogres and *dewas* which stand on guard, and the

mythological or heraldic birds and beasts that keep them company. In the moulding and carving of elephants, however, no nation except the Siamese can compare with the Burmans. The modern type of the Buddha is not striking to the foreigner, and is chiefly remarkable for the mechanical skill with which placid contemplation is unfailingly produced. In the Pagān temples there is more variety, on account of the Indian influence. In Manuha's temple Trimurti reigns supreme—the inseparable unity of the three gods, Brahma, Siva, and Vishnu, in one person. Separate altars and images of Vishnu and Siva are also met with, not only in the temple of the Hindu masons, west of the Thatpinyu Pagoda, but also on the Buddhist Shwe Zigôn, Nagayôn, and the smaller temples of Chaukpalla. A knowledge of the occult art of old Indian cheiromancy would be necessary to interpret the curious signs engraved on the tips of the fingers and the palm of the Buddha's hand in the old Môn stone images. Brick statues, covered over with moulded plaster, and 100 feet in height, are often met with, but they can hardly be said to be triumphs of the sculptor's art. Some of the clay tablets exhibit very neatly impressed representations of the Buddha and interesting events in his life. The carved wooden images of Pagān kings in the Kyaukku Temple are of no particular interest. The pantheon of the thirty-seven *nats*, or spirits, of Burma is very interesting, but the images are extremely crude as works of art. Specimens of rich ornamental carving in stone, especially on the perforated stone windows, are very numerous. The Pataodawgyi Pagoda at Amarapura, one of the largest and most handsome of all modern pagodas in Upper Burma, rises in a series of five successive terraces to the slender pinnacle, and white marble panels with inscribed bas-reliefs are let into the three lower terraces. They illustrate partly humorous grotesque scenes and partly stories from the *Jātakās*, and are not without merit. The Sinbyuyin Pagoda at Sagaing is also worth seeing. It is surrounded by a high brick wall, from which elephants' heads, formed of masonry, protrude in such a manner as to give the wall the appearance of being supported on the backs of the animals. Practically a reproduction appears in the pagoda built by the con-

quering Burmese at Muong Nan, in the Siamese Shan States, and it may very well have been the work of the same modeller, possibly a soldier in the army, for it can hardly be said that such a thing as the profession of a sculptor exists.

All these show skill, but it has very narrow limitation, and, except in the figures of elephants, which are altogether admirable, whether in action or repose, it cannot be said that Burmese sculpture is a form of art which shows the undoubted skill of the race at its best.

Wood Carving.—In wood carving they show to greater advantage; in fact, it is probable that in this craft the Burmese art workers excel more than in any other. The designs are of the same type as in the stone-carved panels, or in the silver bowls and betel-boxes, but the relatively greater ease with which the design can be worked out, the larger surface, and even the grain of the teak wood, all combine to give scope to the characteristic Burmese talent in this direction. The same hereditary designs appear and reappear; they have the same religious or legendary character; in fact, these run through all Burmese art. There is the same figure carving of *nat-dewas*, celestial spirits, bilus, ogres, princes, and princesses, and clowns, and grotesque animals, with a wealth of ornamental scrolls. But there is a boldness and freedom of design which raise the work far above the toilsomely elaborated black wood carvings of Southern China or of Bombay. These have far greater finish; but teak wood has not a grain capable of permitting painful elaboration of detail and excessive ornamentation, and neither are the Burmese designs suited to mere fineness of workmanship.

Formerly this carved woodwork was only seen in the open air, on the gables, ridges, eaves, finials, and balustrades of monasteries, religious buildings, or royal palaces. Now the same designs appear on the cramped space of music-stands, easels, sideboards, screens, even on the arms and legs of chairs, and the result is not always pleasing. It is the European canker again, and the injury to the artistic sense is made greater by the manufacture of hundreds of articles of the same kind, till all pleasure in the work is gone, and there is only a sense of task work and mechanical labour.

In all the important pieces of national carving—the eaves-boards of monasteries, the gable ends of roofs with ornamental finials, the open cut-work at the entrances of monasteries, the fringes of royal thrones, or thrones of the Buddha—it will be noticed that the outer wings invariably point, in one piece or in wave-like sections, inward towards the centre, and thus form a characteristic feature of Burmese design. Around the eaves the skirting-boards are always cut in undulations, the broadest parts being at the corners and in the centre of the building. The sections are all complete in themselves, but blend into one another, and the finials rise in graduated flamboyant spires and horns of a character quite peculiar to Burma. The foliation which separates and surrounds the figures of ogre or saint, of tiger or peacock, is exceedingly graceful in design and very rich in effect. Some of the figures have the appearance of stiff old apostles in stained-glass windows, but the honeysuckle and tendril foliation has all the grace of nature, with all the fancy of the impressionist. The Burmese artist works from memory, not from models, and his arabesques, his anthemion moulding, astragal, and acanthus fretwork and tracery, have a corresponding freedom and co-ordination. Like most idealists, too, who record the feelings called forth by the memory of the graceful, he is equally strong in the grotesque and the beautiful. The Japanese artist is strongest in detail, the Burman in breadth of view.

Allied to the wood carving is the coloured glass and mirror mosaic, frequently found both inside and outside religious buildings. This, with the red paint, lacquer, and gilding, gives an appearance of barbaric splendour, which many people call tawdry. It reminds one of the Indian shīsh, or mirror-work, to be seen in the shīshmahals of Agra and Lahore, and is undoubtedly very effective if not looked at too closely. But it is not intended to be looked at closely; no Burmese art work is, any more than one would examine a croton leaf with a magnifying-glass, or a lotus frond with a microscope.

Ivory carved work of very great delicacy is produced in Moulmein. Entire elephant tusks are drilled and scooped out, and bored and perforated, until more

than half their substance is gone, and placid images contemplate the world from the centre of the tusk, or grinning ogres peep through the maze of foliation. The designs are of the same character as in the wood carving.

Lacquer.—The gold lacquer-work so characteristic of Japan, and so excellent, used to be made in Burma, but it has now all but entirely disappeared. Lacquer ware in colours is, however, a great industry in several parts of the country. The chief centre is at the village of West Nyaung-u, near Pagān, and in many of the villages round about. Much is also made in Prome and in Laihka, in the Southern Shan States. The system followed is entirely different from that of Japan, and is, in fact, peculiar to Burma. The framework of the articles manufactured is composed of thin slips of bamboo neatly and closely plaited together—all the plaiting being done by women. A mixture of cow dung and paddy husk is rubbed in to fill up the interstices, and a coat of thick black varnish, called *Thit-si* (wood oil), is put on. The article is then put out to dry and to let the varnish set. This takes about four days, even with a sun of a temperature of 140° F. or more. When the varnish is quite fixed an iron style is used to grave the lines, dots, and circles forming the pattern on the outer portion of the box. This is naturally the operation requiring most skill, and though the patterns are all traditional, and often handed down in families, and almost copyrighted, still the man who wields the style well always commands good pay. A coating of body colour is applied, and allowed to dry, and then the process is repeated according to the number of colours which it is intended to use. From a week to a fortnight often elapses between the application of the different layers of colour, for the varnish must set perfectly hard. After each coating the box or bowl, or whatever it may be, is turned on a primitive lathe to rub off the colour which may not be required in the pattern. After each coat of colour has been put on the article is also polished with husks, or a siliceous bamboo, or a pumice of sand and lac, and afterwards rubbed with cloths dipped in oil, and with the palm of the hand, to perfect the polish. Some of the

colours used are so delicate that the articles are placed in underground chambers for several weeks after the application, so that they may not fade before setting. All this lengthens the manufacture so much that often three or four months elapse before the different processes are finished. Practically only three colours are used—red, yellow, and green, in various shades—besides the black varnish of the groundwork. Chinese vermilion supplies the red, orpiment the yellow, and the green is produced by adding indigo to the orpiment. Varnish is always added to the colour, both to make it adhere, and because it sets and hardens more quickly in this form. The work is only a little less unhealthy than lead or mercury mining. The oil of the lacquer-tree has particularly penetrating qualities, and the workmen who rub on the different colours are usually short-lived and liable to disease. Their gums are always spongy and discoloured.

West Nyaung-u and Pagān are the headquarters of the industry, and the finest work, bowls, and betel-boxes with compartments, are produced there. Salè, a little farther down the river, is a colony from Pagān, and is more noted for boxes. The Laihka work is much less delicate, and the framework is often coarse, but the patterns are novel and very effective. The supreme test of excellence in a cup, or the cap of a betel-box, is when the sides can be bent in till they touch without cracking the varnish or breaking the wicker-work frame. Connoisseurs can discriminate between Nyaung-u, Salè, Shan, and the lacquer ware of other places by the character of the shadow thrown on the inside, which is varnished plain red or black, when the cup or box lid is held at an angle of 45°.

Silver and Gold Work.—Burmese silver-work is, after wood carving and lacquer ware, perhaps the most characteristic of the arts of the country. Formerly the articles made were chiefly bowls, and betel and lime boxes, with others a trifle larger to hold the betel vine leaf in which the chewing quid is wrapped. Of late years a great deal of silver-work is made for sale to Europeans, and tea-pots, milk jugs, tumblers, and a variety of boxes, spoons, and salvers, are made, all in the old traditional style, but suffering from the same faults which have affected the

other forms of art that attract the attention of foreigners. Many of the larger vessels have scenes from plays, religious or legendary, represented on them, as in the *appliqué* work of room curtains or tapestry-work, or in the more ambitious pieces of wood carving. The other smaller articles have, perhaps, more frequently animals and scroll tracery in lower or higher relief. The elephant is not often seen in wooden carving. His figure does not lend itself to flowing design, but he appears to advantage in metal-work. The most common design of all, however, especially on cups, is the twelve signs of the Zodiac, each embossed on its panel, and surrounded by the usual stippled ornamentations.

The cup, bowl, or box is first of all cast perfectly plain, and is then filled with melted lac to give firmness to support the relief-work, and at the same time to be ductile under the action of the chaser. The work is first of all outlined with a bronze punch, and when it is completed the lac is melted out and the silver annealed. Several successive annealings may be necessary if the relief is to be very high. Broad zones of *repoussé* work are relieved by fillets and beadings, and there is almost invariably a line of chased ornamentation running along the top and bottom to represent the leaves of the lotus, the sacred flower that the Buddhist loves. Bowls very often have representations at the bottom of the sepals of the water-lily bud. The finer chasing is done with quite simple graving tools. The silver worker's whole stock-in-trade is not very great. He has some anvils of bronze and iron, and some punches of the same materials, a few clay crucibles, and a bamboo blast, a blow-pipe, solder and flux, wire plate and beading plate, aquafortis and mercury, and a few hammers of different sizes. He never has any bullion in stock. That is invariably supplied by the customer, in the shape of rupees, which are melted down to the amount of the weight of the article to be made, a varying number of rupees being retained as an advance for the workmanship. Gold is alloyed with copper, though sometimes plain gold cups are of metal so pure that they bend with the weight of the water put in them. Silver is alloyed with copper or zinc.

Many Burmese women carry practically all the wealth in their possession on their persons, in the shape of plain gold bangles, ear-cylinders made of *repoussé* work and studded with precious stones, or frequently made of a simple coil of sheet gold rolled to the thickness of a finger. Red-coloured gold with a dull surface is particularly fancied, and the colouring is obtained by boiling the metal with tamarind seeds. The deeper red in the hollows of the ornamentation throws up the relief, and enhances the general effect. The characteristic necklace is the *dālizan*, a sort of apron-shaped filigree, with heads of peacocks and birds, and delicately worked pendants, all joined together with filigree and tiny chainwork. Other women's ornaments are jewelled combs, hair-pins, and rings, but these are often coarse and clumsy.

The Thayetmyo silver workers used to be especially good, and so, of course, are those of Mandalay, but they show signs of being spoilt by too steady work, of which no Burman is ever fond. The finest work of all is probably that of the Shan workers. Niello and cloisonné work is carried on here and there, but not to any great extent, and mostly always by Shans. Specimens may be had at Pyawbwè and Yamèthin.

Drawing and Painting.—In drawing and painting the Burmese do not excel. There is a most extraordinarily widespread skill in the drawing of flowers, scrollwork, and the common form of princes and ogres, griffins and heraldic beasts. Almost any boy or girl can draw them quite creditably; but they never go further, and the paintings are mostly lamentable. The colouring is of the crudest possible character, gold leaf is put on freely, and there is not the most elementary knowledge of the simplest principles of perspective. Nevertheless, in some matters of detail great skill and taste is shown, as in the representation of a silk waistcloth glimmering through a gauze coat, or the skin hinted at through the same medium. The favourite representation is the torments which will be inflicted on the wicked in the various hells. They are most realistic, and vigorously drawn, but the execution of details is very much wanting, and the technique is grotesque. Examples may be seen on the covered way

up the south approach to the Shwe Dagôn Pagoda from Rangoon town, and still more elaborately at the Arakan Temple, Mahāmunī, between Mandalay and Amarapura.

The *kalagā*, or tapestry, referred to above is characteristically Burmese, and exhibits all the faults and good points of their paintings. Some are embroidered elaborately in gold, with figures of peacocks, birds, and beasts, but the majority are mere *appliqué* work. Figures are cut out of coloured or black cloth, and sewn on to a groundwork of cloth or silk, or sometimes even chintz. These are adorned with spangles, and a scene is taken from some event in the life of Gautama, and the figures are arranged accordingly, usually from top to bottom in a zigzag, with dolls' houses, trees, and rocks scattered about to represent scenery. The chase or a general marching out to war are favourite themes. Every Burmese household has several of these, for they are used for screening off sleeping-rooms in public rest-houses, or even in private dwellings. They can hardly be called artistic, even those embroidered in gold, but some of them are highly effective and striking forms of barbaric decorations, like the mosaic-work in the monasteries and shrines.

Embroidery. — The Burmese have practically no embroidery of any kind, but many of the hill tribes have very interesting specimens of this kind of work. The dresses of the Kachin and Palaung women, the shoulder bags worn by the men, and the stitched sleeves of some of the remoter races, such as the Miaotzu, have admirable examples of embroidery, with very complicated stitching. The herring-bone stitch is of frequent occurrence, and there are others which could only be dealt with by the expert in such work, and puzzle the average English embroiderer. The Hkön and Lü do a great deal in this way, and the older work is very interesting and attractive. Unfortunately, the evil blight of aniline dyes has stretched far into the most uncivilised places, and the crude colours and meretricious general effect detract from the value of what was quite admirable when the people were content with their old national vegetable dyes of sober and subdued colouring.

Burmese Music and Musical Instruments

By P. A. Mariano

The Burmese are the most musical people in the East. Their music, although not reduced to a written system, is well established on a sound basis. The gamut, on the European system, is perfectly understood and practised. Their melodies are mainly composed of the five notes—namely, C, D, E, G, A. It may here be remarked that the melodies of all the Mongolian races are composed of the same five notes. But decided progress in the art has brought on the introduction of the 4th and 7th tones of the gamut. The Burmese do not affect semitones, so the chromatic scale is unknown amongst them. Their scales are founded on the natural notes, consisting of three major and two minor. The major scales begin at C, F, and G respectively, the minor scales at E and A. From what period they acquired and used the system is not known. The musical student immediately recognises a similarity with the Gregorian system used in the sixth century of the Christian era. Their system of harmony is strictly confined to the tonic and its fifth. The combination of the 3rd to the tonic, and 5th and 8th to form a major chord, never occurs in their system.

In this the Burmese system differs from the Indian, which uses only the tonic, invariably sounding monotonously throughout the piece, like the performance on the Scottish bagpipe. With no knowledge of thorough bass, and the entire absence of the 7th flat, they intuitively resolve into the 4th, or subdominant, when alternating into a different pitch from the tonic or keynote in the major. Although harmony is not practically used they have a fair knowledge of counterpoint, and they make pretty and simple variations on many of their songs. Strict time is observed, never in $\frac{3}{8}$ or $\frac{6}{8}$, which is the time generally observed in Indian music, but invariably in $\frac{2}{4}$ and $\frac{4}{4}$.

Music being universally associated with the drama, the Burmese plays are operatic in character. They have no drama pure and simple. Their songs are, therefore,

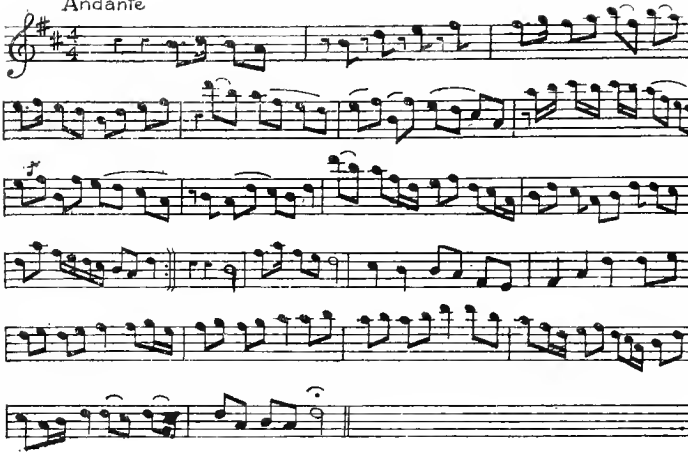
SAMPLES OF BURMESE MUSIC

WRITTEN BY

P. A. MARIANO

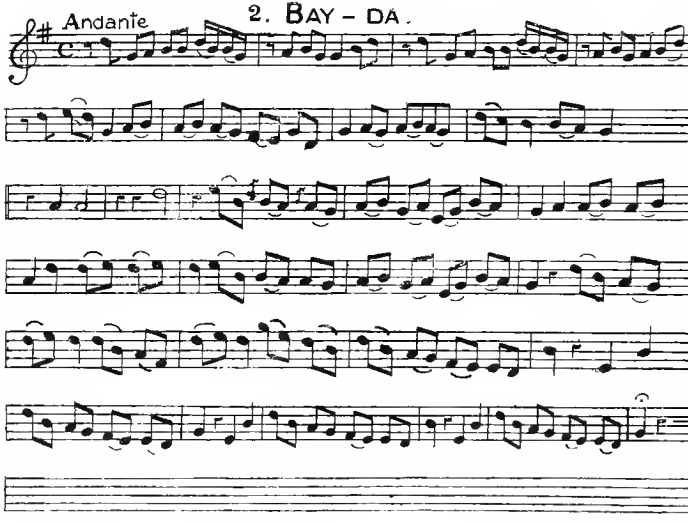
1. NGA-BOUK-KYU THAN

Andante



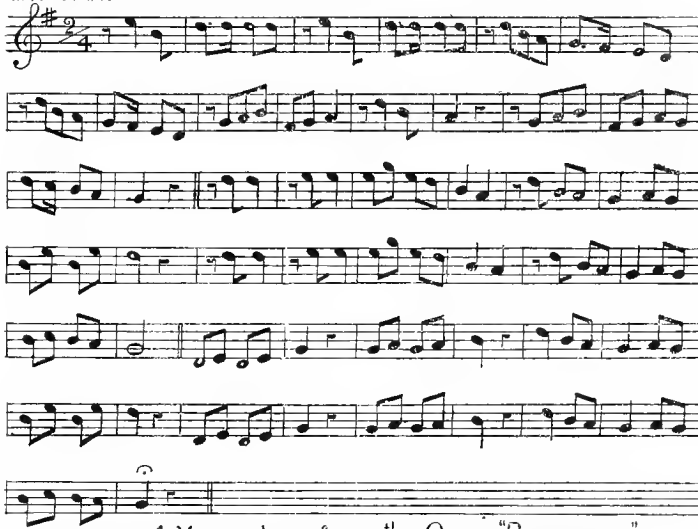
2. BAY - DA.

Andante



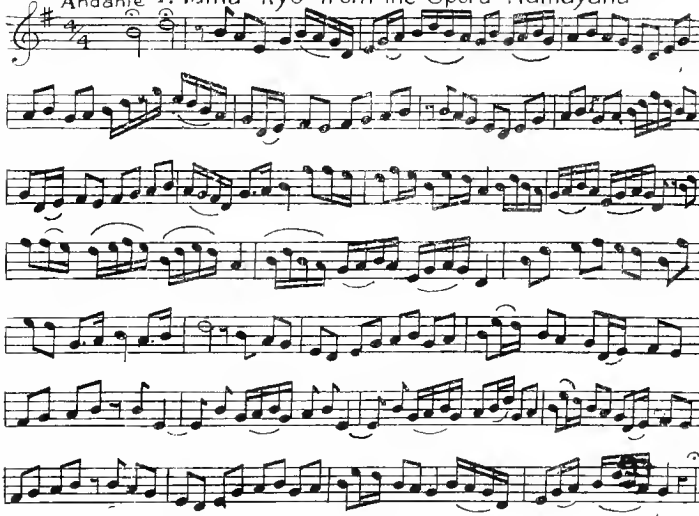
*3. Empress Victoria's Golden Jubilee Anthem.

In March time



4. Yama-kyo from the Opera "Ramayana"

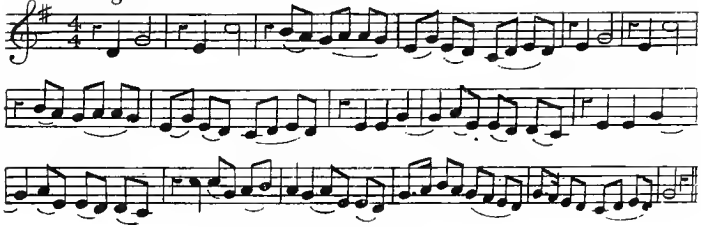
Andante



* This was sung during the Queen's Golden Jubilee Celebrations in 1887. It was also sung for many years on occasions of welcome to the Chief Commissioner on his tour to district towns.

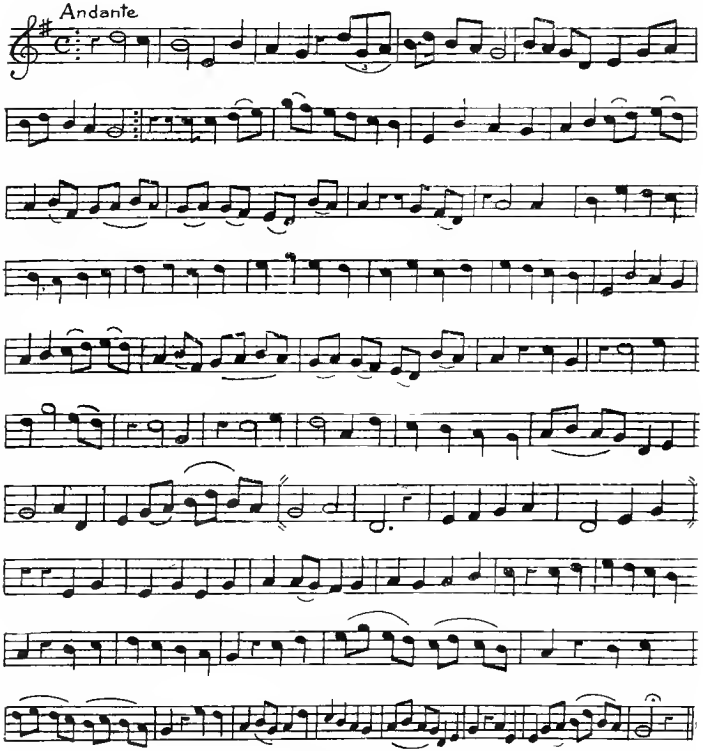
5. Koung - gin - Kyo

Allegretto



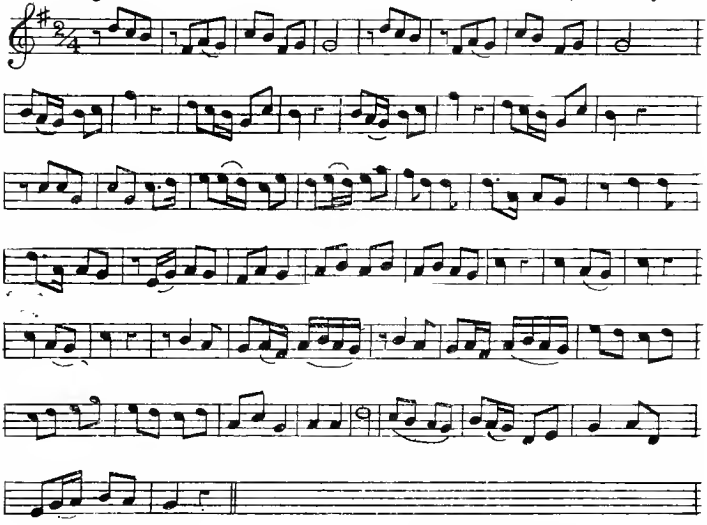
6. Toung-soboo-byne

Andante



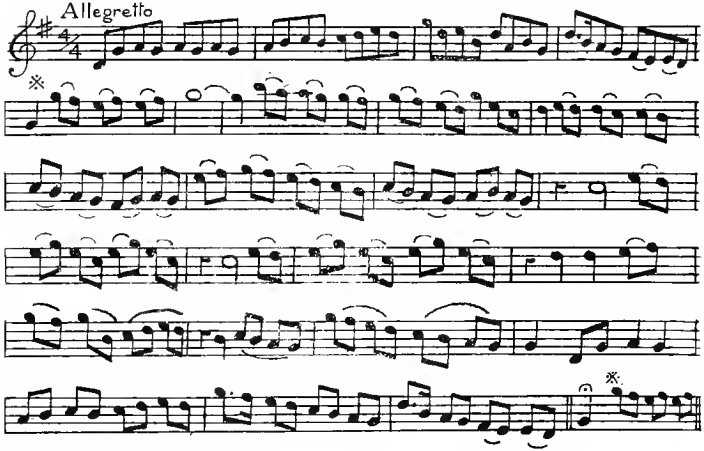
[8] Composed in honour of the foundation of Mandalay by King Mindon.

Allegretto **7. PAN-ZONE-KYINE-THIN.** From the Opera "Ramayana"



8. THE ROYAL BOAT SONG.

As sung by the Burmese King's Boatmen when rowing in State occasions.



9. Pan-myain-lé

Andante

10. Lullaby

Andante

11. KHAIN PAN-SŌN.

Andantino

12. MYA-SHU-GYA.

Andantino ※

※ D.C

13. We-than-da-ya Kyo

Andante

ral

Recitative Religious Chants.

1

2

3

generally composed for some opera. As the taste for the opera has varied with the progress of the age, the character of the songs keeps in harmony with it. Conservative customs, are, however, still observed at the opening and alternating scenes, the entrance and exit of the king. The music is then uniformly the same, particularly where royalty is represented. The playing of the orthodox tunes is superstitiously observed, for it is thought that deviation from this ancient custom would bring down the anger of the *nats* on the performers. These tunes are distinguished by their solemn and majestic style, and called Yodaya, literally meaning Siamese, but which now signifies that particular style. The music of the opera, however, differs little in character from that of the concert in funeral wakes. With the Burmese the recitativo introduction seems indispensable, even in their private parlour concerts. To the European guest invited to any such performances this preliminary is sometimes an intolerable bore. The preponderance of appoggiaturæ is a peculiar feature of their style, which renders it difficult for the unaccustomed European ear to eliminate the notes of the plain melody. While the ancient melodies, now more and more confined to the early morning performance of a funeral concert, retain their native beauty and simplicity, the present-day music of the Burmese is becoming affected by homogeneous surroundings, so that pieces sandwiched with catches from Chinese, Indian, and English airs are the furore of the up-to-date Burmese.

The only instrument which gives the name of tone or pitch is the clarion. There is no doubt this instrument is of very ancient pattern. The cylinder is made of a black, hard wood, in which seven finger-holes, and one thumb-hole at a little above the 7th hole, are bored. The sound is produced by a mouthpiece, made of palm leaves, tied securely to a metal tube fixed to the upper end of the cylinder. The lower is fitted with a loose metal bell, which hangs loosely by a red string. The keynote begins at the 4th hole, and is invariably in A, the standard pitch. The holes are bored at regulated distances to produce the tones of the gamut, thus: the 1st tone on the 4th hole, the 2nd on 5th, the 3rd on 6th, the 4th on 7th, 5th on

1st, 6th on 2nd, and 7th on 3rd. So the hole of a clarion is mentioned for its pitch or keynote. This is an indispensable instrument in their orchestra.

The next wind instrument is the flute, made usually of bamboo, with the same number of holes, bored in the same order, as the clarion. It is not blown on the horizontal position by a side hole. It is blown from one end, the sound being produced on the same principle as the organ pipe, corresponding with the European flageolet.

The standard pitch is preserved in another instrument, which is a unique one, and, although used singly in no recognised pitch, is tuned and arranged systematically. This is the *Kyi-waing*, a series of gongs cast out of bell metal arranged in a circular frame made of stout rattan. The gongs are tuned by applying beeswax to the rim of the hollow side. When the pitch is obtained it is tuned in the Diatonic scale, with a slight modification of the 4th and 7th tones. Both are tuned $\frac{5}{8}$ of a tone, so that the intervals between the 3rd and 4th and 7th and 8th are not semitones as in the European system. The usual number of gongs is twenty-two, but when they are tied to a triangular frame the number is less. The performer sits in the centre of the circular frame which is placed horizontally. But in the case of a triangular frame which is made to stand on its base he sits in front. The instrument is played with both hands by striking with padded, round hammers.

The instrument that requires the greatest skill and the most perfect ear is the *Saing-Waing*, composed of a series of cylindrical drums, numbering eighteen, hung with the heads upon a circular frame made of wood and rattan. The drum cylinders are hollowed out of trunks of some light but tough wood. The drums are tuned in unison with the *Kyi-waing*. They are not tuned by tightening the braces, but by the application of a paste made of a mixture of boiled rice and wood ashes to the consistency of putty to the centre of the top head. The tuning is effected by pressing the soft plaster to a round, flat surface. The player's attention is continually divided between playing his own part in the band and keeping his instrument in perfect tune: as the soft paste on the

A TROUPE OF PINDAYA DANCING GIRLS (*DANU*).

drum flattens out to his touch it gets out of tune. Indeed, the performance of a skilful player on the *Saing-Waing* is quite a feat. He must be a man possessed of no small amount of musical talent, with a technical and practical knowledge of tuning. The sound of the drum, usually associated with rattling, tapping, and booming, is in this arrangement transformed to that of a beautiful musical vibrating tone of a pianoforte, incomparable, however, in its volume and grandeur. From the sweet pianissimo of the parlour instrument, its swelling, thundering fortissimo could be heard two or three miles off. This musical instrument, without doubt, is the most unique in the world, and the Burmese are the only people that manufacture the drum and use it in the manner described.

The clarion, *Kyi-Waing*, and *Saing-Waing* are essentially melody instruments, to which are added the bass drum, two tenor drums, one pair large and one pair small cymbals, and two bamboo clappers, to compose a full band. The bass and the tenor drums are tuned with equal precision to the tonic and its domitant. The clarion may often be supplemented by one or two more flutes in a well-furnished band.

The next instrument of great importance is the harp. The ancient character is still preserved in the details of its construction. The shape is like the hull of a Burmese boat dug out of a solid piece. The bow is surmounted by a round, curved piece. The deck of the boat, formed by stretching a calfskin tightly over the sides, is the sounding-board. The strings, made of spun silk, are usually thirteen in number. They are tuned in 1, 2, 3, 5, 6, and 8 tones. The 4th and 7th, to form the gamut, are obtained by a manipulation of the thumb of the left hand. Proficiency on the harp is most highly esteemed by the Burmese, good players on it being only found amongst those who formed the retinue of the king. A master player on the harp is called *Einlha-dewa*, which means a celestial musician. Musical instruments are not, as a rule, played by women, but an exception is made in the case of the harp. The lady who could play a harp was sure to be selected as maid of honour to the queen in the days of Burmese royalty.

Another kind of harp corresponds in shape and principle to the Æolian harp. The body is made in the shape of a crocodile, after which it is named by the Burmese, Mig-yaung. It has three strings, tuned in fifths.

The violin of the Burmese is of the same pattern as that in vogue in Europe, and tuned in the same system, in fifths, but played quite differently. The instrument is held upright instead of horizontally. The Burmese do not hold this instrument in the same high estimation as Europeans do. Its use is confined to blind men.

The instruments described already are used generally by professional players. The most popular, and one usually kept in households for individual amusements, is the harmonicon. It is often made of iron or steel bars, but that made of bamboo is more esteemed. When manufactured of well-seasoned, hard, thick bamboo, the tone is very mellow and flute-like.

The instruments are variously combined for different occasions besides the orchestral band. For minor occasions the *Kyi-waing*, accompanied by one clarion, two tenor drums, small cymbals and clappers, usually make up a small band.

For accompanying a *Shin-laung*—that is, a youth who is assuming the yellow robe, and who is taken round the town—and upon any other occasions when young men are required to form a party, they usually get up a band of players and singers. The instruments used are a pair of long tenor drums tuned in tonic and its fifths, several clappers, a pair of large cymbals, and a couple of flutes and clarions.

It is to be noted that where drums are used they are always tuned, except in one peculiar combination for supplementing some grand procession and the feasting at Shin-laung *pwès*. This band is similar to the young men's one, excepting the drums, which are larger, but never tuned. They are beaten with crooked sticks, accompanied by a small drum, always beaten in contretemps to the pair of big ones.

The performers on all these instruments, when playing before the public, observe no particular ceremony, and they wear their ordinary everyday dress. They are also

of any age—grey-headed men and chubby youths alongside of one another.

A pair of the largest drums, each carried on the shoulders of two men, and played by an old man with solemn, stately ceremony, accompanied by large gongs and bass clarions, usually accompanies a procession of some religious guild, and this is, perhaps, the only occasion where age is considered quite necessary.

In contradistinction to this is a drum shaped like a huge wine glass. This, with the usual concomitants, is the band for a private party where nothing is intended but the keeping of a musical evening. In this case skill or chance determines how the band is formed, unless it is a hired *pnè* band from one of the stock performing companies.

PART V

RELIGION

Buddhism

Statisticians tell us that there are 500,000,000, or more, Buddhists in the world. It is a commonplace to say that every fourth man, woman, and child in the whole human race is a Buddhist. But the Buddhism of China is a mockery and a byword, and the monks are a shooting out of the lip.

Japan grew up under Buddhism. The religion is nominally widespread, but among the many good points of the Japanese devotionalism is not one, and as Buddhists they are a mere empty name. The Buddhism of Siam is very lax. Most of the Siamese monks would be unfrocked if they lived in a Burmese village. The Buddhism of Tibet is a wild travesty, with a hierarchy at one end, which is foreign to the teachings of the Buddha, and flat devil-worship at the other. There remain the Buddhists of Ceylon and the Jains of Northern India. As to the orthodoxy of the Cinghalese Buddhists, there is no question. All believers acknowledge it, and make pilgrimages to the shrines near Adam's Peak. It is open to dispute whether the Jains, be they the sky-clad ones or the white-robed ones, are much better than dissenters, but their Buddhism, so far as it goes, is practical. The Burmese, of course, greatly outnumber both Cinghalese and Jains, and may, therefore, claim to be the strongest body of professing Buddhists in the world. It may also be claimed by them, or for them, that they most nearly follow the teaching of the Buddha. And yet they are far from doing so unreservedly. But that is as much as to say that human nature is weak and easily led astray. The pre-

cepts of Buddhism are household words with high and low. No Burman is considered a human being till he has put on the yellow robe for a longer or shorter period. Before that he is an animal. The ideas and language of the whole race are pervaded by Buddhism. And yet their Buddhism is a mere layer; in some cases, in remote parts and among the subordinate races, such as the Shans, not much more than a mere veneer. But true and fervent Buddhism is the religion of the thinker; it is a system of philosophy, or a code of morality rather than a religion, and cold, hard thinking is not conspicuous in the insouciant Burman.

The Buddhist system of cosmography is borrowed from, and built out of, the Hindu. It need not be referred to here. The essential point is that the Law has always existed. There have been many Budhs, and the Law existed Kalpas and Maha Kalpas before the first Buddha appeared upon earth. In the present world, called Badda, already four Buddhas have taught the people. They come when the influence of evil grows strong, and preach the Law to mankind, to raise them through the practice of meritorious deeds on the upward path. The dispensation of the present Buddha Gautama is to last 5000 years, and we are now half way through the period. When it shall have passed away there will come another Buddha, Arimadéya, whose stature will exceed the highest mountains in the Southern Island. This is the Burman view.

The Buddha Gautama was born in 623 B.C., the son of Maya and Suddhôdana, of the solar race, and Rajà of Kapilavasthu, which lay north of the modern Benares. Suddhôdana was a Kshatriya and a warrior, and hated with a bitter hatred the Brahmanic caste, which had supplanted the Kshatriyas. He wished his son to do the same. Siddartha was married at the age of sixteen to the lovely Yasôdaya, and for thirteen years he lived the usual life of the palace and the harem. Then suddenly, after he had seen the four signs—a tottering dotard, a squalid leper, a corpse, and a meditating hermit—he abandoned the world, and, after remaining for forty-nine days in intense meditation, attained the Buddhahood

under the pipul-tree at Budhgaya in 588 B.C. It may here be noted that Buddha is not a name or a noun, but an adjective, meaning the learned or the wise. The proper use is, therefore, not Buddha, but the Buddha, and when Siddartha attained the Buddhahood he attained the supreme wisdom. Similarly Sakyamuni, a name often applied to Gautama, simply means the ascetic of the Sakya family. To speak of the Great Gawd Budd is as intelligent as to put Sir Cloudesley Shovel (in Westminster Abbey) in a Roman cuirass and sandals, with a full-bottomed wig on his head.

From Budhgaya for forty-five years the new Buddha wandered all over India preaching the Law. Gautama had inherited from his father a hatred of caste, and Buddhism is the Republican religion. Not merely the twice-born, nor the proud Kshatriya, the Sudra, the Mlech, or jungle-dweller—beasts, birds, and crawling things listened to his teachings, and gained the upward path. He died at the age of eighty—the ungenerous say of too plenteous a meal of pork.

It is said that Buddhism is an atheistical creed. That may be so, is so, since it does not admit the existence of a Supreme Being, but it is god-like in the way it invites all to tread the paths of virtue, to disentangle themselves from the influences which matter exercises over the senses, and to emerge from the whirlpool of existences into the state of final emancipation. There are thirty-one rungs in the ladder of existence. The four lower are occupied by those in hell, or suffering punishment in the form of monsters and animals. Mankind are on the fifth rung. The six above them are the stages of the *nats*, spirits who have acquired merit as human beings. On the sixteen rungs above the *nats* are those who by meditation have freed themselves from passion, and disentangled themselves from sensual influences. The four highest stages are occupied by those who can contemplate abstract truth without form or shape.

Five commands constitute the basis upon which stand all morals, and they are obligatory upon all mankind without exception. They are: kill not any life at all; steal not; commit not adultery; lie not; touch not in-

toxicating drink. To observe them brings no reward. To break them implies demerit, and a descent in the ladder of existence. To ascend it is necessary to do good deeds. Only by accumulated merit can a man ascend. Additional five precepts are: thou shalt not eat after midday; thou shalt not sing, dance, or play on any musical instrument; thou shalt not use cosmetics or colour the face; thou shalt not sit, stand, or sleep on platforms or elevated places; thou shalt not touch gold or silver. These are incumbent on all living in a monastery, and on all laymen on sacred or duty days. Monks, those who have formally put on the yellow robe, are bound by the Book of the Enfranchisement, the *Patimauk*, which contains 257 precepts.

But the fundamental principle is really that ignorance is the root of all human evil. With the presence of knowledge ignorance vanishes as darkness is dispelled by light. Meditation brings knowledge. If in some of the religious meditation passes too lightly into sleep, that is due to the illusions to which all beings are subjected—illusions which form a barrier that retain many for countless æons in the vortex of existences.

Gautama did not invent the doctrine of metempsychosis, or rather, as it is better called, of trans-incorporation. That came to him from the Hindus. The Egyptians had it at least as early as the Hindus. The philosophers of Magna Graecia got it from the Egyptians. It is probable that it began with the first religions—with the hunting tribes, who worshipped beasts; with the pastoral people, who deified plough cattle; with the agriculturists, who held feasts to Ceres and Demeter, to Liber and Bacchus, to Libera and Persephone. It is a juster and less terrifying form of determent to transgressors than the doctrine of eternal damnation.

There are no definite services in Buddhism, no preaching of sermons, no holding of religious meetings, no religious forms for marriages or burials. Each individual must work out his own salvation, and no one else can help him, except by example, and it is technically only as a reminder of the great example that presentments of the Buddha are set up in shrines and elsewhere. They are

not idols; they are not worshipped in theory, though in practice there is no form omitted which would separate the reciting of doxologies from the offering up of prayers to stocks and stones; or the placing of wreaths and lighted candles from the making of offerings; or the prostrations and genuflecitons from direct adoration of the image instead of the model or the memory. But human flesh is weak. Hope in the efficacy of prayer is easier than belief in the virtue of meditation. Trust in assistance from outside is more comforting than reliance on stern self-scrutiny. Moreover, some conscientious monks do read homilies and deliver sermons, and those that like such functions go to hear them.

Technically there is no hierarchy in the order. There is the broad distinction between the laymen, who adopt and believe in the religious tenets, and the religious, who abandon the world entirely, and strive only to lead the higher life. But orderliness is necessary, and out of this has risen a sort of hierarchy. It is nothing like the system of Tibet, where there is a pontifical court, an elective sacerdotal chief, and a college of superior lamas. But this is not sanctioned by primitive Buddhism; and further, the religion of Tibet is no more like Buddhism than the ritual of the Catholic Apostolic Church is like that of the primitive Christian Church.

Theoretically there are only three classes in the Sacred Assembly—(*a*) the *Shin*, or novice, who has put on the yellow robe without becoming a professed member of the order, and probably with no other desire than that of obtaining his humanity: these are called *Koyin*, *Maungshin*, and a variety of other names; (*b*) the *Upasin*, those who, after a prescribed time in the monastery, have been formally admitted to the order, according to a form of ordination whereby the title of *Yahan* is solemnly conferred: these are the *Pyit-shin*, or religious; finally, there is (*c*) the *Pôngyi*, the "Great Glory," who by virtue of prolonged stay—ten years is the minimum—has proved his steadfastness and determination.

This division is not far removed from that which was the rule in the time of the Buddha himself. Then all people were regarded as either *Dāyaka* or *Upathaka*—that

is to say, *Dāyaka* laymen, who hear the preaching of the Law, but are not yet won over to a firm acceptance of it; or *Upathaka*, not merely hearers of the law, but steadfast believers and practisers of its precepts. In these days the term *Dāyaka* is applied to all mankind, for it is open to all to seek for refuge in the Law of Good.

In actual practice, however, there is a slightly extended distinction of rank. The definitely recognised grades are: (1) the *Shin*, or postulant; (2) the *Pyit-shin*, the religious, the full member of the order; (3) the Sayā, always a *Pôngyi*—that is, of not less than ten years' seniority—the head of each *Kyaung*, or religious house, who controls all the inmates; (4) the *Gaing-ōk*, the provincial, whose jurisdiction extends not merely over his own *Kyaung*, but over the monasteries of a town, or cluster of villages, or over a whole district, giving advice in all the affairs of these communities, enforcing the rules against malcontents, and correcting abuses; (5) the *Sadaw*, in the times of native rule created by the king, now named so by common acclamation, or by the consensus of his fellow-religious, as a sort of vicar-general, finally, there is the *Thathanabaing*, who may be called the grand superior of the order. This title seems more appropriate than that of archbishop, the one in common use—just as monk is a better rendering of *Pôngyi* than priest. The *Thathanabaing* was technically invested with supreme authority in all matters of dogma, as well as of ecclesiastical polity. He was assisted by a council, or *Thudama*, of learned *Sadaws*, who varied in number from eight to twelve, and who assumed the full power of the superior of the order in his absence, or when the post was vacant. In the time of an energetic king, like Mindôn, the power of the grand superior was not very much exercised; but the people, undoubtedly, attached great importance to his opinion, and always questions involving differences amongst the monks were referred for the decision of the *Thathanabaing*. The holder of the office at the time of the annexation of Upper Burma in 1886 was treated with great consideration by the British Government, and rendered not unimportant services by his exhortations to the Order of the Yellow Robe to maintain a passive attitude, and particularly by

forbidding the individual monks to use their religious influence to stir up the people against the British. This was all the more valuable, because King Thibaw had declared that the object of the invaders was to destroy the religion of the country. This grand superior died in Mandalay in January 1895, and for nearly ten years there was no successor appointed. In the days of independent Burma it was the custom of the king to appoint as *Thathanabaing* the monk who had been his own personal teacher, in supersession of any one who might for the moment be incumbent, and the appointment had always been the prerogative of the ruler. When, therefore, the monks were called upon to select a successor to the post they were unable to suit themselves to the new idea, and since the *Sadaw* chosen was not unanimously elected the post remained vacant. In 1904, however, a *Thathanabaing* was appointed, and was formally recognised in durbar by the Lieutenant-Governor, and it seems probable that there will now be a regular succession, appointed and confirmed in the same way.

We have seen that the whole male population of Burma must enter the monastery in order to acquire humanity, to become human beings at all. It is the one disability of the Burmese woman that she cannot thus acquire humanity. In other respects she has many rights that her European sisters are even now clamouring for, but to get a formal start in the upward path she must be reborn as a man. The great majority of Burmans leave the monastery after a very short stay; but there is a never-failing supply of those who like the monastic ways, or feel a calling, and so stay to study and qualify themselves for membership of the order. Admission as bedesmen does not give them any new spiritual power, and it does not make them in any sense directly teachers of the people. In a religious system which acknowledges no Supreme Deity it is impossible for any one to intercede with a Creator, whose existence is denied, on behalf of a man who can only attain to a higher state by his own pious life and earnest self-denial. The doors of the monastery are always open, not merely to those who wish to enter, but to those also who wish to leave it. The longest stayer has the greatest

honour. A visitor mendicant who has passed the greater number of Lents (*wa*) in the order will receive the salutations of the head of the monastery, even though he be a local abbot and the stranger no more than a wandering friar. It is this republican tendency of Buddhism which gives it so great a hold on the people. Rank does not confer upon the mendicant greater honour, nor does it release him from any of his obligations. The most learned and famous *Sadaw* must go forth every morning to beg his daily food. If he is very aged, and broken with ailments, he may be excused from the daily round, but every now and again he must totter forth to preserve the letter of the law and to show a proper example of humility. His dress is the same as that of the most recently admitted novice, and he holds honour, not because he controls the affairs of the assembly, but because he is so close to the attaining of Neikban, the Burmese form of Nirvana. The idea extends beyond the order into ordinary life. There is no difference between man and man but that which is established by superiority in virtue, for the poor man may become a king of nats in his next existence, and Dives may frizzle in the awful pain of hell. The mendicant has the more assured future, but he receives no spiritual powers whatever on his ordination. He simply becomes a member of a holy society that he, for himself and for his own salvation, may observe the laws of the Master more perfectly. He has no obligation to bestir himself on behalf of his fellow-monks or the laity. He affords opportunities to the laymen indeed, for the latter may gain easy merit for himself by pressing alms upon the bedesmen, but that can hardly be said to be an active work of merit in the wearer of the robe.

It is the teaching of the youths of the country that is the chief credit of the *Pôngyi*, and it is this that binds the people to the support of the monastic system. In the coast towns, and in some divisional headquarters, English rule has disturbed old customs a good deal, but even there a vast majority of the boys, when they reach the age of eight or nine, go to the monastic school. In the smaller towns and villages all go as a matter of course. Teaching at the monastery is open to all alike—to the son

of the foredoomed hunter, who takes life and has a grisly future before him, and to the son of the Government official, or the wealthy paddy broker, who has bought a happy future trans-incorporation by building a pagoda. The father's position, possessions, character in no way influence the son. No one is handicapped, and all start from the same mark, for there are no school fees, and it is not carefully considered who it is that fills the monkish begging-bowls in the morning's round. Thus it is that every Buddhist boy is taught to read and write, and in this respect at least there are exceedingly few illiterate Burmans, and not many Shans who are not literate.

The schoolboys are quite distinct from the *Koyins*, the novices who have put on the yellow robe. Most of them are day scholars, and stay with their parents; but some of the younger may become boarders, and live in the monastic enclosure. But they all wear their ordinary clothes and retain their secular name. As soon as a boy enters the school he is set down in the big schoolroom beside all the other boys, and is given a roughly made black slate, fashioned of wood. On this the monk teacher has written a few of the letters, perhaps the whole of the alphabet, and these the pupils alternately copy laboriously with soap-stone pencils and memorise by shouting out the sounds at the top of their voices. The noise of a monastery school suggests to the stranger that the place is in turbulent revolt, or that an ill-assorted county council is holding a meeting; but variegated noises disturb no one in the East, except Europeans, and a cessation of the noise warns the teacher monk that mischief is going on or that the boys are going to sleep. Elementary arithmetic, up to nine times nine, is also taught, and beyond this all the exercises are religious. The boys learn the formulæ to be told over on the beads, the doxologies to be repeated at the pagoda, the lauds of the Lord Buddha to be repeated at any time, but particularly before going to sleep, for, though it is not generally known, night and morning prayers are much more common with Burmans than they are with many professing Christians. Perhaps the commonest form of morning prayer runs somewhat as follows:—"How great a favour has the Lord Buddha bestowed upon me in manifesting to me his Law,

through the observance of which I may escape hell and secure my salvation."

Beyond these the five universal commandments and the five subsidiary rules are taught. These are, of course, in the vernacular. The doxologies and lauds are in Pali; and there are many hundreds who can repeat these with the utmost glibness and yet could not give the meaning of particular words. They may have known once. But though they may forget the details they never forget the sonorous Pali versicles. These sink deep into the memory, and mark the whole future life.

The teaching of them is worth seeing. The yellow-robed monk sits cross-legged on the dais. In front of him the little boys crouch down, sitting with their feet doubled under them on the hard monastic boards, spaced out at as wide intervals as there may be room for. The monk repeats the lesson in the strikingly intoned recitative common to these exercises, and the little boys follow him, word for word, in as near an approach to the same key as their shrill trebles will permit. This goes on day after day until all are word perfect. Besides these all are instructed in the *Thinkiya*, the rules which prepare them for assuming the yellow robe, when they are old enough for it, and guide them during their longer or shorter withdrawal from the temptations of the world to the calm tranquillity of the monastery, where the chief rules are humility, temperance, and meditation on the transitoriness, the misery, and the unreality of the world, from which relief is to be found in the triple consolation: Trust in the Lord, the Law, and the Assembly of the Religious.

Some go on and study for admission to the order, but the vast majority learn no more than this. Nevertheless, the whole routine, the whole atmosphere of the monastery has an enduring power in moulding the character of the Burman. Even the day scholars, and those who put on the yellow robe for a paltry seven days, feel the influence to the end of their lives.

The monasteries usually monopolise, with the pagodas, the best sites in the country. They are always built in the outskirts of towns or to one side of the village. Where they have become surrounded by houses it is because the

town has grown round them. Every *Kyaung* has a spacious enclosure flanked with shady and flowering trees, and if there is not a pagoda inside the *parawun*, as the enclosure is called, there is certain to be one not far off. Spaced about also are tall flagstaffs with, near the top, a representation of the *hentha*, the sacred Brahminical duck, and streaming from them long serpentine *tagôn*, made of light rings of bamboo, covered with calico or paper. These are usually called prayer flags, and sway with every breath of wind.

Life in the monastery is the ideal of repose and orderliness and, some might think, monotony. The whole community is wakened in the early morning by the beating of the *kaladet*, a wooden bell, hollowed out of a block, big, oblong, and trough-like, with little holes chiselled on the sides. The noise is far from melodious, but is admirably calculated to wake people up. The proper hour is "when there is light enough to see the veins in the hand"—that is to say, just before broad daylight. There is little variation in sunrise and sunset in Burma, and this is usually about half-past five in the morning.

After the mouth has been rinsed out, the hands and face washed, the dress, in which they have slept all night, arranged, and the morning prayer said, the whole community arranges itself before the image of the Buddha. The *Kyaung Pôu-go*, the superior of the monastery, is at the head, and the rest of the community—*Pyit-shins*, novices and scholars—take their place, according to their seniority in religion, and all together intone the morning service. Then severally, according to their rank, they prostrate themselves before the superior, and pledge themselves to observe during the day the vows and precepts incumbent upon them. They then separate for a short time. The pupils sweep the monastery floor; others filter the water for the day's use; the novices sweep round the sacred trees, and water them if necessary; those of full rank gather flowers, and offer them at the pagoda; and the seniors betake themselves to meditation. There is then a slight refection, and the pupils and novices repeat old lessons and begin new ones.

Then comes the most conspicuous duty of the day.

With the superior at their head, the whole brotherhood sets forth in Indian file to beg the daily food. The manner of walking is prescribed. They must walk down the middle of the street, through all the village or quarter of the town, slowly, with measured steps, looking neither to right nor to left, their hands clasped under the begging-bowl, and their eyes fixed on the ground 6 feet in front of them. No halt is made, except when some one comes out to pour an offering of rice or vegetables or fruit into the alms-bowl. No word or look rewards the most generous giver. No thanks are needed, for it is the religious who confer the favour. The charitable gain merit according to their giving, and if the monks did not come an opportunity of gaining merit towards a future existence would be lost. The begging round usually lasts for an hour or an hour and a half. Some of the more austere return after enough has been put into their *thabeik* to sustain life. Others go on so as to give the greatest possible opportunities of gaining merit to those plodding along the upward path. If their begging-bowls are filled too soon they empty them carefully at the side of the road. No merit is lost to the giver in this way. Their charity has been proved, and the dogs and birds of the air, who may be the human beings of future centuries, eat the offering.

When the procession returns to the monastery a portion of all that has been received is ceremonially offered to the Buddha. Then all proceed to breakfast. Under strict superiors, and according to the actual ritual law, this should consist of nothing that has not been collected during the morning, but the number of such ascetic communities seems to becoming steadily fewer. In the great majority of religious houses, at any rate in Lower Burma, a lay servant, called the *kappiyadayaka*, a sort of manciple, prepares a hot breakfast while the religious are on their begging perambulation.

After breakfast the begging-bowls are washed out, a few lauds are intoned before the image of the Buddha, and there is then a sort of recess for an hour. The superior receives lay visitors; the religious indulge in meditation, which is the most meritorious of actions,

but is apt to merge into sleep; or they talk about religion and good works, which sometimes has a tendency to approach the sordid. At half-past eleven there is another meal, usually a light refection of fruit, and this is the last meal of the day eaten by the members of the order. The bedesmen are expressly forbidden to eat after noon. Solid food taken after the shadows slope to the east endangers purity. The novices also must obey the rule, but the little schoolboys are allowed to go outside, to their parents' houses or elsewhere, to have an evening meal.

After this noontide meal all return to work again. The schoolboys set themselves to their lessons; the novices study books of ritual, and commit many of them to memory. Some of the more zealous monks pore over old texts or commentaries, or go to superintend the professional scribes who copy out manuscripts. Others devote themselves purely to meditation, which is the only path to the higher seats where a man becomes a *Yahanda*, fit for Nirvana. So the afternoon passes in the *Kyaung*: some of the brethren asleep, some racking their brains with mystic musings, some studying, some teaching; while throughout all sounds the din of the schoolroom, where the pupils are shouting out their tasks at the top of their voices.

This goes on till three or four o'clock, when the day scholars go home, and such of the boarders as have relations near go to their houses, and have dinner. The religious frequently go for a dignified promenade in the village or for a ceremonious walk to the pagoda; but all must be back in the monastery by sunset, when the wooden clangour of the *kaladet* summons them back again. No one wearing the yellow robe may remain outside the monastic limits after the sun has gone down—that is to say, after six o'clock practically all the year round in Burma. Shortly afterwards the scholars are marshalled before the superior or one of the elder *Pôngyis*, and recite steadily all they have learned, from the bare alphabet up to the last book they have committed to memory. This is rattled out at a great pace, parrot fashion, in a high recitative; but though it may sound very un-

GROUP OF MONKS (DANU).

In front of a Thein, the Seven-roofed Ordination Building.

intelligent it is very rare to find a Burman who has forgotten the lessons he learned in the *Kyaung*, long or short, Burmese or Pali, understood or merely memorised, obvious or mystical.

The evening closes with devotions before the image of the Buddha. All in the monastery assemble, as they did in the morning, according to their seniority; and it is to be noted that the last inducted novice, who has not done growing, ranks before the lay manciple, who is probably grey with years. All together they intone the vesper lauds, and the effect where there are some monks with good voices is precisely that of Gregorian measures. When the last sounds of the solemn chant have died away in the dimly lighted chamber one of the novices, or a clever scholar, stands erect, and in a loud voice proclaims the hour, the day of the week, the day of the month, and the number of the year. Then they *shikho*—prostrate themselves—before the image of the Buddha three times, and three times before the head of the monastery, and then all retire to rest. None who have experienced the impressiveness of this ceremonial, called the *Thathana-hlyauk*, will ever forget the powerful effect it has on the feelings. It is the fit ending of a day full of great possibilities for all. The same routine, gone through day after day, must become monotonous even to the most devout, and must lose some of its power for good; yet the effect of such a school, presided over by an abbot of intelligence and real earnestness, must have a deep influence on all connected with it, and especially so in the case of an impulsive, impressionable people like the Burmese. So long as all the men of the country pass through the *Kyaungs*, the teachings of Western missionaries can have little power to shake the power of Buddhism over the people. The moral truths of both religions, Christianity and Buddhism, are practically the same, and who can give proof of aught else without calling in the aid of faith?

The Buddha Gautama instituted a female order of *Rahan*, with 500 maidens of high birth as members, presided over by his foster-mother and his aunt. A reminiscence of these is seen in Burma in the *Mèthilayin*,

who are usually called nuns, but are really no more than lay sisters. They wear toga-like garments of coarse, unbleached cotton or pale brown, and are as conspicuous as a nursing sister or a sister of mercy, but except for their piety, shown by the fact that there is no moment when they do not seem to be telling their beads, they have little resemblance to nuns proper. They have never separate convents of their own, do not beg for or receive alms, have none of the veneration paid to them that is accorded to the monks, and do not even seem to be greatly esteemed. If they were educated, and taught the girls of the country, their position would probably be very different, but they appear to be rather conspicuously illiterate. The general opinion among their countrymen is that they are old and disappointed. There certainly are no young *Mèthilayin* to be seen.

The census of 1891 showed that there were 15,371 monasteries throughout Burma. This implied that there were more than 2 for each village and town, and averaged 1 monastery for every 93 houses. The monks and probationers numbered 46,278, and there were 45,369 acolytes. This total of over 91,000 inmates of monasteries represented $2\frac{1}{2}$ per cent. of the total male Buddhist population of Burma. It is impossible to compare these figures with those of the census of 1901, because the area included then was very much larger, the actual number of religious houses is not recorded, details were probably wanting from many of the hill states, and the monastic scholars were not counted separately. In 1901 the total of "religious mendicants, inmates of monasteries, convents, etc.," actual male workers in religion, was 75,375, which seems to indicate that the proportion of monks to the population remains the same. There are far more ordained monks in Lower than in Upper Burma, but the number of probationers is much larger in the Upper province. This may be accounted for by the fact that the Lower Burma population is much the larger, while the learning and the libraries of Mandalay monasteries are far more extensive than are to be found in any one place in Lower Burma.

In the time of native rule the *Pôngyis* had very con-

siderable influence with the Government. It was an axiom that no monk could utter a falsehood, and his word was therefore, universally respected and accepted as true. He had access to the king and to the ministers at all times, and those of the highest grade received specially stamped palm leaves to enable them to correspond with the court. The monks could, and did, exercise their influence in various ways. Sometimes a person ordered out for execution obtained his life and a pardon on their intercession; they were occasionally the only check on the tyranny and extortion of powerful officials; they obtained remission of taxes for the people in times of scarcity and disaster, or temporary relief when there was a local failure of crops; very often it was only through the monks that men imprisoned for offences, which no one remembered, for a term which never had been fixed, could obtain relief. Thus, under the Burmese Government, the *Pôngyi*, who theoretically had nothing to do with politics or things of this world, was really a political power, the only permanent outside power in a system where office was liable to be as transient and evanescent as the hues of the rainbow or the tints of the dying dolphin. The monastery also was a sanctuary, and offered a safe asylum to all offenders against law and justice, provided they assumed the yellow robe.

Under British rule much of this power has disappeared. The monks will hardly be found now to report on the conduct of officials, criticise their methods of government, apply to have them removed, or transferred, if necessary, and offer suggestions for the amelioration of the condition of the people. It may be hoped that under British rule there is no necessity for such intervention. The monks no longer hold the balance between the rulers and the ruled. But they are still a very great social power, especially in the rural districts, which is as much as to say, with the vast majority of the Burmese. The monastery is still a place where valuable property may be deposited in time of need. The monk still is the guardian of religion, the depositary of learning, the instructor of the young, the spiritual adviser of the elderly and the aged.

His opinions, even in secular matters, are always accepted with respect, and sometimes much sought for; he is still the self-constituted protector of his flock; and he is still cited as the best possible witness in all important transactions, such as the signing of documents, the transference of lands, and the closing of mortgages. In civil cases, especially those of inheritance, since Buddhist wills are not acknowledged by British law, the *Pôngyi's* settlement is that most frequently sought for, and the terms are usually reduced to writing by him in a memorandum noting the heads of the settlement and signed by the parties.

They no longer have the privilege of being amenable to the jurisdiction of the ecclesiastical courts only, in all matters, even those in which laymen are parties to the case, but wherever possible the British Government respects their position. Even the Burmese Government reserved to itself the right of punishing any offence which affected its own stability or was contrary to the public good. Thus beyond the four *parazika*, or cardinal sins, the commission of which implies immediate expulsion from the order—fornication, theft of property worth five rupees or more, murder, and false arrogation of supernatural powers — the following offences brought about the immediate intervention of the civil authorities:—(1) taking part in the conspiracy of some prince or rebel; (2) harbouring bad characters; (3) admission to the monastery, as novice or monk, of men who have evaded punishment, unless this were with the sanction of their guardians or of the secular authorities; (4) the practice of alchemy, sorcery, astrology, medicine, tattooing, and the distribution of love charms and talismans against wounds of whatever kind. Monks charged with an offence against the State were first tried by the *Thudama Sadaws*, a sort of Consistory Court, and were then unfrocked, and handed over to the civil authorities, if found guilty. The civil authorities then tried them according to the ordinary law.

The *Pôngyi*, or head of the monastery, is still either appointed by the founder or is appointed by the resident monks. In remote places, when the *Pôngyi* dies, any monk

of full standing may take possession without consulting any one. The *Kyaung* is looked upon as a sort of deodand, devoted to the assembly for pious uses, and so falls to the owner of the land or any one prepared to carry out the founder's intention.

The rules binding upon monks with regard to the fair sex are most strict and uncompromising. They may not take anything from a woman's hand; they may not travel in the same cart or boat with her; they must not even remain temporarily under the same roof with a woman, unless in the company of other members of the monastery; they may not so much as look upon the face of a woman. When portions of the Law are read in the monastery or the rest-house on Duty days—every seventh day during the month—the monks must hold their large fans before their eyes, to guard against unwitting sin; and the same must be done when they walk abroad, lest haply they should see a female face. The Book of the Law says that, even if a *Pôngyi's* mother should fall in the ditch, he must not give her his hand to pull her out. He may hold out a stick or let her seize the hem of his robe—and even then he must figure to himself that he is pulling at a log of wood.

Burma, like Ceylon and Siam, follows the Southern School of Buddhism. The Northern School, which adopts Sanskrit for its written character, while the Southern employs Pali, is professed in Tibet, Bhutan, Nipal, Mongolia, China, Japan, and Korea. Northern Buddhism acknowledges the existence of a Supreme Being, the Creator of the Universe, whom they call Adhibuddha. Southern Buddhism recognises only the Buddha as the highest type of humanity, and believes that man attains salvation by his own efforts only, and without the aid of any Supreme Being. It seems clearly established that the Northern form of Buddhism was the first to reach Burma, and came down the valley of the Irrawaddy as far as Prome. The Buddhism of India was destroyed by the arrival of the Mussulmans, and the Buddhism of Burma was corrupted by the pressure of animistic worshippers from China and Central Asia. Meanwhile the Southern School had established itself under Buddhagosha near

Thatôn, in Lower Burma, whence it spread northward. Under Anawrat'ā it was established in Pagān, and soon superseded or absorbed, or displaced, the corrupt faith which prevailed there.

But it was only the depravity of the Aris that was immediately suppressed. For long there were wrangling sects. On the desolate, high plateau ot the Kyaukku Temple at Pagān lived the Burmese religious of the old school, called the Maramma-samgha. They seem to have moved there after they had been excommunicated by the zealous Môn superior, Chapada, who had returned from Ceylon, whither many of the Pagān religious habitually went for study, as zealous monks now go to Mandalay. Chapada had received the *Upasampadā* ordination from the monks of the Mahāvihāra in Ceylon, and he disputed the lordship of the Marammas over the church. Their ordination, he maintained, had not been performed in accordance with the precepts of the *Vinaya*, and was not valid. Chapada and his followers claimed to be alone the successors of Sona and Uttara, the fabled introducers of Buddhism in the south. They alone were orthodox, and they refused to hold communion with the Maramma-samgha, so they withdrew in the year 1182, and formed a sect and settlement of their own, 2¼ miles away to the south, where the Hngetpyittaung *Kyaung* raises its slender spires. There they lived in the caves, cut out of the soft sandstone rock, which still exist. This was pre-eminently the Cinghalese quarter. and the sect was called the Sthalasamgha. There was still another settlement, that of the Purima Bhikku-samgha, or the Môn fraternities, who also differed from Chapada, inasmuch as they claimed the ordination service performed by them to be as valid as the Cinghalese, since, so they maintained, they had an unbroken descent from the original apostles Sona and Uttara, who were sent by King Asoka. The ultrapurist Chapada, on the contrary, maintained that their ordinations were invalid, since the *Parampārā*, or hereditary succession of monks, from the time of the two apostles had been often interrupted. This interruption was undisputed, and Chapada's contention was that such a break in the succession de-

manded a new ordination from a religious community which had an unbroken parampārā. This he maintained that the monks of the Mahāvihāra in Ceylon alone could claim. The contention, like all disputes of religion and dogma, was very embittered, and many treatises on the subject were composed. There were, however, many other abstract studies published. The quiet and retired neighbourhood was eminently suited to metaphysics, and of the many interesting commentaries written by the industrious monks, who dwelt here in the eleventh and twelfth centuries, second to none in Buddhist literature, those of the old Maramma-samgha School were certainly not the least erudite. Pagān was the cradle of Pali-Burmese literature.

Besides these native sects there were also settlements of fugitive or migrant Buddhists from Kampoja (the Shan States), who lived to the south of the Ananda Pagoda, and other *Samghas* from Nipal, China, and Ayuttara (Siam).

The disputes as to ordination have long since died out, but there are still sects in modern Burmese Buddhism. Their points of difference, however, are mainly on questions of doctrine, and particularly of austerity of belief, and their attitude towards one another is not at all aggressive, though, at the same time, it is by no means conciliatory. A general name for the nonconformists, assumed by them, or given to them, is *Paramat*, a Pali word which means simply an excellent form of belief. The dissensions began in quite the early times of the Church, and were the cause of the great councils of the Buddhist faith. The points of difference have never been great, and have usually sprung from revolt against excessive austerity, or corresponding laxity. The *Paramats* of the early years of last century called themselves *Tôngaing* and *Yôngaing*, which may be interpreted as Puritans and Churchmen, or High and Low Church. The dissenters rejected the worship before pagodas and images, and prayed only to the *Nyandaw*, the Supreme Intelligence, which was supposed to exist as a mountain of fire in the heavens, but without taking interest in, or exercising influence over, mundane affairs. They paid

reverence to the ordinary brethren of the Yellow Robe; kept the ten precepts; repeated the *Bāwana*, which is the ordinary formula told over on the rosary: the Lord, the Law, and the Assembly, the three Precious Gems; and used the ordinary doxologies; but they never went near the shrines, and recited their prayers and invocations in the open fields. King Bodaw Paya interested himself in the question, and convened a great Synod, which resulted in nothing practical. The Synod refused to recognise his claims to be a Buddha, and he, therefore, sided with the *Yôngaing*, expelled the others from the Church, and conducted himself generally with a lack of restraint, which conclusively proved that he was far from having attained the Eternal Calm. These *Paramats* are, perhaps, represented most nearly in the present day by the *Sawti* sect, which is fairly strong in some parts of the Shan States, and has its headquarters at Nam-hkam, near the Chinese border. The Sawtis neither support nor reverence the mendicants nor their monasteries, and their leaders seem to correspond most nearly to what we should call lay brethren.

In Burma proper the nearest body to the Sawti are the Māns, who also are anti-clericals. They sprang into existence half-a-century ago, but now seem to be dying out, though there are still some communities of them in the Pegu and Tenasserim divisions. The founder was a man named Maung Po, who was doctor to King Mindôn, and propounded his theories, or heresies, about the time Mandalay was being founded. All orthodox Buddhists reverence *Payā*, the Buddha, *Tayā*, the Law, and *Thinga*, the Assembly of the Religious, the "Three Gems." Maung Po rejected the third, which he maintained to be a mere afterthought, or growth, and not doctrinal, and taught that there was no obligation on the laity to minister to the wants of the monks, either in the way of food, shelter, garments, or medicines, which the regular Buddhist considers the four necessaries. Beyond this the chief point of his teaching was that every man should and could work out his own salvation, as the Buddha Gautama did, by overcoming the *Māras*, or Evils. These Evils are: the Evil of Renewed Existences; of Con-

cupiscence; of Death; of *Karma*, the result of one's own actions; and of the Devadat, the Antibudh. King Mindón put an abrupt end to Maung Po by having him impaled, but his chief disciples and followers fled to Lower Burma, and still maintain a party there. The name of the sect is taken from *Māra*, which is written and pronounced "Mān" in Burmese.

The most conspicuous sects, however, are the rival bodies of the Mahāgandi and the Sulagandi, who may be characterised as the Broad and the Low Churchmen, or the Catholics—in the sense that the Mahāgandis are by far the more numerous—and the Puritans. With these rival parties there are no doctrinal questions in dispute, or at any rate none of vital importance. It is mainly a question of the stricter adherence by the Sulagandis to the rules and observances laid down in the ritual. In the early days of the assembly the disputes arose chiefly from the opposition of a party to the too great austerity of the majority. Now it is a protest by a vigorous minority within the Church against what they consider the lamentable weakness and laxity of the great body of the order in the observance of the rules laid down in the Book of the Enfranchisement. The Puritan party denounces the habit, which has become by no means uncommon, of wearing silk robes. The ordination ritual prescribes that the monkish robe should be made of rags, dyed yellow, which have been picked up in graveyards or in the streets. The first falling away was in the sewing together of irregular pieces of cloth. This was followed by the ripping of a small portion and the stitching of it together again, and then the opening up of a seam was considered enough. The change in the quality of the material was a natural sequel of such playing with the letter of the law. The Sulagandis make a point of eating out of the begging-bowl as it comes in from the morning round. The Mahāgandis empty their *thabeit*, and make a selection of the most palatable of the contributions, or they have a regular meal cooked for them while they are out on the begging tour. This the Puritans fiercely denounce as an unpardonable yielding to fleshly weakness. The Mahāgandis explain their doings by saying that they are able to give more

to the poor and to the birds of the air, and that their cooked meals are really also alms, because they are the proceeds of the sale of other offerings of the pious—rugs, blankets, lamps, tinned goods, and what not. The Sulagandi, except on a very long journey, always walks barefooted, and with no shelter from the rays of the sun. The Broad Church party carry umbrellas, and protect their feet with sandals made of buffalo hide.

These are the most obvious differences, and now and again they result in fierce conflicts and blows interchanged between the lay followers of the two parties. There are slight differences in dogma to impart, perhaps, a little dignity to the schism. The Puritans believe that man is endowed with Free Will. The Broad Churchmen deny the existence of Free Will, and assert that a man's whole life is controlled entirely by *Kan*, the influence of past good or evil deeds on future existences. The Sulagandi attribute all the importance to the intention; the Mahāgandi think that the action is sufficient, and the intention immaterial, or taken for granted.

But the question of doctrinal schisms is insignificant compared with the indisputable fact that the vast body of the people are really animists pure and simple, and that Buddhism as a religion is merely the outward label. A Burman gives alms to the monks, worships at the pagoda on the appointed days, and repeats the doxologies which he has learnt at school, but he governs his life and actions by a consideration of what the spirits of the air, the forest, the streams, the village, or the house, may do if they are not propitiated. Buddhism, in the opinion of many, is not a religion at all, but a system of philosophy or a code of morality. In any case it appeals more to the reason than to the instinct, and would be difficult for any people to accept in a whole-hearted exclusive way. It is peculiarly difficult to an impulsive, impressionable race like the Burmese, who have comparatively few Oriental subtleties in their nature. The sects may talk about the importance or the insignificance of intention, or the prominence or the futility of the doctrine of Free Will, but what weighs on the average Burman's mind is the danger of displeasing the *nats*—the spirits of the air,

the mountain, and the fell. In his everyday life, from the day of his birth to his marriage, to his old age, even to the point of death, all the prominent rites and forms are to be traced, not to the teaching of the Baskets of the Law, but to the traditionary whims and fancies handed down from admittedly Shamanist forefathers. If misfortunes fall upon him he makes offerings to the evil *nats*, who, he thinks, have brought it upon him. When he wants to build a house, launch a boat, plough or sow his fields, start on a journey, make a purchase, marry a wife himself, or marry his daughter to another, bury a relation, or even endow a religious foundation, it is the spirits he propitiates, it is the *nats* whom he consults. His Pali prayers and invocations, lauds, and doxologies avail him nothing then, and are not even thought of. Even the monks themselves are often greatly influenced by the strong basis of animistic religion. It is not uncommon to find spirit shrines almost in the monastic compound, and altars to the viewless spirits of the air are often actually in the shadow of the pagoda. It is the heritage of an immemorial past, it is the core of the popular faith. Buddhism is merely a sounding brass and tinkling cymbal, an electro-plating, a bloom, a varnish, enamel, lacquer, a veneer, sometimes only a pargeting, which flakes off, and shows the structure below.

In the time of native rule spirit feasts were formally recognised by the State, and there were occasions when the ceremonials were attended by the king and the chief ministers in their official capacity. The ritual to be observed is set forth scrupulously in various treatises on court etiquette

Moreover, there is a categorical list of "The thirty-seven *nats* of Burma," and their history is given at length in a book called the "Mahā Gīta Mēdani," which has a large sale. Further, rude images of the whole of them are carefully preserved in the enclosure of the Shwe Zigôn Pagoda at Pagān. One of them is the Thagyā Min, who has a recognised place in the Buddhist Olympus, and has a shrine to himself. He is the King of Tawadeintha, the *nat* country, which has a religious festival all to itself at the end of Lent; and it is the descent of the Thagyā Min

to earth once a year which marks the beginning of the Burmese new year, when the water feast takes place, the most familiar and obvious of all Burmese festivals to the foreigner. The Thagyā Min, however, stands apart, and has the supernatural character of an angel of the skies rather than the earthy connection of the others, who are more notably spirits in the ordinary acceptation of the word.

The most conspicuous, and the most universally known, of these is the Mahagīri, or Māgayi *Nat*, in whose honour a cocoa-nut is hung in the house of every Burman in the country. The spirit when he was on earth was a blacksmith, who was put to death at the stake by a king of Tagaung, or Old Pagān, who feared that he was going to raise a rebellion. A sister of the blacksmith was queen of the palace, and she threw herself into the flames, and perished with her brother. They became spirits, and after various adventures had a suitable temple built for them on Pôpa Hill, near Pagān. They were of great service to King Kyanyit-tha, both before and after he succeeded to the throne of Pagān. In recognition of this he issued an edict that all his subjects should honour these two *nats* by suspending a cocoa-nut to them in their houses. The brother has the main credit in most houses, and figures as the *lar familiaris*—the guardian spirit of the house. The cocoa-nut is usually placed in a square bamboo frame, and over the top of the cocoa-nut is placed a red cloth which represents a turban. When there is any sickness in the house or in the family the cocoa-nuts are inspected. The special points are that the water, or milk, should not have dried up, and that the stalk should still be intact. If anything is amiss a fresh cocoa-nut is hung up.

On the occasion of the annual festival special odes are recited by *nat* mediums. These, with a description of the accompanying music and the character of the dance, are carefully set forth in the spirit-book. The spirit-dancers, who often appear to be really possessed, or hypnotised with frenzy, are dressed, in the case of the Māgayi *nats*, in satin skirts with flowing girdles, and a muslin cloak with wide sleeves, holding a fan in the right hand, and on

the head a palm-leaf crown gilded all over. These spirit-dancers are always women. The music and dancing are often corybantic, and the paces more like those of Bacchantes than the demure weaving of paces that is seen in the country plays.

None of the *nats* have particularly estimable histories. It is the old story—the good may be neglected because they are easy-going and harmless; the vigorous, and especially the vicious, have to be made much of and cajoled. At the same time Adonis, Thammuz or Osiris, Bacchus, Pluto, and other familiar mythological figures are suggested by some of these thirty-seven *nats*. They are all anthropomorphic, but they are unlike the gods of the Vedic mythology, from which they might be supposed to be borrowed, for they are by no means glorified. The Rig Veda has numerous hymns, but they have little to do with witchcraft, with spirits, or with life after death. The Brahmanas introduce *devas* (gods) on the one hand, and *asuras* (demons) on the other, and they also introduce terrestrial gods, the *vasus*, but there is a strong tendency to Pantheism, and the invoking of gods in the mass. The Atharva Veda has a great deal to say of domestic and magic rites. But in the Vedic mythology personification never attained to the individualised anthropomorphism characteristic of the Hellenic gods. The Vedic deities have but very few distinguishing features, while many attributes and powers are shared by all alike, partly because their anthropomorphism is comparatively undeveloped. Thus, though these spirits of the Burmans here and there suggest the Vedic gods—the Thagyā Min, for example, may well be paired with Dyaus, Zeus, Jupiter—as do some of the greater spirits of the Karens and Chingpaw, yet it seems most probable that they have come down from the common remote stage in the mental development of mankind which deified first the phenomena of nature, and afterwards the passions of mankind.

Indian influence is certainly very slight. Notwithstanding that the most conspicuous of Burmese literature comes from India, yet the tales of the Ramayana do not introduce themselves into the national religion. The names, the ideas, and the incidents are purely of the people.

The Pantheon is much more like that of the Greeks or of the Scandinavians, but with all the difference that is implied in the working out of the same original idea by a poet, by a Vikingr, and by a farmer.

The Burmese deities are very materialised indeed, but they never sink to such evil plight as to be turned up and birched, or to be stood on their heads, or doused in a pond, as happens to some savage gods. They may rather be compared to the patron saints of Europe—the St Georges, St Denises, St Crispins, St Sebastians, St Cecilias, still more to the St Tammany of America, and most of all to such tutelary deities as the Flemings still create—for the town of Termonde, in Belgium, actually adopted Giant Polydore to commemorate Mr de Keyser, once the Lord Mayor of London.

Moral elevation has not so high a position with these gods as power. Epithets such as "kind and true" are far less common than such as "great and mighty." The *nats* can do whatever they will, and on them depends the fulfilment of desire. They have dominion over all creatures, and no one can thwart what they have predetermined. Nothing farther from the spirit of Buddhism can well be imagined. But to live up to the spirit of Buddhism is beyond the power of human nature, even the most pure and spiritually minded, and it is difficult for a nation of cultivators of the soil to be saintly. It is a proposition, which might be maintained, that all Orientals are more religious than the Western peoples. Yet the primary religion of childish superstition remains strongly rooted. Hence it comes that in Burma, notwithstanding the alms given to the monks, and the genuflections to them as they walk along the streets, the multitude of pious foundations, the ceaseless telling of beads by the elderly, and the regular devotions of all at the shrines, the worship of *nats* remains the most important and necessary thing. Not merely the house-posts of the dwelling-house have cloths put over their heads; every monastery has these also carefully disposed as a covering for the *nats* who live in the pillars. No rest-house, no remote jungle bridge, is without them. The monks take part in superstitious rites to secure rain or what not. It is against the

direct teaching of the Law, and yet they are often the most expert tattooers and astrologers and fortune-tellers. The Burman has much more faith in the calculation of lucky and unlucky days, and in the deductions from his horoscope, than in the virtue of almsgiving and the efficacy of worship at the pagoda.

It is true that the Burman court astrologers and astronomers were all Brahmans, mostly descendants of captives from Manipur, Assam, or Arakan, and of those foreigners who were in the country from the time of the Pagān dynasty, but their calculations determined the beginning of the year, and their prophecies as to the character of the year were unhesitatingly accepted even by the brethren of the Yellow Robe. Even now, under British rule, broad-sheets, prophetical almanacs, are yearly published, and implicitly believed by every one, even by those who are willing and eager to break one another's heads on abstruse questions as to Free Will and Predestination.

The Sanskrit and Bengali works used by the Pônnas, the court astrologers, belong to the Tantrasastras, Jyotisastras, and Kamasastras of Gangetic India, according to Forchhammer, and their chief study is the Samaveda. Their methods were entirely based on the Hindu system of astronomy, and they seem to have been fairly skilled, and quite on a level with their instructors. For example, they certainly knew, what was discovered by the astronomers who came before Hipparchus, that after a period of 223 lunar months, or 18 years and 10 days, the eclipses of the sun and moon return in the same order and magnitude. It was they who worked the clepsydra, or water clock, in the palace, and who calculated the incidence of the year and the intercalary months. Besides this, they drew up the horoscopes in the capital, and calculated lucky days from the stars, and told fortunes, as Indian Brahmans have done since the days of Strabo and Fa Hian. Much of their lore, together with their methods and mysteries, are incorporated in the Burmese book called "Deitton," of which a summary is given in Father Sangerman's "Burmese Empire." They had imitators throughout the country, most of whom

had neither their learning nor their skill, such as these were, and were mostly the merest charlatans.

The Hindu system is now largely replaced, or superseded, by the Shan *Hpèwan,* which is simply the system of counting time by revolutions of sixty years, founded on the Jovian cycle. It is the original Indo-Chinese form of chronology, and is now largely used for less useful purposes by the Chinese, Siamese, Cambojans, Annamese, and other races in the Farther East. Almost all the Burman superstitions about the *Nagahlè,* the path of the dragon, which regulates lucky days, and the *Mingala linga,* which control marriages, are taken direct from this Shan table. The origin of both systems, that of the Pônnas and of the Shan cycle, no doubt, was with the Chaldees.

As the *nats,* the spirits, are to ghosts and spooks, in whom there is a robust belief, so are the astrologers to the spirit mediums—people who are able to invoke and exorcise or placate the *nats.* There is an abundance of these. In Mandalay there were regular professional *Natsayas, Natôks,* and *Natsaws,* male and female, who officiated at the annual State spirit feasts and sung the proper chants and recited the proper prayers. In the country such people exercise their skill, such as it is, in addition to their ordinary vocations—usually tilling the soil. They are most commonly called in in cases of sickness where ordinary methods and medicines fail to restore health. These *Natwuns,* as they are also called, are in the great majority of cases women. They usually wrap a piece of red cloth round their heads, and limit their mysteries to hysterical chanting and wild, whirling dances, which suggest Mr Andrew Lang's theory of obsession as the foundation of religion. He compares the sorcery, magic, and enchantments of the savage with clairvoyance and telepathy, and maintains that many of the phenomena of mesmerism and hypnotism are survivals, or recrudescences, of spiritual or abnormal incidents of savage life. The modern medium, he thinks, is merely working back to the primitive diviner.

In various parts of the northern division, when such a spirit medium is called in to cure sickness, a bamboo altar is constructed in the house, and various offerings,

such as boiled fowls, pork, plantains, cocoa-nuts, and rice, are placed on it for the *nat*. The celebrant then takes a bright copper or brass plate, stands it up on edge near the altar, and begins to chant, keeping at the same time a close eye on the polished copper, where the shadow of the *nat* is expected to appear. When this appears the medium begins to dance, and gradually works herself into a state of ecstasy. The state of tension produced frequently causes the patient to do the same thing. This, naturally, has definite results, either in the way of recovery through excitement or collapse through exhaustion. If, as sometimes happens, the invocation of the possessing spirit is carried on for two or three days, it is very certain that something must happen, one way or the other.

When children are ill little altars are built, or, if the village is on the Irrawaddy, little boats are fashioned. On these an egg, some of the child's hair, and some sweetmeats are placed. Prayers are offered for speedy recovery, and the altar is left where it is or the boat is consigned to the river. The latter is called a sacrifice to the *Chaungzôn nat*, the spirit of the junction of the waters.

Sometimes formal sacrificial services are conducted by the whole village, except the women, who seem to be always excluded, except when frenzied gambadoes are required. On such occasions the offering is made to the spirit of the village, who usually lives in a particular tree in the spirit grove, which is carefully preserved near the hamlet, and intruded on as seldom as possible. The officiating priest is commonly an old man, not differing in occupation from the rest of the population, but supposed to be skilled in cantrips and conjuration. The occasion is usually when there is a deficient rainfall or when the rains are unusually delayed. Altars are frequently erected to the other spirits of the grove besides the one directly invocated. This is to prevent them from becoming jealous.

Proceedings are usually commenced by the offering of a goblet of *kaungye*, rice spirit, to the outside spirits, and a bottleful to the *nat* specially to be exercised. This is usually followed by a libation of water, in the same order

and to the same amount. Then little packets of pickled tea, placed on large leaves as salvers, are deposited with the same genuflections as are customary at the pagoda. This is done by the entire body of villagers, and while they are occupied in this way the officiant sprinkles water round both shrines, and scatters rice in handfuls about them. Each household in the village contributes to this rice, and each also supplies a fowl and an egg, which they bring in person to the grove. The spirit priest then offers up a long prayer, asking for rain from the north and from the south, for peace and deliverance and plenty, and for immunity from evil generally. When this is over the will of the *nats* is sought for, and this is supposed to be revealed by the fowls and the eggs. The fowls are cut open with a *da* from the tail upward. There is no thought of the primary commandment: Thou shalt not take any life at all. The entrails are extracted, and they are examined one after the other by the officiating spirit priest. The chief signs are the length and thickness of the intestines and the size of the stomach, the greater the more promising. The larger side of the bowels should be turned upward, and there are many niceties, known only to the presiding *Natsaya.* The eggs are next examined. They are all hard boiled, and their whiteness is the first test. Any discoloration is bad, and the greater it is the more unfavourable is the omen. Detection of the other omens from further marks requires long experience.

When the examination is concluded the fowl's entrails are tied to feathers, and festooned round the shrine and the tree. This concludes the service. The congregation goes home with the eggs and the bodies of the fowl and the balance of the *kaungye.* The fowls are cooked, and they and the eggs are eaten by the household, and the liquor is drunk, and then developments are hoped for. If nothing happens it is assumed that the offerings have not given satisfaction, or that there has been something wanting, or something mistaken, in the ritual. The Burman is quick-tempered, but he is not vindictive; he is anything but prudent, but he is very fairly sensible. Consequently he never wages war on the spirits. On the other hand, he does not believe in any benevolent spirits. There are

dryads and hamadryads, naiads, nereids and kelpies, gnomes, kobolds, trolls, and brownies, but there are no tales of Undines and Pucks and Ariels. There are no fairies, no "good people"; there is no Titania full of whims, no Queen Mab crowned with cowslips, no Oberon with a moonbeam diadem, no Robin Goodfellow—nothing even suggesting Mustard Seed, Cobweb, or Pease Blossom. The fairy tales are full of battle, murder, and sudden death; the goblins are none of them good-natured. There are no Prince Charmings and no Sleeping Beauties. Signs of totemism are frequent in the shape of amours in animal form, and there are abundant hints of cannibalism in the remote past; but the chief characteristic is the recognition of remorseless power, tyrannously exerted, and the total ignoring of a happy ending for any but one of royal blood.

It is directly stated that *nagā*, or serpent worship, was the prevailing religion, at any rate in Upper Burma, in the eleventh century. It was to put an end to this that King Nawrat'a, since he could get the Buddhist books he wanted in no other way, overthrew Thatôn, and carried books, monks, king, people, and everything portable, in the most picturesque and thorough fashion, to Pagān, and started the new religion in the old royal and autocratic fashion, just as St Augustine in England, St Boniface in Germany, Vladimir or Jaroslaf in Russia, had whole villages baptised in groups.

It need not be taken too literally that serpent-worship was the actual religion, though it is one of the earliest known forms of animistic religion. The Nagās of the Vedas are often the form under which the autochthonous races are referred to. Still, the serpent was the tempter in Paradise; he was the guardian of the golden apples of the Hesperidēs, Hēra's wedding gift; he was wreathed under the altar of Pallas at Athens; the shedding of his skin was thought to renew his life; and he was the symbol of immortality, or eternity. There are some who believe that the story of St Patrick merely means that the saint was putting an end to the ancient religion of the country when he expelled the reptiles from Ireland. The traces in Burma are very strong in the literature of the country,

if they are not so much so in direct worship. There is scarcely a legend in which a *nagā* does not appear in some form or other, most commonly as a maiden, who weds the comely and devours the less well favoured; with a fate often pitiable rather than otherwise; but sometimes as the King of the Dragons, in the same fashion as Jupiter Ammon appeared to Olympia and became the father of Alexander the Great; or as Jupiter Capitolinus is fabled to bear the same relationship to Scipio Africanus. The fact may be another link in the Burmese kings' claim to be connected with the Sakya clans of Upper India. The mythical genealogy of the Raja of Chutia Nagpur claims Pundarika Nag as ancestor of the house. He married Parvati, the beautiful daughter of a Brahman, and, in memory of their serpent ancestor, the crest of the house is a hooded snake, with a human face.

There are many traces of the earlier serpent-worship. Near the shrines of the thirty-seven nats of Burma, at the Shwe Zigôn Pagoda, above Pagān, there is a rude stone image of a serpent between the two huge leogryphs which form the propylæa of the pagoda, and legends state that a *nagā* raised the hillock on which the pagoda stands from the bed of the Irrawaddy. At another pagoda, near the Ananda, there are a number of terra-cotta tiles of red burnt clay, about 2 feet square. Mixed with groups in low relief, representing different scenes from Buddhist legends and mythology, are many plaques showing distinct traces of serpent, fire, and tree worship.

One of the commonest decorative staircases leading to a pagoda is the device in which a dragon forms the balustrade. This may be mere artistic sense, but it may very well also be a reminiscence of the old dragon-worship. Enough, however, has been said to show that, though the Burmese profess to be true to Buddhism, yet they have a strongly engrained conviction that the primitive beliefs cannot be abandoned, and that the demons must be conciliated.

The Shans, who are the other great body of Buddhists in the province, are equally strongly influenced in the same way, and their animism is, at any rate in the remoter states, even more strongly pronounced. They would

never admit, either to others or to themselves, that a doctrine does not constitute a religion, any more than mere dogma or ritual constitute a religion. Yet Buddhism is pure doctrine, and spirit-worship, as practised in Burma and the Shan States, is practically pure ritual. Without acknowledging it to themselves they combine the two, though it would not be fair to say that they go so far as the Chinese or the Mongols, whose Buddhism is mere Shamanism. As a matter of fact, all religions are the growth of generations, and all are influenced at different times and in different ways by striking individualities, by energetic schools, or by the influences of climate. Much of the growth is unconscious, many of the changes are due to people who are forgotten, or to the conjunction of influences which were not recognised at the time, and cannot be disentangled now. The so-called "founders of a religion" would certainly have to spend months, if not years, in the study of commentaries if they revisited the earth and wished to follow the faith of which they are famed as the originators. And just as they would recognise a development beyond the scope of their imaginings, so no doubt, they formulated their religions out of the elements of the old nature religions, whether by writing a law or a Holy Scripture, or only by establishing principles and maxims. No system probably exercised a greater influence over nature religions than animism, which is, perhaps, not so much a religion—but who can define religion?—as a sort of primitive philosophy, which not only controls belief, but rules the whole life of human beings. The powers of nature are the gods of animism: all things startling or extraordinary, of which the causes are beyond explanation; everything living and moving, personified as demons, spirits, or anthropomorphic beings; viewless spirits of the air, or imprisoned in earthy clay, taking up a permanent abode, or a temporary sojourn, in some living thing, or in some lifeless object. Some drifted into a worship of the dead, the eschatology of Egypt, or the ancestor-worship of China; some sunk to fetichism, the worship of magical stones, feathers, shells, *jujus* of whatever kind; some worshipped the sun, moon, stars, fire; some deified animals and developed totems; some trees. Some evolved magic

and sorcery; others became incoherently mystical. Some sanctioned the most atrocious and barbarous ritual, the most cruel and libidinous customs; others inspired the most admirable acts of heroism, self-renunciation, and devotion; and not a few combined them.

The study of the folklore of races in all parts of the world—races who can never have had any communication with one another, or at any rate not for untold generations—shows that there are usages, myths, and ideas common to humanity. These are devious in savage and uncivilised races, a little less clear in the philosophical Oriental religions, or among the rude peasantry of the civilised countries of Europe, and only to be traced by induction in the ritual, ceremonial, and religious traditions of the educated.

The busts in the galleries of a historic house suggest to some people cannibalism and skull avenues; crests and signets are the offspring of totemism. The charger led behind the bier of a dead soldier recalls the time when the charger would have been sacrificed, and the helmet and the sword buried in the grave. The mistletoe and the Yule log only suggest coquetry and comfort nowadays, but they are pure Pagan tree-worship. So is the Jack-in-the-Green. The sacred coronation stone of Scone may have begun as a fetich stone.

One set of theorists comes to the conclusion that the original religion or cult of the people everywhere was deprecation of the powers of evil, or to put it conversely, propitiation of luck; in either case demonolatry, for there are spirits good and spirits bad everywhere, though the good spirits in most places secure least attention. Others from the same facts arrive at the conclusion that it was the dead who were first worshipped. Herbert Spencer was persuaded that "the rudimentary form of all religion is the propitiation of dead ancestors," which is the only real religion Chinamen have, and was the State religion of Peru, where the living Incas worshipped their dead predecessors; the villagers worshipped the man who founded the village, from whom they claimed descent; while families did the same with regard to their first and subsequent ancestors. Grant Allen in his "History of Re-

ligion" somewhat expands this theory, and argues that all the sacred objects of the world are either dead men themselves, as corpse, mummy, ghost, or god; or else the tomb where such men are buried; or else the temple, shrine, or hut which covers the tomb; or else the tombstone, altar, image, or statue standing over it and representing the ghost; or else the statue, idol, or household god which is fashioned as their deputy; or else the tree which grows above the barrow; or else the well or tank or spring, natural or artificial, by whose side the dead man has been laid to rest. The worship of death is the basis and root of all religions. The Chinese minister to the wants of their own family ghosts; but, since all ghosts have to be placated, they also minister to the wants of unknown and generalised ghosts, whose families have died out, and who might become mischievous if they were not provided for in the under world. This theory seems to apply to most of the cults of the Burma frontier hill tribes.

The names of the admittedly animistic races are legion, like those of the devils of old, and all the hill tribes have *nats* of their own, sometimes undoubtedly the representatives of men who have lived on earth, and in almost every case inferentially so. The idea that man does not wholly perish is universal, and if he does not, then the spiritual part of him, since it is invisible, naturally inspires awe. Some trace of the Christian idea of an immortal soul, cased in a human form, appears in the Burmese idea that man is composed of two parts, a material body and the *leipbya,* or butterfly spirit, which wanders in dreams, swoons, and illness generally. The Karens have the same notion, and so have the Chins. The former call this personal soul *la,* and the latter *klo.* An idea of the same kind appears among the Kachins, in their legend of a bridge which has a singular and not particularly poetical resemblance to Addison's "Vision of Mirza." Neolithic arrow heads are found in every part of the world, and they and the kelts that are found with them are everywhere much alike. The early pottery of one region is very like the early pottery of any other region. The same would naturally be the case with the savage ideas out of which religion and civilisation

have been evolved Some of the ideas and myths and tales are more graceful than others, but they were probably all the same to begin with, and have only been polished or debased by the general character of the various races and the vicissitudes they have gone through. Race declares itself no less in the ultimate literary form and character of mythology and religion than it does in all that we are accustomed to consider most characteristic of culture and civilisation.

The Kachins look upon one Chinūn Way Shun as the primordial creator of the inhabitants of the spirit world. With the assistance of the subordinate *nats,* whom he had called into existence, he created out of a pumpkin a thing in human semblance, who became the progenitor of all the Chingpaw. It would seem that any or all Chingpaw may become *nats* after death, or does become one, no matter though during life he has done nothing that would seem to merit elevation to such a position. Apotheosis seems to be the simplest of matters. Kozin is the spirit to whom the Hakas and some of the Southern Chins do reverence, but with no other idea than that of keeping him from doing mischief. The Siyin Chins have no such predominant spirit. They believe that there is no world but this, and, so far from thinking it the best of all possible worlds, or even a tolerable world, they consider it to be the haunt of countless evil spirits, who must at all costs be propitiated. Dwopi, In-mai, Nokpi, and Nalwun are the names by which these malignant beings are known. Each has a particular scourge that he is able to inflict. One is the demon of madness; a second controls fever and ague; some can command drought at will, or sweep away the crops of a season in a storm of rain. The Chins of Lower Burma show traces of ancestor-worship mixed with the ordinary spirit cult; and the Southern Chins also make offerings to the *Khun,* or founders of the various clans, who are supposed to have an eye to the welfare of their descendants. These Chins, like the Burmese, have a Styx, which after death they cross, though by a thread, and not a ferry boat with an obol fare. A being named Nga Thein appears to combine for them the offices

of Charon and Rhadamanthus, and a cauldron of boiling water is one of the principal features of their infernal regions. The Chins' hell has certain points in common with that of the Szi, but it seems highly probable that the inferno of the Szis has been largely borrowed from their Burmese neighbours, or has been brought down from olden time, when they may have been connected. The *nats* of the Rumai, or Palaungs, are of both sexes, and all of them have their names. The most powerful is Takalu. He lives on one particular eminence, like the spirits of the Karens. The clan of the Sawngtung Karens has the exclusive possession of a national spirit, who is known as Lei, and who lives on Loi Maw, a hill in the Shan States. Byingyi, another hill, looking down on the plains of Burma, is similarly the abode of the arch *nat* of the Banyang tribe of Karens. The Pa-o, or Taungthu, have both household and village *nats*, who have to be constantly blandished with offerings, and there can scarcely be any question that these spirits are the shades of early ancestors, though the fact is long since forgotten by the people themselves. The Taungyo have the same custom. The spirit who presides over their harvesting is known as the *Sabā leip-bya*, the corn butterfly, and receives the proper offerings at the time of the threshing of the grain. Among the Karens of Lower Burma the Ceres of the upland crops is known as Pibiyaw. This spirit is feminine, and does not assume the frivolous guise of a butterfly, but appears in the more agricultural form of a cricket.

The worship of cultivation in the form of Demeters and Cereses is very common, and is found with nearly every race, including the Burmese themselves. This marks the agricultural stage in the progression of a people. The pastoral stage may be traced in the protection afforded to cattle, though they are not actually worshipped. Signs of the hunting stage are also not wanting, though there is no actual festival except that of the Banyôk, held on behalf of their hounds, to a not very picturesque St Hubert.

Signs of worship of the decay and revival of vegetation, so elaborately treated in Mr J. G. Frazer's "Golden

Bough," are also quite common. The water-throwing at the time of the New Year, which is carried on all over Burma and the Shan States, no less than in Prussia, no doubt had this signification originally, though it is now explained by the necessity of cooling the head of a celestial being lost as a consequence of a bet, and passed from the hands of one spirit-maiden to another at the beginning of spring. The legend of the Shwe Byin Nyi-naung of Madaya has great resemblances to the tale of the Adonis of Syria, the Thammuz of Babylon, the Osiris of Egypt, the Altis of Phrygia, no less than the Dionysus of Greece. This also connects with the theory of the slain god, where, again, the Dionysus of Greece and the Shwe Byin, twin brethren of the village near Mandalay, have similarities in their chronicle. Pausanias tells us that a human being was torn in pieces at the rites of Dionysus in Chios and Tenedos. Something of the same kind used to happen in Kēngtūng at the spring festival. A man was annually sacrificed to the town *nat*. After being carried round the tower in triumphal procession he was taken out to the banks of the stream to the north of the town, and there his heart and liver were torn out. The process gradually softened down from a victim chosen by lot to a man under sentence of death, or a noted bad character, usually a cattle thief. Even this had been civilised away before the British occupation, and now the propitiatory votive offering is always a dog. The heart and liver are torn out, formally offered, and are then left with the carcass by the side of the stream, to be eaten by the birds of the air. There are many resemblances to the Meriah offering of the Khonds in India.

The same idea is most conspicuous in the head-hunting customs of the Wa. The victims have to be sought in springtime, the only merry ring-time, and the object is partly agricultural, mainly for the benefit of the crops, and partly a general policy of insurance against wandering evil spirits. Spirits are supposed to quarrel as freely as near relations, and the idea is that the resident ghost hangs about his skull and resents the approach of other spirits, not from any good will for the

villagers, for all spirits are mischievous and truculent, but because he resents trespassers on his coverts. For this reason the skulls of strangers are the most valuable, for besides that they are more likely to be testy than to combine with local ghosts, the stranger *nats* do not know their way about the country, and cannot possibly wander away from their earthly remains. The more eminent the man the more fractious and combative the ghost, and the more elbow-room he will want. There is not much doubt that the killing of the victim was originally a harvest sacrifice—the time of year when the Wa sets in earnest about it, the season of the planting of the crops, sufficiently proves that—but later Wa students of religion have elaborated the first conception into a defensive alliance with bad characters against worse.

Strange ghosts are not only of unknown temperament, but there is no knowing where to have them, and there is a universal belief in original sin. "The lars and lemures moan with midnight plaint," but, as a rule, no one minds the lars; they are good spirits. It is the larvæ, or lemures, the bad spirits, who have to be attended to. This was, and is, done by every race in the province. So far as is known the Wa are the only tribe who still kill human beings as a matter of religion, but it seems certain that all of them did it in times more or less remote. All still sacrifice and present offerings. In addition to taking heads the Wa sacrifice buffaloes, pigs, and fowls, as do the Kachins, Karens, Chins, and all the hill tribes. Even the Buddhist Shans and Burmese disregard the rule against taking life, and sacrifice pigs and fowls at the regular *nat* feasts.

It seems beyond doubt that the practice began with the worship of the dead, and particularly of dead ancestors. The underlying idea was that the departed soul would want help, and would do his best to be unpleasant if he did not get it. The nearest relations would be the bitterest judges of the amount of help that would be necessary and sufficient, and of the degree of aggravation of which he would be capable. Consequently the first savage notion was to kill wives, slaves, human beings of

some kind, to solace and protect the ghost or to keep him from being lonely. After a time a horse to carry him, or a dog to show the way, was substituted. Then came arms for defence, money for necessaries, clothes for the sake of warmth or respectability, cups to drink out of. But the older the world got, the more cynical and irreverent and civilised, the worse the ghosts have fared. Some homely people in their isolated hills still supply the real thing, but the majority, if they are not scoffers, are at any rate graceless and pharisaical. The Annamese give departed souls representations in coloured paper of wives, beeves, bank-notes, and what not. The Chinese scatter about gold leaf of inferior quality—a sort of postal orders on the world of darkness. The Kachins and other hill tribes give their spirits toy guns, beds, mosquito curtains, and take care that the "*nats*' flesh" of the material sacrifices, are parts of the animal which they don't care to eat themselves. In Europe the dead soldier's charger follows the coffin to the grave, but is no longer sacrificed there; just as mourning garments are a reminiscence of the time when those who had been near a dead body had to be purified before they could re-enter the village—had to stay out on the hills for a few nights, or to eat excrement, or go through penance of some kind or other. The lights on the graves of Catholic Europe on All Souls' Eve are a survival of the fire lit near the grave of the primeval savage so that the spirit might warm itself and cook its food.

The Chinese, or some of them, think each human being has three souls: one remains in the grave, another at the ancestral shrine, while the third goes to the spirit world, the world of darkness. The Dacotahs of North America believe that every human being has four souls. After death one wanders about the earth, the second watches over the last resting-place, the third hovers over the village, while the fourth goes to the land of spirits. So far as is known, no race in Burma has so reckless a theory as this. It tends to desperate over-population, and where all the spirits are distasteful, if not obnoxious, is positively alarming. It seems, however, really to point to the ladder of growth in primitive belief. The soul

which broods over the body represents the earliest form; the soul hovering over the village is one remove from this; the soul that wanders about the earth is a step upwards; and the fourth stage of progress assigns the disembodied soul a home in a distant land of spirits. It is further argued that the mansion in the skies only appears as the home of souls with peoples who have migrated from their old homes. The soul is never believed to take a long journey till after the tribe has taken a long journey away from the place where its ancestors lived and died. The soul goes to live with its ancestors, but in process of time it is forgotten where the ancestral home was, and then the sky does duty. If the tribe in its migrations has crossed a large river, then the soul has a Stygian flood to encounter. If dangerous and difficult mountains and deserts have been crossed, then a Scylla and Charybdis stand in the path of the soul. If the tribe has formerly lived upon an island, then their heaven is upon an island. The payment of Charon's obolos, the *Kadohka* of the Burmese and Shans and other races, is a development of the notion that the soul will want help. The Scylla and Charybdis of the Kachins take the form of a bridge over a boiling abyss.

Such assistances to religion as omens from the flight of birds, the formation of entrails and the appetite of fowls, have a like origin. The Romans called these *signa ex avibus, ex extis,* and *ex tripudiis,* and accepted them as guides from the mouths of their *auspices* and *haruspices* and *augures.* Many people have been puzzled that so eminently practical and sensible a people as the ancient Romans should have had this trait of childishness. It is looked upon as just what might be expected from savages, but when one of the greatest races of the ancient world believed in such signs some sort of explanation seemed to be necessary. It is not as if the slaughtering of the fowl or other creature were carried out as a solemn sacrificial act, and the inspection of its bones and liver looked upon as a sort of sermon or commentary. Observations on the flight of fowls might be taken at any time, and not merely after fasting and

prayer, when the omens might have been looked upon as a direct answer, a benediction, or a banning, or perhaps merely a homily or pastoral. The Karen tribes and the Wa very often do not even kill a fowl specially for a particular consulting of the fates. They use bones which are often grimed with the smoke and handling of years and have an established reputation. Yet there is nothing to show that these bones, kept, in the case of the Wa chiefs, in carved bamboo phials, and by enterprising youth carried about stuck through the ear lobes, have been blessed or consecrated in any way, or that the fowl had any history about it, or was looked upon as an incarnation of an ancestor or a noted sorcerer and warrior. The custom is nowhere a part of the religion of the country, and never appears to be so, any more than palmistry and thought-reading are.

The true reason for this unreason seems to have been suggested by Rudulf v. Jhering in his "Vorgeschichte der Indo Europäer." He thinks that all such superstitions find their explanation in the circumstances attending the migration of the people. When the migrants marched south, sooner or later they found their onward progress barred by a mountain chain so formidable that they could not possibly climb it with their wives, their children, and their flocks. But though they could not cross it where they struck the range they knew very well that mountains all have passes, worn by water, or existing naturally. In an inhabited country these would be pointed out by guides or indicated by the flying people whom they expelled, but where there were no inhabitants, they had to trust to their own woodcraft; and all savages are masters of this. Naturalists know that birds in their yearly migrations always pass mountain ranges at their lowest point; and it is very certain that primitive man was very familiar with the fact, however few old-world dwellers may know it. The wanderers, therefore, often found their way out of difficulties by observing how the birds flew. They discovered the pass, and so saved themselves from perishing by starvation, or dying at the hands of a pursuing enemy, for the migrations were far from being always voluntary. Their wanderings, no doubt, lasted for years,

and so the habit of watching the birds became a matter of course with the old and grew up with the young.

Moreover, when they came into a perfectly unknown country, from the deserts of the Roof of the World, or from the heights and valleys of the Himalayas, to sub-tropical hills or wide plains, the like of which they had never seen before, they would find a perfectly new vegetation and a fauna of which they knew nothing. To find out what water was fit to drink, what plants were poisonous, and what fruits were good to eat, they would have recourse to the fowls again, either to their domesticated birds and animals, or to those of the new country. The seeds and the berries and the roots would be thrown to the fowls, and the result would guide them. More than this, the character of the intestines of animals would disclose to experienced eyes the healthfulness or otherwise of the climate and the richness or poorness of the fodder. The size and colour of the liver, the gizzard, or the heart would soon become infallible signs to the expert.

Thus the first wandering swarms had to watch nature carefully—not merely the stars and the clouds and the winds and the sounds of distant thunder—to determine whether the horde should march next day. It was as necessary to look for the footprints of wild beasts, of tigers and wolves and snakes, and even of foxes and deer, as it was to scout for human beings ahead, to ascertain whether the camp should be protected or whether sentries and zarebas were unnecessary. It was no less necessary to consult these to find out where there was a water supply, and this was the origin of the *signa pedestria*, and all the superstitions about beasts in the path. Every movement of every living thing, and even the appearance of the inside of the animals they killed for food, had to be carefully noted. The necessity of all this grew to be a second nature with them, and was remembered long after they had permanently settled down, and was just the thing that boys would delight in imitating and elaborating. All the circumstances of these eminently practical and sensible observations were remembered long after there was any necessity for them, and even

later still, long after their purpose and meaning was forgotten. The skilled would elevate them into mysteries; the priggish would lard their conversation with inapposite allusions; the interest of augurs and haruspices, of fortune-tellers, sorcerers, and chiefs of clans, led them to cherish observances which would gain them credit or give them a hold over the people. The examination of fowls' livers would naturally lead to an inspection of their bones, and to the retention of these, since a fowl is not always to be caught, and the cutting of it up leaves time for sober reflection. It is for this reason that all the nomad tribes, who still wander from range to range as the soil becomes exhausted and the clearings are worked out, never move without consulting chicken bones. They have forgotten that at one time the birds, and to some extent the beasts —it is curious that the pig, whose digestive organs are most like those of man, remains the chief sacrificial animal —were the guides and saviours of their ancestors. The reasoning which should be followed, and the processes which should be observed, have been quite lost sight of. What was once a thoroughly business-like proceeding has become merely a superstitious or magical observance, and is extended to every act of daily life.

English people have no less forgotten, though they quote bird signs from the Georgics and repeat the magpie rhyme:

> "One for sorrow; two for mirth;
> Three for a wedding; four a death."

Most kinds of divination have come from the same source. Meteoromancy, austromancy, oneiromancy—reading the future by meteors, winds, or dreams—and others have arisen from them by analogy. Thus sortilege, the drawing of lots, in process of time led to the *sortes Virgilianæ* of the Middle Ages, and to the habit of many good people of seeking advice from casually found texts in the Bible, and to stichomancy generally. Sorcerers' jargon was a natural offshoot, and this not only in savage ritual, but in actual words and letters of power tattooed on the skin, or let in under it, on pieces of silver or on quaint stones, and it appears also in talismans, amulets, and seal rings, to say nothing of lucky pennies.

Census Returns of Animists.—Animism overruns the professed religion of all the races in the province, but, nevertheless, in the census of 1901 no more than 399,390 persons returned themselves as professed adherents of that faith. Quite apart from the fact that practically the entire population in one way or another, to a greater or lesser extent, pay reverence to spirits, it is quite certain that this number is far from representing the real number of those who believe in spirits and in nothing else. In the next decennial numbering of the people, the number will assuredly have greatly swelled, but that will be because more remote tribes will have been recorded, not because the cult is gaining ground. On the contrary, it is supposed to be losing ground by the very people who are most anxious to propitiate the ghosts when anything untoward occurs. Professed spirit-worshippers are looked upon as homespun, countrified, rustic, boorish, brutish, comical—and there is nothing the Burman dislikes more than to be thought comical.

The census shows that there are more than twice as many Animists in Lower Burma than there are in the Upper Province. The totals are 158,552 and 78,956. This is quite fallacious, and is due to the circumstance that the religion of the people in the estimated tracts is not taken into account. If these had been labelled we should probably have found that the Upper Burma spirit-worshippers were over 100,000 more numerous. In Lower Burma the proportion of Animists to the total population of all religions is steadily dwindling. In 1881 it averaged 384 in every 10,000 souls, in 1891 only 320, and in 1901 this had fallen again to 281. The figures are quite fallacious. They only indicate that mankind is insincere, and that Animism is supposed to be unfashionable and plebeian. For the whole of the province, including the Shan States and the Chin Hills, the proportion of professed Animists in 1901 was 385 for every 10,000 of the population. Spirit-worship, therefore, ranks, even with the delusive numbers, numerically second to Buddhism. Mohammedanism comes third with 337,083. Of these about a half are inhabitants of Arakan. The rest are resident aliens. The Hindus numbered 279,975—all

aliens—but steadily increasing in number. The number of Christians in 1901 was 145,726, an increase of 21 per cent. on 1891. Of these the Baptists were most numerous, owing to the conversions made by the American missionaries, chiefly among the Karen tribes. There were 66,722. The Roman Catholics come next with 36,272, while the Anglicans only numbered 21,516.

It is quite impossible to classify the religions lumped together under the head of Animism. They all run into one another—fetichism, animism, the animal-worship of the Egyptians and others; tree-worship, the doctrine of transmigration, the Sabæism of the Persians; they are all only stages in the progress of religious evolution, and the highest, if Buddhism as a system of philosophy may be considered the highest, retains traces of its origins. The primary religion of childish superstitions underlies them all.

Cannibalism as a State religion has disappeared. It is much too unattractive and cold a faith ever to have been very popular or to have lasted very long. Yet, no doubt, like Calvinism, it had its allurements for certain dispositions. No more safe and honourable tomb could be found for parents than the persons of their descendants. If it were postulated that the eating of a man conveyed his qualities and ensured his backing, then the consumption of a noted fighting man, or the absorption of an individual noted for his intellect, his craft, his saintliness, or merely his physical development, most logically implied benefits to the man who assimilated him. But it implied an existence too full of emotions, and so it passed away. There are not many habitual cannibals anywhere now, and none in Burma. The Wa are the only race in the province who continue to make human sacrifices. But it is not long since they occurred at intervals in the plains of Burma. When Alaungpayā founded Rangoon in 1755 he sacrificed a Môn prince. The spirit of this victim, which is known as the Sule Nat-gyi, the Myosade of Rangoon (the pagoda is at the corner of Fytche Square), is still worshipped in the capital of the province. When Mandalay was founded in 1857 King Mindôn Min, who was a remarkably fervent Buddhist, and very ready to

adapt himself to modern ideas, sacrificed a pregnant woman, and her spirit became the guardian *nat* of the city, and had regular offerings made to her by the Convener of the Fifth Great Synod. The stone figures, grasping clubs, which stand at the four corners of the city walls of Mandalay, are a direct trace of the custom, which was common all over Indo-China in former days, and was not unknown in Europe. In modern Greece, Mr J. G. Frazer tells us, the blood of a sacrificial cock, ram, or lamb is allowed to flow over the foundation stone of a new building. The jars of various kinds of oil, which stand in vaults under the corners of the Mandalay city wall, represent such sacrifices—just as the burying of newspapers, coins, and the like in Europe are a survival of the same superstition.

Fetichism in its lowest form, the worship of magical stones and jujus, of whatever kind, does not appear to exist among any of the Upper Burma races. It is usual to call fetichism idolatry of the grossest sort, and so it is when it is confined to the worship of odds and ends of matter. But it extends far beyond that; it includes the adoration of animals, so prominent in the religion of Egypt, and present, if less conspicuous, in the most ancient temples of Greece. It also includes the Sabæism of Persia—the worship of the sun and moon, and of the stars, their children. The adoration of trees, streams, mountains is all fetichistic. The Burmans and Shans worship chiefly the spirit of the house and the spirits of the village; and their tree-worship is rendered more respectable by the legend that the Buddha Gautama died under the *Bo*-tree. There are traces everywhere in the world—in the Glastonbury Thorn, which grew from the staff of Joseph of Arimathea; in the Trees of Liberty of France and America, which may be compared with the sacred trees of Zoroaster, the Oak of Hebron, the Devil-trees of Africa, the *Bawdibin*, as the Burmese call the sacred fig-tree, or the particular one which grew from the twig which Sakya Muni had used as a tooth-brush. The Wa are particularly fond of rearing the *Ficus religiosa*, not because they know anything about the Buddha Gautama, but because they believe in the same country

that the village *nat* lives in it, and in the wild country because it is the most convenient tree in which to hang up heads to blanch for the village avenues. Everywhere in the hills, dark coppices, or prominent trees, have shrines in them, where Chingpaw, Shans, La'hu, Akha, all the hill tribes, worship and make offerings. This may be called tree-worship, but it is none the less demonolatry.

It may be noted that some authors have connected tree-worship with cannibalism. It is done in this way: the seeds were made idols, and were eaten as though they were the bodies of the gods, and so communicated their powers. The significance arose from the mysterious vitality of a seed and its germinating power.

There are, therefore, abundant traces of fetichism not only among the hill tribes, but in Burma; and it is also clear that fetichism is ubiquitous, but we can hardly say that any single tribe consists of fetich-worshippers and nothing else. Totemism also shows itself in the prescribed form of names for Shan and Kachin children and in the changing or concealing of personal names, but so far as is yet known there is no tribe which habitually takes its family name, or has crests and badges taken from any natural object, plant, or animal, though the limiting of marriages between the inhabitants of certain villages only—practised both by tribes of Karens and Chingpaw—is, no doubt, the outgrowth of this totem idea.

But so far as animal-worship, exogamy, and descent claimed through females are concerned, the signs are abundant. What Backofen calls *Hetärismus* is so prevalent that there is often great uncertainty of blood ties, and especially of male parentage. The wisest child is not supposed to have any satisfactory information as to who his own father was, and so kinship is reckoned through women. Thus, as in ancient Athens and amongst the Hebrews of Abraham's time, marriages between half-brothers and half-sisters are permitted, and, in the case of the Burmese kings, were even prescribed. But there are no such wide prohibitions of marriage as exist among the Hindus, where union with one of the same *gotra* name is not permitted; or among the Chinese, where males and females of the same *hsing*, or surname, may never inter-

marry, though their ancestors for thousands of years have never known or seen one another. The direct converse appears among the Sawng Tung and certain other Karen tribes, who are among the most distressingly endogamous people out of Australia. Marriage is only permissible between the inhabitants of an extremely limited number of villages, and all the rest of the world is put out of bounds, and excluded, for purposes of union. The same practice prevails among some of the Chingpaw clans.

There are abundant traces of the custom of capturing wives. The custom is always taken to be a proof of the scarcity of women in early times. Apparently Burmese women have never been scarce, and they certainly are not coy, but among the hill tribes signs of the old custom are widespread.

It is quite impossible to label the different hill tribes, and to say that such-and-such a race worships its ancestors; that another worships spirits generally, or one particular spirit; that others worship trees, animals, stocks, and stones, or the heavenly luminaries. They are all acquainted with dreams, visions, magic, the apparition of the dead. Some of them are degraded, but none of them are by any means primitive savages; even the Wa, though they take heads and are very frequently drunk, are industrious cultivators, show great ingenuity in defensive works and the construction of aqueducts, and build excellent houses. All the races have a barbaric philosophy, which teems with evidences of the supposed interrelation and commingling of life of man and brute and plant, and of things common to man and to the phenomena of nature, whether fixed or moving. All early religions are selfish and not disinterested. They have no altruistic tendency. The worshipper is not contemplative so much as eager to gain something to his advantage. Nothing more opposite to the calm meditation of Buddhism can be imagined.

Nevertheless, Buddhism is being outwardly adopted by many of the hill tribes, and particularly by the Wa. The American missionaries are converting hundreds of Karens and La'hu to Christianity. It cannot, at the same time, be denied that both sets of converts retain in a modified form all their old superstitious observances,

Further, it may be said that none of the tribes have any conception of a Supreme Deity. It is not merely that they have no name for such a Being (in which they might be supposed to follow the Chinese in saying: "The name which can be named is not the Eternal Name"), but that they seem to have formed no idea of such an existence.

Traditions of a deluge are universal. The Eastern Tai have it, so have the Karens and the Chingpaw and the Wa. The bursting of the bounds of the lake valleys have, no doubt, given rise to it. Formal graveyards are uncommon, but some of the Chin tribes are a singular exception to this rule. Some other tribes have graveyards, but no monuments; others have more or less lasting memorials, but these are put up anywhere, usually to the north of the village, and not necessarily near the graves even of former members of the same family. The Wa bury inside their villages, and, in the case of chiefs and notable men, under the ladder which leads up to the house. They have also traces of barrows and cromlechs, as also have the Chins. Cairns and *natsingôn*, spirit shrines, are common, but are not necessarily set up over the actual graves. The wilder races, however, bury their dead in out-of-the-way places, and forget the spot as soon as they can. Flowers and food are placed on the grave for about the time that Europeans would observe mourning, and then the jungle swallows it up.

Where there is a language of religion it is usually esoteric, and in not a few cases seems to be beyond the comprehension of those who make use of it. This is merely an expression of the desire for impressiveness, which in Europe preserved the Holy Scriptures in the form of the Vulgate, and in Buddhist countries retains the Abidhamma in Pâli. In the same way, the Granth of the Sikhs is not written in the vulgar tongue.

None ofthe races have, or at any rate admit that they have, idols. There is no bowing down to stocks and stones, no smearing of grotesque or other figures with sacrificial blood. The Burman Buddha is practically on the same footing as the Ikon of the Greek Church.

Finally, except for the monks of Burma and the Shan States, who are not in the technical sense ministers of religion, there are no professional hierophants nor any regular clerical classes. The *tumsas* and *mitwes* and *natsaws*, and diviners generally, do not devote themselves entirely to spiritual duties. When they are not spiritually engaged they follow the same occupation as the rest of the villagers, and, as often as not, are rather looked down upon than respected.

PART VI

LANGUAGE AND LITERATURE

The languages of the Indo-Chinese Peninsula and of China belong to the class which is called polytonic by those who are intimately acquainted with the languages. Those who study the forms of speech from books, and are quite incomprehensible to the people when they talk to them, reject this division into monotonic and polytonic (those which do not use tones and those which do) as false, because these tones are an accidental and not an essential characteristic of the language, and further, because there are certain of the languages of Indo-China which do not use tones. Nevertheless, without some knowledge and a certain amount of use of the tones it is quite impossible to hold intercourse with the people.

The word "tone" is not the best that might have been chosen. It was first adopted as the translation of the Chinese word *shêng*, which the late Sir Thomas Wade thought would be more properly rendered "note," in the musical sense, though no musical instrument is capable of exhibiting more than an approximation of the *shêng*. The word "chime" gives a much better general idea of the "tone" as it is learned by the Chinese student, but "chime" is not a word which could be used. The modulations of voice which European nations only employ to express astonishment, disbelief, interrogation, and alarm become in certain of the Indo-Chinese languages a means for distinguishing identically written words, which have a special signification according to the way in which they are uttered. The varying cadence of the sounds produces to the ear the semblance of a chant; and every one seems to speak in a kind of rhythm, so that so long as a man has ideas it is not

very difficult for him to compose *linga*—to speak, as it were, in blank verse. A sense of music or of rhythm underlies the whole, so that some, like Mr C. C. Lowis, would like to introduce the words "pitch" and "stress." The musical, or "pitch," tone comes in at one end of the scale, and the "stress" tone at the other. This "stress" tone is represented by the accent in many languages. The detection of these tones can only be effected by the ear, and in many cases this requires great delicacy of hearing. Accordingly it is not surprising to find great differences of opinion. Very many authorities, including Mr Lowis, are of opinion that there are no tones in Burmese, Môn, or Chingpaw. The number of competent observers acquainted with the Môn language is very small, and they are vehemently at issue with one another. There is certainly none of the "chime," so characteristic of Chinese, Shan, and Karen, to be heard in the Chingpaw tongue; and though there are said to be three tones in Chin they are by no means conspicuous, and seem to be habitually disregarded, with no troublesome results. Some writers are of opinion that all languages have passed through the tonal stage. The savage had few sounds at his command, and had to make the most use of them by uttering these sounds in various tones, just as Paganini was able to play on one string of his violin. Early speech was imitative, and its vocables were sung, intoned, or chanted to imitate the sounds of nature.

Dr Grierson of the Linguistic Survey of India dismisses the polytonic division as incorrect, and points out that a tone, or musical note, is not merely low or high in pitch, but may be a glide from a higher to a lower note or the reverse. He also insists on the importance of the time during which the tone is continued, the difference between a semibreve and a quaver—that is to say, the difference between a word fully pronounced and one pronounced abruptly. Dr Grierson would, therefore, divide tones into two classes—pitch tones and time tones—with the proviso that the two may be combined. The pitch tones are due to the disappearance of prefixes, as has been suggested by Lepsius and proved by Conrady.

In a dissyllabic word composed of a prefix *plus* a root the accent was strongly on the root. The natural tendency was for the unaccented prefix to gradually wear away, and instead of the accent, which, as the word was now a monosyllable again, could no longer exist, the pitch tone was given to the word as a kind of compensation, marking the former existence of the disappeared prefix. It follows that where prefixes are still used there is the less necessity for tones. Thus Chinese and Siamese, which have no prefixes, have many; while Burmese, which uses prefixes more freely, has only two or three, even according to the most subtle observers.

Time tones are much more readily recognised. The abruptness with which a word is pronounced strikes at once the most inexperienced observer. The time tone does not result from the disappearance of a prefix, but rather by the elision of a hard, final consonant.

The Indo-Chinese languages otherwise exhibit two of the three morphological orders of human speech, which are the isolating, the agglutinative, and the inflected. This is not necessarily the historical order of development of language. It is considered certain that all Indo-Chinese languages were once agglutinative, but some of them, Chinese for instance, are now isolating—that is to say, the old prefixes and suffixes have been worn away, and have lost their significance. Every word, whether it once had a prefix or suffix, or both, is now a monosyllable. If it is desired to modify the word in respect of time, place, or relation, this is not done by again adding a new prefix or a new suffix, but by simply adding to it another monosyllable, a new word which has a meaning of its own, and is not joined on to or incorporated with the main word in any way. Even in Chinese some of these subordinate words, which modify the meaning of the principal one, have lost their significance as separate vocables, and really continue in existence as prefixes or suffixes.

They thus approach the agglutinating stage of language, in which sentences are built up of words, united to formal parts, prefixes, suffixes, or infixes, which denote the re-

lationship of each to the other members of the phrase. The differences in kind and degree between the various agglutinating languages are very great; the variety ranges from a scantiness hardly superior to Chinese isolation up to an intricacy which is almost incredible.

Shan, the language of the Tai, may be taken as a form of speech in which the agglutinative principle is showing signs of superseding the isolating. In the Tibeto-Burman group the process is practically complete. Not many of the suffixes can be used separately as words with independent meanings.

The inflectional stage is met with very rarely in the Indo-Chinese languages, and even then only in sporadic instances. Here the words used as affixes have not only lost their original meaning, but have become attached to, and form one word with, the main vocable, which they serve to modify. It is only by analysis that they can be separated into independent words. This, with the capacity for expressing abstract ideas, is absent from most of the Indo-Chinese, and especially from the Tibeto-Burman, languages. They have a large stock of concrete and characteristic terms for concrete ideas. Many are picturesque and poetical, but they cannot deal with the abstract. Most of them have no voice at all, either active or passive, because they have no real verbs. Agglutination is a prominent feature of Burmese, but, nevertheless, the isolating element usually preponderates over the agglutinative.

The Burmese language is written from left to right, and there are no spaces between the words, and but very few *paik*, or stops, to mark separate sentences. These occur here and there—short perpendicular strokes to show the end of sentences or clauses, and double or quadruple perpendicular lines arranged in couples at the end of paragraphs. But the verbal affixes usually take the place of these, and are quite sufficient.

The written characters are all, except one or two, composed of circles or segments of circles. They acquired that character from the original square Nagari, which they imitate, because all the manuscripts are written with a pointed metal style on palm leaves, on which rounded

forms can be graved very readily, whereas square letters can hardly be formed at all. The alphabet is derived from the Magadhi, or Pāli (the latter word properly means a text and not a language), and was, doubtless, imported into the country from Ceylon and Southern India along with the Buddhism which became the national religion. There are really two languages in use: the Pāli for religious treatises, and the more modern vernacular Burmese for everyday use and ordinary documents. The *Kammawāzā*, or ritual for the ordination of monks, is still written, or rather painted, in the square character, but all other religious books are written in the everyday alphabet. The monosyllabic character of the language has, however, considerably changed the sound of many of the letters. Pāli is polysyllabic, but Pāli words are pronounced as if every syllable formed a separate word, and many of them have been adopted in everyday talk, and are not merely used in theological works.

There are thirty-two consonants in the Burmese alphabet, and of these six exist only to be used in the writing of Pāli words: and at least four more very rarely occur in vernacular words. The consonants are divided into groups of gutturals, palatals, cerebrals, dentals, and labials, with five liquids, a sibilant pronounced *th*, and an aspirate. Each of the first five groups consists of five letters: the first is the simple consonant, the second its aspirate, the third the hardened or rough form of the consonant, the fourth the aspirate of this, and the last the nasal belonging to the group. Thus *k* leads off the gutturals, *s* the palatals, *t* the cerebrals, only occurring in Pāli words, *t* the dentals in Burmese words, and *p* the labials. The vowel *a* is inherent in every consonant, and is pronounced in every case, except where it is "killed" by the *that* mark, when the consonant itself is also killed, and the effect produced is a short, sharp, abrupt termination to the word, as if the letter were strangled in the attempt to pronounce it. Thus *k* dominates the gutturals, and the series is *ka, k'a, ga, g'a, nga*; *s* the palatals, *s, 's, z, 'z, nya*; *d* the cerebrals, practically all *d*, with the great *'na*; *t* the dentals, with two aspirated *'ta* and two unaspirated, and the simple *na*; while the labials are *pa, p'a, ba, b'a, ma.*

Besides these five groups there are seven liquids, or aspirates, in a sixth series, including two *l*'s—a great and a small one. These are *ya, ra, la, wa, tha, ha.* With the inherent vowel *a* there are ten vowels in Burmese, and fifteen of what may be called diphthongs. The vowels are a, ā, i, ī, u, ū, e, ê, aw, āw̄, and the diphthongs are formed by combinations of these.

The letters of the alphabet have all names more or less descriptive, beginning with *ka-gyi, ka-gwe*—"great *ka*" and "curved *ka*." Some of the others form a picture to the little boy when he is first learning them, such as "elephant shackles *t'a*, "bottom indented *da*," "bridle *za*," "supine *ya*," "big-bellied *ta*," "hump-backed *ba*," "steep *pa*," and so on.

Consonants are also combined with consonants, when the inherent vowel is always modified. Thus *ka* combined with *ka* becomes *ket*; *ka* with *sa, kit*; and *ka* with *nga, kin.* With *na* it becomes *kan*; with *ya, kê*; with *ra, kya,* and so on. There are also compound consonants. Thus *ka, ra,* and *wa* make *kywa*; *ma, wa,* and *ha* make *hmwa*; and *ma, ra, wa,* and *ha* make *hmywa.* In such words the *y* is never pronounced separately, but is sounded with the preceding vowel, so as to form a monosyllable.

The order of words is not a distinguishing feature of the Indo-Chinese languages as a whole. There must once have been a time when it was not fixed as it is at present. With the disappearance of prefixes and suffixes the want was felt of some method for defining the relation which each word bore to its neighbour in a sentence. This was partly done by fixing its position, but the different families did not all adopt the same system. The Siamese-Chinese and the Môn-Hkmêr families adopted the order of subject, verb, object, with the adjective following the noun qualified; while in the Tibeto-Burman family we have subject, object, verb, and the adjective usually, but not always, following the noun. Again, in the Tai and Môn-Hkmêr sub-families and in Nicobarese the genitive case follows the noun by which it is governed; while in Tibeto-Burman and Chinese it precedes it. This order of words is important in judging the relationship of these families with one another and with other branches of human speech,

such as the Dravidian, or Mundā, with which comparison has been made.

The monosyllabic roots, or radicals, forming the groundwork of Burmese and of most of the languages of the province are either nouns or verbs. Vowel prefixes or affixes added to these build up the language, and by means of them the verbal roots can be converted into nouns, adjectives, or adverbs. Verbs form their tenses by their aid, and alone or in combination they make up the prepositions, conjunctions, interjections, and the like, of the language. The root nouns have no gender whatever, and to indicate the gender, help words—nouns generic, as they have been called—must be added. *Di* or *tho* is usually added to indicate the masculine gender of animals; *ba*, or *bo*, of birds. *Ma* expresses the feminine gender universally, except for a few cases where different words are used for the masculine and feminine. *Sa-bo* is a cock sparrow, *sa-ma* a hen sparrow, *seit-di* is a billy-goat, *seit-ma* a nanny-goat, and so on. The numerative affixes are a special feature of the Indo-Chinese and Chinese languages. They express the nature of the object denoted, and connote its physical attributes. It is not correct to say in Burmese, as one baldly does in English, "two boats," "four pice," "three pots." To be correct one has to mention first the article spoken of; second, the number or quantity of objects; and third, the genus or class they belong to. Thus one would say in Burmese: "boats, two elongated things"; "pice, four flat things"; "pots, three round things." There are great numbers of these generic nouns, and a Burman never omits them. He speaks of hairs or threads as so many "plant things," or "tree things"; schools as so many "buildings"; books and letters as so many "writings"; mats, planks, or sheets of paper as so many "flat things"; sticks as so many "long and stiff things"; horses and carts as "things to be ridden on"; coats and waistcloths as "things to be worn"; and so on, in great variety. Even the numeral auxiliaries applied to human beings vary. Thus Buddhas, pagodas, images, and native books take the form *su*, as it were a cluster, or bevy. Kings, pôngyis, and persons of high rank generally take the polite numerative *ba*; worthy people to whom it is desired

to be civil take the form *ta-u*, "so many foreheads"; and in ordinary conversation human beings generally, male or female, are called *ta-yauk*. Foreigners are not looked upon as entitled to rank as human beings at all, since they have never worn the yellow robe, and rude people occasionally apply to them the numerative used to number animals, buffaloes, or pigs. Thus *kalā hni' gaung*—"two animals of foreigners," or "two beastly foreigners," as we should say "two head of cattle." This form is, however, very seldom heard nowadays, and was always considered more graphic, or perhaps pedantic, than civil, though it was frequently used in the times of native rule. It is now confined to savage tribes, when referred to by conceited native officials.

The language is full of picturesque expressions. To marry is to "erect a house"; a gun is the "demon of death"; a percussion cap is "hell fire"; a breech-loader is a "shove-behind gun"; a revolver is a "horse-gun," or a "six-round whites"; to die is merely to depart, or to attain the Eternal Calm, but to break off friendship is to separate so completely that if one were to die the other would not visit or even inquire after him; to faint is to die a little death, and the phrase "little death" is poetically applied to sleep—"downy sleep, death's counterfeit." When a man gets grey the King of Death it said to plant his flags. Deathly exact is a most vigorous phrase for precise. A funeral is merely "the unpleasant thing"; a man retired from work, and living on his pension, is called an eater of repose; and a person of independent income is one who sits and eats. A gossip is the tongue of a bell, and youth is the dawn of manhood. There are hundreds of phrases of the kind.

There is no medium in the literature; it is either Scripture or it is opera-bouffé—devout, mystic, and solemn, or popular, unregenerate, and frivolous. A great part of the religious literature is entirely written in Pāli, with patristic commentaries and glosses of mixed vernacular and Pāli. Then there are the *nat* histories, the legendary lives, or avatars, of the Buddha in previous states of existence, embellished with romances of later date, introduced to flatter patrons or attract alms. These run to enormous length, and, if the palm leaves on which they

are incised were spread out, would carpet a large hall, and would assume encyclopædic size if they were reproduced in print. These works are naturally entirely written by the monks, and fully bear out the popular idea of what is conveyed by the name patristic literature.

The secular works, on the contrary, are almost invariably the production of actors, or of the people who write with actors in their eye, or they are folk songs. The general character is that of primitive man. It would be unfair to call the love songs indelicate, but they are frequently not decorous. They are certainly the erotic outpourings of an inflammable race, and equivoque sometimes sails perilously near ribaldry, but it is the wantonness of a full-blooded race, not of a dissipated community which loves prurience for itself.

Formerly all manuscripts were made by graving with a sharp steel style on the leaves of the *pe*, or Talipot palm. The fan leaf is split up into strips, which are gathered into packets, and dried under pressure, so that they may be quite flat. Then they are trimmed, and cut into segments, about 18 inches or so in length, and 2½ inches broad. Lines are drawn on the leaf with turmeric, and all the writing is done under these lines, not above them, in the usual-upside down Chinese fashion. The stylus easily cuts through the hard fibrous surface to the spongy texture below. Both sides are written on, and when the whole is finished the faces of the leaves are rubbed with crude earth oil, which serves the double purpose of toughening and preserving the leaves, and bringing the characters into relief by darkening, or, if the phrase is preferred, by dirtying them. This oiling is repeated at intervals, and old manuscripts get a deep, warm brown. Even with this, however, they become very brittle with years; and palm leaves over a century old have not only to be handled with great care, but are very rare. Frequent oiling preserves them longer, but the whole sheet becomes so dark that it is extremely difficult to read the text. When the work is finished the edges of the leaves are gilt, and the whole are fastened together by drilling a hole at one end, through which a bamboo pin is passed. Wooden covers are added for protection. These are

sometimes carved, almost always lacquered, and frequently gilt. The whole is then wrapped up in cloths, often elaborately worked, sometimes merely coarse linen, dyed the monkish yellow with jack-fruit-tree juice. Some monastic and very many private volumes are fastened with a long ribbon, called a *sa-si-gyo*, not quite two fingers' breadth, and knotted or crocheted in a peculiarly close fashion, which has the great advantage over Berlin wool that the patterns are quite admirably clear. On this *sa-si-gyo* are worked the name of the owner, his titles and distinctions, and whatever pious aspirations he may choose to add, or the lady who executed it may see fit to devise for him. They usually fasten the wrapper, but are sometimes used alone. The wrappers, or *Kapalwè* also have frequently inwoven scenes from the sacred books, or portions of the Law, and the formulæ used at the pagoda, and to give stiffness to them have narrow slips of bamboo worked in.

The regular scribes are always laymen, or almost always, for saintliness and learning do not seem to imply neat writing. They usually work where they are employed, not in their own houses, and the pay is at the rate of a rupee for every *inga*, or ten sheets, which takes a day or more, according to the skill of the copyist. Erasures are never made by scratching out, but when a passage has to be deleted a heavy dot is marked in the centre of each letter to be omitted.

The Shans do not use palm leaves, but write with the stem of a fern, and ink made of sessamum-oil soot, on native-made paper. A double leaf is used, and only one side is written on.

The Buddhist Scriptures should be deposited in brick temples. For safety's sake the library in almost every monastery is detached from the main building, and is, in part at least, of masonry, so as to prevent danger from fire. There are not many that possess complete copies of the *Tripitaka*, the Baskets of the Law. The late King Mindôn had copies of the most carefully revised Pāli text carved on marble slabs 4 feet by 3 feet in size, and these, to the number of 729, are set up, each in its own shrine, round the pagoda under Mandalay Hill, known as the

Kuthodaw, the Royal Work of Merit. The *Bitaghat*, as the Burmese call the Three Baskets of the Law, is written in metre, and has no less than 84,000 versicles. The first portion, the *Thôt*, or *Thuttan*, contains instructions for laymen; the second, the *Wini*, concerns itself with the conduct of the religious; and the third, or *Abidamma*, launches into the metaphysics pondered over by those who seek the higher path.

The Burmese religious romances are also metrical, and there are no less than 550 of them, each illustrating some particular moral lesson to be drawn from some existence of the Buddha. Ten of them are especially noted: the Temi, Nemi, Mahaw, Buridat, Zanekka, Sanda Gômma, Thuwunnashan, Nārada, Wīdura, and Wethandaya. The last is the most popular, and has been frequently translated and summarised in English.

The Pāli texts are supposed to have been in great part dictated by the Buddha Gautama himself. Only an insignificant portion is credited to his Indian disciples. The Zat are no less of Indian origin. The only formal national works which can be said to belong to Burma are the *Mahā Yāzawin*, the Royal Chronicle, and various city chronicles and histories of temples. These are mostly a mixture of fabulous tales, mythical imaginings, pedigrees, dry records of fightings, with an occasional excursus in the shape of tales about the doings of some special prince who had the individual character to give occasion for such things. The doings of most of them would not extend beyond a list of the wives they took and put away, and the wars they embarked on, or had forced upon them. Here and there are recorded leading cases in Buddhist law, which usually exhibit the judicial methods of King Solomon rather than what might be called strict logic and judicial sense. There is a special volume of such *scintillæ juris* in the "Decisions of Princess Thudammasari," which have the merit of being written in quite popular language, with no admixture of the Pāli, which pervades all the standard literature of the country.

The modern *Pyazat*, which may be rendered stage play, displays the real national literature. It sprang from the

Zats, or avatar tales, and, like the drama of most European countries, began in passion and mystery plays, and it has not even yet shaken off the traces of its origin. The plots are all taken from the stories of the avatars, or from the lives of princes supposed to have ruled in the countries near where the Buddha began his teachings. The clowns have taken the place of the devils of the morality plays, and they are very essentially modern, in the up-to-date sense of smartness. No music hall topical singer is quicker in bringing his patter into line with current events. But the gag of the clowns is not incorporated in the written text of the play. For that matter neither is a great part of the solemn platitudes of the kings and their ministers, which are interspersed between the songs of the princes and princesses and the facetiæ of the clowns. These may be taken to be survivals from the time when there was no literature but religious stories and chronicles. So that the modern play gives a sort of compendium of Burmese letters, the stately language of the court—which had a vocabulary all its own, just as much as the proper phraseology to be used in addressing a monk differs from the everyday talk of the people—alternating with the clown's references to steam boats, locomotives, and motor cars, and the immemorial erotics and transports of the lovers, who are always princes and princesses, but use the language of the sweethearts of all time, with Oriental gallantry of phrase and the coquetry of the burning sun.

There are other books, of course. There are the Laws of Manu, reduced to Burmese in 1775 from the old Pāli text said to have been written down by Manu in the fifth century before Christ, during the reign of the legendary King Mahā Thambawa, a sort of Mongolian King Cambuscan old. Manu began as a cowherd, and ended as a sort of absolute lord chancellor. There are also many books on magic and astrology—works treating of the significance of dreams and signs; tracts on the merits of the rival schools of medicine, the Druggists and the Dietists; collections of proverbs, and so forth—but they belong to the class of books which cannot be considered literature, and are at any rate not national literature.

The plays show the real genius of the people for letters, just as the play is the great delight of the Burmese.

The form of the dramatic performances is changing more and more. Twenty years ago such a thing as scenery was never thought of. A branch of a tree stood in the middle of a flat piece of ground, usually the street, covered over with mats, and round this the circle of spectators formed the only barrier. Now plays, in the towns at any rate, are being held in buildings, more and more commonly prices are being charged for admission, a thing that was never heard of in the old days, and, above all, scenery is being introduced. In the same way the music is being affected by reminiscences of Chinese or European airs. Burmese dramatic art is being no less prejudicially affected than other Burmese arts are by Western influences.

The *Mingala-thut*, the Sermon on the Beatitudes, is, perhaps, the most favourable specimen of the religious literature. It is the favourite with the Burmese themselves, and there are few who cannot repeat the Pāli text from memory. The discourse is said to have been delivered by the Buddha Gautama himself, and was reduced to writing by Ananda, his favourite disciple. It has been praised by many of other creeds, including the late Venerable Bishop Bigandet, who spent so many years working in Burma. It is as follows :—

Praise be to the Buddha, the Holy, the Allwise.

When the most holy and most saintly Buddha dwelt in the great monastery of Zetawun, built by the rich man Anatabein, in the country of Thawatti, there came to him a *dewa*, at the hour of midnight, when the whole building was ablaze with the effulgence which streamed from the body of the Buddha. The *dewa* placed himself neither too far nor too near, neither to the right nor to the left, but in the befitting spot, and after he had bowed low in humble obeisance he thus addressed the Buddha :

O Buddha, most excellent and most worthy to be adored, for the space of twelve long years many dewas and men, who have desired to reach to the holy state of

neibban, have striven to discover what things are blessed, but still they remain in ignorance. Do thou, therefore, instruct us in those points which are most blessed.

He who is to be adored replied:

Thou son of *dewas*; to shun the company of the foolish; to pay homage to the learned; to worship what is worthy of worship; these are blessed things. *Dewa*, mark them well.

Thou son of *dewas*; to dwell among good men; to have in oneself the consciousness of good deeds done in a former state of existence; to guard well every action; these are blessed things. *Dewa*, mark them well.

Thou son of *dewas*; to hear and see much in order to acquire knowledge; to study all science that leads not to sin; to make use of proper language; to study the Law in order to acquire a knowledge of propriety of behaviour; these are blessed things. *Dewa*, mark them well.

Thou son of *dewas*; to treat parents with tenderness and affection; to cherish well one's wife and children; to perform no action under the influence of sinful temptation; these are blessed things. *Dewa*, mark them well.

Thou son of *dewas*; to make offerings and give abundant alms; to act in accordance with the precepts of law and of virtue; to assist relatives and friends; to perform virtuous actions; these are blessed things. *Dewa*, mark them well.

Thou son of *dewas*; to avoid sin and be most instant and strenuous in such avoiding; to abstain from spirituous liquor; to remember always the principle of accumulating merit; these are blessed things. *Dewa*, mark them well.

Thou son of *dewas*; to pay respect to all those who are worthy of regard; to be ever humble; to be ever contented; to be grateful for favours received; to listen to the preaching of the Sacred Law at the proper times; these are blessed things. *Dewa*, mark them well.

Thou son of *dewas*; to be patient and endure suffering; to rejoice in edifying discourse; to visit the holy men when occasion serves; to converse on religious subjects; these are blessed things. *Dewa*, mark them well.

Thou son of *dewas*; to practise religious austerities; to

continue firm in the sublime truth; to study to act always in the most virtuous way; to keep the eyes firmly fixed on the attainment of Neibban; these are blessed things *Dewa,* mark them well.

Thou son of *dewas*; to be unmoved; to be of tranquil mind; to be exempt from passion; to be perfectly composed and fearless amid all earthly dangers; these are blessed things. *Dewa,* mark them well.

O *Dewa,* whoso possesses and observes these thirty-eight blessings shall never be overcome, and shall find happiness in all things. Dewa, mark thou them well, so shalt thou enjoy the peace of the Ariyas.

Thus the most excellent Buddha replied.

Prefixed to every Burmese work is a phrase which corresponds to the *Ad majorem Dei gloriam* of the Society of Jesus: "Praise be to Bagawa [the Buddha, as the displayer of the six glories], the Holy, the Allwise." His teaching justifies it.

The *Zats,* and particularly the ten great *Zats* alluded to above, are all in the nature of dramatic tales, teaching a moral, and the greater number are represented as having been actually told as apologues, or delivered as parables for the instruction of his disciples, or even of larger congregations. The custom is a common one in the East, and arrests the attention and touches the feelings much more effectually than the pronouncement of unadorned points of doctrine, or the bare recital of injunctions to discharge the duties incumbent on every man in his proper station. Humility, resignation, gratitude, and patience, to say nothing of piety, are much more forcibly presented in this way than in a mere dry enunciation of the moral virtues. Moreover, the tales are all Indian, and it was easier for the Buddha and for his pupils to learn the democratic religion and its tenets in this way.

The *Zats,* therefore, all begin by saying that when the most excellent Buddha was in the Zetawun Monastery, or in the country of Meiktila, or in the forest somewhere, he desired to warn some particular person against the habit of keeping bad company, or of talking recklessly, or of undue pride, and, therefore, he told the following story.

Thus the Zanekka Zat is intended to emphasise the necessity of overcoming the passions and of renouncing the world and all its vanities. What follows is a short summary of the story, and illustrates the general character of all the Zats:—

There was a King of Mithila, or Meiktila, named Zanekka, who reigned for many years with great credit and prosperity. When he attained impermanence and ascended to the village of *nats* he left behind him two sons, Arita and Paola Zanekka. Arita succeeded to the throne, and, after the funeral rites and his own purification, appointed his brother commander-in-chief—a post which Paola had already held for some time.

But enemies of Paola hinted treason against him, and Arita arrested him, and cast him into prison. Paola was absolutely innocent, and this virtue enabled him to escape, and fly to a part of the country where he had many supporters. Here he assembled an army, and when Arita marched against him with a large force Paola's army defeated the royal troops. Arita was killed, and Paola succeeded him on the throne.

Arita's Queen, when she heard the news, dressed herself like a peasant woman, put her most valuable jewels and gold ornaments in a rice basket, covered them over with rice, and then put a dirty clout on the top. In this disguise she left the palace and city unattended, went out by the south gate unchallenged by the guard, and wandered away into the country. When the sun was high in the skies she took shelter in a rest-house to rest and consider where she should go. Some of her relations lived in the country of Sampa, and she resolved to go there if she could find her way.

Meanwhile one of the Dewas had his attention attracted by the Embryo Buddha, who was in the Queen's womb, for she was with child. The Embryo Buddha had pity on his mother's forlorn state, and inspired the Dewa to come to the Queen's assistance. The celestial being took the shape of an aged man, left the blissful seats of nats, and led a carriage up to the rest-house where the Queen was reposing. He introduced himself, invited her to

take a seat in his carriage, and promised to guide her to the Sampa country. The conscious earth swelled up to the level of the carriage floor, so that the Queen was able to step in without trouble, and the party set out. They travelled with such expedition that the suburbs of Sampa were reached during the night. The Queen alighted at a rest-house, where the Dewa advised her to wait for the dawn of day; and then the carriage disappeared, and the Dewa returned to his home in Tawadeintha.

That same night a very famous *pônna*, Pamaoka, a Brahmin, with 500 of his disciples, left the city of Sampa to take a walk in the cool moonlight and to bathe in the river. Pamaoka also was inspired to know of the presence of the Embryo Buddha in the Queen's womb, and he stopped at the *zayat*, the rest-house where the Queen was seated, waiting for the day, while his disciples went on to the river-bank. The *pônna* went up to the Queen, and begged her not to be alarmed, but to confide in him and to look upon him as her brother. The Queen was moved to trust him, and told all her story. This so moved Pamaoka to compassion that he resolved to support and protect her. Accordingly, when his disciples came back, he told them that he had recovered his long-lost sister, and bade them take her to his wife's house, where she was to be treated with the greatest consideration and care. He himself then went on to bathe in the river according to custom.

The disciples and the *pônna's* wife did as they were told, and the Queen was received hospitably, and most affectionately looked after; and before long she was delivered of a male child, who shone like an image of gold, and received the name of Zanekka. The boy grew up, and was taught all the learning for which Pamaoka was famous; and at the age of sixteen he had completed his studies, and was told the name of his father by the Queen.

Zanekka had before this been taunted by his playmates "as the son of the widow," and he now resolved to make a fortune, so as to be able to reconquer some time or other the throne of his ancestors. He, therefore, de-

termined to enter into partnership with a company of merchants, and to devote himself to trade. His mother gave him a portion of the treasure which she had carried away in her rice basket, and with this he fitted out a ship, and set sail with his partners for a far country. But they had not been many days at sea when there arose a violent storm, and the vessel before long burst in pieces, and became a total wreck. Of all the crew and passengers, to the number of 700, only Zanekka was saved alive. The others were paralysed with fear, and perished miserably. But Zanekka, conscious of his high destiny, and resolved to fulfil it, seized a log of wood, and for two days swam with all the strength he had in him, and battled with the raging sea. He struggled for some days, but could hardly have escaped from adversity if it had not been for a daughter of *nats*, who held watch and ward over that ocean. She saw him from on high, and was moved to admiration by his dauntless courage and determination. So she descended, and entered into conversation with him, and was confirmed by his spirited replies that it was not proper that he should become a prey to the waves. She took him up in her arms, and carried him off to a mango grove in the country of Mithila, and placed him on a broad, flat stone where Zanekka's ancestors had been wont to pass the time in the hot weather. Zanekka, worn out with his efforts, immediately fell into a deep sleep. The nat-maiden of the sea then commended him to the care of the spirit of the grove, and ascended again to the skies.

On the very day that the ship was wrecked the King of Mithila had died. Before he attained impermanence he summoned the ministers of State before him, and told them to take the very greatest care in selecting a husband for his only daughter, Thiwali. She was his only child, and her husband was to be ruler over Mithila, and, therefore, the man to be chosen for her must excel not only in intellect and intelligence, but must be distinguished for beauty of person and for personal strength. He was to be able to string and unstring the famous sword of the State, a feat so great that 1000 soldiers could hardly compass it with their united strength. This was to test his manly

vigour. And he was to be set to find sixteen gold cups that had been hidden away, which would be a trial for his acuteness of mind and resource.

Not long after this the King ascended to the village of nats, and seven days after the funeral and the ceremonies of purification the ministers and *pônnas* assembled together, and made formal announcement of the trials which would determine which of all the suitors for the Princess's hand was to be the fortunate man. Many came forward, but none proved to be worthy. At length it was resolved to leave the decision to Fate, and the old test of sending out an empty chariot was resorted to. A horse was harnessed, and the charmed carriage was sent out to make its way by the virtue inherent in it to the man whose destinies were to be united to those of the Princess. In the wake of the coach, empty of all human beings, and guided only by the inspiration conveyed to the horses, followed soldiers, musicians, *pônnas*, and men of rank in the State.

The experiment proved an entire success. The horses went straight to the mango garden, with as little hesitation as if they had been guided by outriders, wheeled through the trees, and halted by the broad flagstone where Zanekka lay asleep. The Brahmins came forward, and inspected the sleeping man's hands and feet, and saw undoubted signs that the stranger was marked out for high destinies. The music, therefore, struck up, and wakened Zanekka. They hailed him as King, gave him the royal robes to put on, led him to the chariot, and then returned in triumphant procession to the palace, which they entered by the gate of honour, that towards the east.

Zanekka was told of the conditions laid down by the King, and proceeded to the test. He bent and unbent the bough as if it were a toy; he found the cups as if he had hidden them himself. Everything went with the ease and grace of a happy dream, and the wedding with the young and beautiful Thiwali was celebrated with a promptness which would have anticipated every wish of the most ardent lover. The people rejoiced with ideal enthusiasm; the rich brought gifts without stint, and with

glad faces; the *pônnas,* all robed in virgin white, poured the consecrated water from the sacred alabastrine cup, brim-crowned with flowers. They bent to the ground, and invoked happiness and blessing on the new-crowned King, and all the land was exceeding happy.

Zanekka did not fail to quit himself worthily of the high expectations formed of him. He bounteously rewarded the *pônna* Pamoaka, who had been the protector of his childhood and the instructor of his growing years, and raised him to high honour. He fed the poor, he cherished the aged, and did good to all. Never was land so happy. The King never forgot his early hardships. He loved to tell his courtiers of his times of adversity, and emphasised the reward which comes to zealous effort. He bade them never flinch before the most discouraging obstacles, but always to maintain a high purpose and an unbending resolution in the face of the most heart-breaking trials, because success must always crown virtuous resolve.

He reigned over Mithila for 7000 years, and during all that time the land had peace and plenty. Zanekka faithfully observed the most minute ordinances of the law; he governed the people justly; fed all the Rahans and Buddhas that were to be; and bestowed abundant alms on the poor, so that his reign was a golden time.

Ten months after the wedding Thiwali was brought to bed of a son, who was named Digaot. Some time after the King was pleased with some mangoes which were placed on his table. Never had he seen or tasted fruit so beautiful or with so delicious a flavour. So he mounted his elephant, and rode out to see it. In the orchard he found two mango-trees standing side by side. One had the most luxuriant foliage that could be imagined, but had no fruit; the other was loaded with luscious mangoes. He plucked some, and found the flavour most admirable. Then he rode on through the wide extent of the garden. The courtiers and the train that followed him also found the mangoes most delicious, and showed their appreciation so thoroughly that when the King came back there were neither leaves nor buds nor fruit upon the tree—nothing but bare branches. The

King was astonished, but he improved the occasion. He delivered a long discourse to his court, and wound up as follows:—"The riches of this world can never be without enemies. The man who possesses wealth is like this mango-tree. The only good we should seek for is the possession of that which cannot excite desire or envy or jealousy or passions of any kind. None possess these blessings except the holy men and those who are destined to be Buddhas in the fulness of time. Let us take a lesson from this mango-tree. I myself will show the way. In order to free myself from the troubles and evils and vexations of life I will renounce all, and become a Rahan."

He returned to the palace, and forthwith executed his purpose. He gave orders to his ministers to carry on the affairs of State, with strict observance of the law, accordingly as he had shown them, showing favour to none, and dispensing justice to all. He had a guard mounted over his apartments, so that none should enter, not even the Queen or the ladies of the court—no one except the man who brought him his one meal a day. So he remained for four consecutive months; and the chorus sings the praises of the man who could renounce the pomp and pleasure of royalty, and deny himself the solace of the companionship of his Queen and concubines.

Zanekka follows them with a monologue on the happiness of those who devote themselves to the religious life, on their scanty fare, their zealous observance of all the duties of the law, their sincere longing for the bliss of Nirvana, their abandonment of the temptations of passion, the calm and contentment which possessed their steadfast souls. He contrasts it with the richness and fertility of his kingdom; the spacious sweep of the walls and moats of the great city, with its stately gates, wide expanses, majestic buildings, and waving trees; and the magnificence of his own gorgeous palace, with its lofty domes and glittering pinnacles, his magnificent robes and jewels; the cool depths of his gardens and pleasure grounds; the limpid waters of his ponds and sheets of silver meres; the elephants, steeds, carriages

of State, troops of courtiers, and long lines of proud soldiery; the ministers who hearkened to his least word; the princes who bowed to his will; the delicate ladies of his court who worshipped him; his beauteous Queen. He dwells upon them all with loving fertility of phrase and enthusiasm, and ends each stanza with the sigh: "When shall I leave them—when shall I give them all up, and adopt the holy, the quiet, the peaceful, the religious life?"

For four months he meditated thus, and then he made his resolve. He procured through a trustworthy servant the three yellow garments of the monk: the jerkin-like covering of the body, too loose for a doublet, too short for a gabardine; the loin-cloth fashioned like a skirt, and fastened with a leather girdle; the rectangular cloak to drape over his shoulders; the mendicant's bowl, the small hatchet, the needle, and the strainer. He had his head and beard shaved, he put on the sacred robes, took a staff in his hand, left his chamber, and walked out of the palace gates unnoticed, with the slow and dignified gait of the order.

Meanwhile Queen Thiwali was longing for the company of her husband. She wished to lure him back to the court, so she called together 700 of the fairest maids-of-honour and ladies of the court, and at the head of them went to the King's apartment. On the way the dazzling bevy of beauty passed Zanekka going forth in his ascetic's robes, but not one of them recognised Zanekka in the guise of a monk who had passed many years in the order. They bowed to him as to a holy man who had been invited to an audience of the King. But when they reached the chamber, and found the royal garments laid aside, and the long black hair lying on the couch, they realised what had happened.

The Queen ran with all haste down the stairway, and overtook Zanekka at the city gate. Her scared and fluttering court followed with what speed they might. She fell at his feet. They entreated, they wept, they tore down their hair, they beat their bosoms, and displayed all the allurements that might win him back to love and passion. Supplications, entreaties, tears, love's

tenderest fascinations were all in vain. Zanekka passed on, unmoved and emotionless, and continued on his way to the Hemawunta Forest, the abode since the time of hermits of the Ramayana of ascetics and men who had abandoned the world. He said he had done with passions and the desires of the flesh, and that nothing could move him from his purpose.

The Queen followed after; but there also followed two anchorites, Narada and Migazein, who flew through the air from their caves, in the depths of the woodland, to witness the struggle between love and determination, between strength of will and weakness of the flesh. They joined in the contest. Where the Queen pleaded with tears in her voice and yearning in every tender gesture, and tried every wile that love could prompt to turn Zanekka back, to impede, to retard his journey, they preached the holiness of his purpose, the glory of his renunciation, the duties of his new calling, the necessity to strangle passion, affection, regard. Clad in their skins of panthers, they were as frosty as the icicle that hangs from Dian's temple, as ruthless towards earthly fancy as the beasts whose pelts they wore. And so the journey fared on, and the conflict with it. Zanekka strode forward with his eyes fixed ever before him, and the Queen kept hard behind him, and the ladies of the court faltered after, and ever the two zealots hovered above.

At length one evening they reached the outskirts of a town called Daona. The King passed the night beneath a tree, removed far from his consort and her wearied train. In the morning he went into the town to beg his daily food, as he had done since he left the royal city. There he happened to stop a while at the shop of a man who made arrows. He saw this man pick up an arrow, close one eye, and look along the arrow shaft with the other to see if the shaft were perfectly straight. Zanekka asked him why he should do this, since most men could see better with two eyes than with one. The arrow-forge workman said it was not always good that everything in the world should have its match. "If I were to make a practice," said

he, "of always using both eyes my sight would take in too many things at the same time, and would be distracted from my work. But when I use only one eye I can see the least defect in the wood and the smallest deviation from a straight line, and so I make good ell wands that fly true to their mark. If we have to do a thing we must concentrate our thoughts on the one object, and not let two wills conflict, and bring about bad work. I can see an instance in you. You appear to be a *Rahan*; you have put on the yellow robe and have shaved your head; you think you have abandoned the vanities and the temptations of the world; and yet you go about followed by a great company of women and their attendants. You cannot be a proper *Rahan*, and effect your emancipation from sin and misery, if you travel the world in this fashion. Think of me and my arrows." Zanekka rose, and went his way, pondering deeply on what he had heard, and ashamed that he should thus be rebuked by a man who laboured with his hands.

He had only gone a little way when he came upon a number of little girls playing in the street. One of them had a silver bangle upon each arm, and a gold one upon her right wrist only. As she played the silver and gold armlets jangled together. Zanekka idly thought he would test the readiness of wit of the little girl, and asked her why when she moved her arms only one of them produced a sound and the other none. She looked at him merrily and at his sacred robe, and said. "My left hand, which has only one bangle, is the model of the *Rahan*, who ought to be alone, so that in silence and solitude he may find the upward path. In this world, when each thing has its match, there is knocking together and noise and disquiet. I wonder that you who seem to be a holy man should take about with you a woman who is full of youth and beauty and must disturb your thoughts. Is she your wife or your only sister? Even if she is only your sister it is not good that she should be with you. I am only a tiny little girl, but I know that monks should not go about with women."

This second rebuke, and coming from a little girl,

finally decided Zanekka. He left the town, and entered a great forest, which approached close to the walls. He went in but a little way, and halted till the Queen, who ever followed him, came up, and then he broke a small branch from a tree, and held it up before Thiwali, and said: "My Queen, you see this branch. I have broken it from that tree. It can nevermore be reunited to the stem from which it has been broken. Even so is it impossible that I should ever join myself again to you."

Thiwali fell down in a faint, and her handmaidens crowded round to restore her. Zanekka hurried off in the confusion, and disappeared unnoticed in the depths of the forest. He could not be traced, and the ladies of the court carried the Queen back to Daonu, and thence to Mithila. Zanekka remained alone in his solitude, and devoted himself to constant meditation for a period of 3000 years. Thiwali also reflected deeply for a time, and then resolved to follow the example of her lord, and to renounce the world. She entered a convent in the royal gardens, and there, for a like period of 3000 years, pondered over the impermanence, the misery, and the unsubstantiality of earthly things, and when she passed away she entered one of the seats of Brahmas, called Brahma-parithissa.

When he had finished his parable the Lord Buddha said: "Mani-megala, the daughter of nats, who saved me in the midst of the raging waves, is now my beloved, fair disciple of the left, Upalawun. The little girl who gave me such wise advice in the town of Daonu is now Kema, my fair disciple of the right. The Rathi, Narada, has now been reborn as my great disciple Thariputra, who comes next to me in knowledge and wisdom. The other Rathi, called Migazein, is now Mawkalan, the disciple who has powers of displaying wonders which almost equal my own. The man at the arrow forge now reappears as Ananda, my faithful and dutiful attendant. Thiwali the Queen has become the Princess Yathawdaya. Zanekka is, you will readily understand, the being who now addresses you, who has mastered all laws and all principles of nature, and has become the teacher of men, of *Nats*, and of Brahmas."

The following story is from the Shan, and is a specimen

of the sort of fairy tale which is to be found mixed up with pedigrees and bald facts about dynasties and the founding of towns in formal State histories. It is from the Shan, but might just as well be Burmese :—

The History of Tagaung Tanyap

In olden days there was a conntry called Tagaungsa, and in the village of Makkawk, to the north of the capital, there lived an old couple called Puyatao and Naiyatao. They had one son, who was called Soktareit. One day this youth came to his parents, and said : "Dear father and mother, now I have grown up to be a man, and I am very poor, and win barely enough to give myself food and clothing, therefore I have come to ask your permission to go to the country of Takkaso to learn wisdom and knowledge."

Then the old people said : "Dear son, we cannot refuse you leave to go. If you wish to acquire wisdom and learning there is no more to be said ; you have set your mind on it, so you may go."

Then Soktareit left his father's house, and went to Tokkaso, through wide forests and over great hills, and at length he came to the famed city. There he sought out a learned teacher, and went to his house. Now, the teacher was full of all knowledge and learning, and was very famous for his knowledge both of the past and the future ; there was nothing that he did not know. Soktareit went to him, and saluted him, and told his name and country and condition, and begged that the learned man would take him as pupil. The teacher looked at him carefully, and then said : "Stay where you are ; do not go farther. You shall live in my house, and I will feed and clothe you." Soktareit stayed accordingly, and worked all day in the teacher's upland fields and in his lowland fields. There was not a day that he did not labour, but he never learnt a word of wisdom all the time. After three years of this he said to himself : "Here I have been slaving for three years. I eat and drink and am clothed, but the learned teacher teaches me nothing of his wisdom or his lore.

I am separated from my father and my mother for a long time, and I greatly wish to see them again. Moreover, I am learning nothing at all. I will ask the teacher to let me go home again." So he went, and saluted, and asked for permission to go. The teacher said "Without gold and silver you cannot gain learning, but I will tell you an old saw

> 'In time of need,
> More haste, less speed.
> Go not to sleep
> If life you'd keep.'

"If you ask me the bearing of this I will not tell you, but keep it well in mind if you would have length of days; also, if you ask many questions, you will get many answers. Now you may go."

So Soktareit set out on his journey, and when he came to the country of Tagaungsa he found that the King of the country was dead. Now, the King had a daughter, whose name was Nang Pu Hkam, and she had a lover; but he was not a man, but the King of the Snakes. Now, the King when he died had said that whoever married Nang Pu Hkam was to be King. And many men married her, but always on the seventh day the King of the Nagas came, and killed the man; poor or rich, they all died. And all the men of the country, whatever their state, all feared to be King. Then the ministers of State and nobles assembled, and considered what was to be done, since it was necessary that some one should be King, and there was no one who dared to wed Nang Pu Hkam. For if the maid were head of the country there was not a town or village outside the State that would not laugh, and say: "What manner of country is this that cannot get a king, and has to be ruled by a girl? And what sort of a princess is she who cannot get a mate?"

While they were debating Soktareit came up, and after looking on for a time asked why they were so disturbed in mind, for he remembered the saying of his teacher: "If you ask many questions you will get many answers." The ministers told him the situation. Soktareit said: "I do not know why the people of your country should fear to be

King, but since it is so I will be King of your country for you." Then the nobles and ministers rejoiced greatly, and said: "It shall be so." And they took Soktareit and Nang Pu Hkam, and made them man and wife forthwith, and he was hailed as King of the country.

When Soktareit was established in the palace he bethought him of the teacher's words: "If you do not sleep your life will be long." And he thought to himself: "If I do not keep wide awake I shall die as the others have died. I must search the palace well, and keep a strict watch, and be very wary." Accordingly he sat up every night, and kept a sharp lookout. And on the seventh night he saw the Naga come out of the top of one of the house-posts, which was hollow all the way up, and steal forward cautiously to see if there were any one sleeping by the side of Nang Pu Hkam. And when he saw that there was no one there the draken took on him the form of a man, and spent the night beside the Queen; but it was clear that if Soktareit had been there he would have been murdered by the Naga.

Now, this hollow post up which the Naga crept was the stem of a sagawa or champac tree, which had grown at Wansan, in Möng Kut (Mogôk, the Ruby Mines tract); and the stump of it remains, and may be seen to the present day. In former days there was a great lake at Möng Kut in which the nagas used to disport themselves, and the hills that still stand round about had caves in which they lived and slept. The men who dig for precious stones there have, some of them, ventured into the depths of the caverns, and have seen traces of the dragons—marks of their scales, and what not. But the lake itself now no longer exists. It has vanished away and become paddy land. And those who dig 14 or 15 cubits into the ground still find diamonds and rubies, and they are there because aforetime the dragons sported in the lake. In former times the King took the trunk of the champac-tree to make a post for his daughter's house, and when the post was being dragged to the site of the house it did not go straight like an ordinary post, but wriggled and zig-zagged about as if it were a serpent. And that post may yet be seen in Möng Mit *haw* to the present day (the *haw*

or palace, of Möng Mit was burnt at the time of the annexation of Upper Burma). And the people of Möng Mit used to worship the spirit who dwelt in it, and reverenced it with frequent offerings. And this was the post up which the King of the Nagas crept every seven days to Nang Pu Hkam's bed-chamber. And he killed any man whom he found there, but if he found nobody he took the form of a man, and embraced his sweetheart.

Soktareit had now possession of the secret arrival of the Naga, but he told nobody about it. During the next seven days he sharpened his *da* with great zeal, and determined to hack the creature in pieces. And on the seventh day he cut two large bunches of plantains, and put them down near the bed, and over the plantains he spread a buffalo hide, and on the top of this he spread a blanket, and arranged it all so as to be like a sleeping man.

At midnight the Naga, according to his custom, crept up the hollow post, and when he got to the top he saw what he thought was the figure of a man by his lady-love's bed, and he was very angry. He slid down the post without a moment's delay, and bit deep into the figure. But the tough buffalo hide caught his teeth, and he could not free himself. Soktareit rushed forward, and struck once, twice, thrice with his *da*; and the keen edge cut through the scales, and drank the blood, and sped the life of the draken.

And when the woman saw it she was very angry, and said to herself: "This man comes from nowhere, and becomes King of the country; and no sooner has he become King than he kills my leman, and delights in the deed." So she took the body of the Naga, and got men to soften the scales with ointments, and take them off, and she gave them Rs.1000 for this; and then she got others to fashion them into a mattress, and pillow for her head, and paid them Rs.100 for their work; and she took a bone of the draken, and fashioned it into a pin, and wore it every day in the knot of her hair; and she slept on the dragon mattress and laid her head on the cushion.

And one day she came to the King, and said: "My lord, it is a custom of the country of Tagaungsa that

on this date a question is put to the newly crowned King of the country, and if he cannot answer it he is put to death by her who asks the question, and if he solves the riddle then he kills her. Will my lord abide by the custom?" And Soktareit answered, and said: "Wife, what is it you have to ask?"

Then Nang Pu Hkam said:

> "For a thousand they stripped;
> For a hundred they clipped;
> His bone rests snug in his true love's hair.

Rede me this."

Soktareit had no answer to give. He fell into confusion, and was not able even to speak. After a space the woman said: "If you cannot solve it to-day I will give you time to consider. I will give you seven days. I will do more: I will permit you to consult with the ministers of State, with all in office under you, with your bodyguard, with the servants of the palace, with your men of learning, with the people inside the city and outside the city, with your villagers, with whom you will; but if you do not give me my answer inside seven days, as I live I will kill you. But if you solve it then shall you put me to death."

Then the King thought and thought till he was dazed. And he consulted his ministers, his servants, his slaves, any one he came across, but there was not any one of them who had ever heard a riddle of the kind, and not one of them had even the wit to do more than say so. And the King grew more and more bewildered and despondent. The rhymes of his teacher were no help whatever to him.

Then when the seven days were near their end Soktareit's father and mother, Puyatao and Naiyatao, who dwelt in the village of Makkawk, to the north of the city of Tagaungsa, heard the stirring news of their son's arrival in the capital and of his elevation to be King of all the land, and they resolved to get them from their little cabin, and go to see him. So they started very early in the morning, and plodded along the road, and after a time they sat down to eat their morning meal and rest themselves.

Just then the spirits of the village and of the country were talking among themselves, and saying: "This King of ours, if we do not help him, of a surety he will die." They saw the old man and woman, and knew who they were, and two of the superior nats immediately turned themselves into crows, and flew to a tree above the old couple, and perched upon it, and began talking to one another. And the one spirit crow said: "Where shall we go to-morrow to get something to eat?" And the other replied: "Why, of course, we shall go to yonder city." "And why should we go there?" asked the first crow. "Why, don't you know that the King has not solved the riddle that Nang Pu Hkam set him? To-morrow is the seventh day. To-morrow she thinks to kill him. To-morrow, when he is dead, we shall have a king's flesh to tear and a king's bones to pick." Then the first crow said: "What was it that she asked him? Do you know the riddle?" "Why, of course I do," said the second crow; "I thought we all knew it. The King hacked the life out of the Naga who loved the Queen, and she wants to follow him or to avenge him—what do I know? Why, she got men to tear off the draken's scales and to soften them with unguents, and she gave them a thousand pieces of silver for doing it. And then she got other men to fashion the scales into a mattress for her to lie upon, and she gave them a hundred for their handiwork, for she loved the draken dearly. And then she took one of his bones, and made it into a hair-pin, and she wears it constantly for love of him. And then she made up a jingle of words out of her doings, and told it to the King, and he, poor soul, can make nothing of it. To-morrow is the seventh day, so he must die the death. And we shall go and eat him at our leisure, so let us go and tell the other crows." And so they flew away. Then the old people, who had listened to the whole that the crows said, for they knew the language of birds in those days, rose up, and hurried into the city, and asked the King what the riddle was that had been set him, and when they knew they told him all that the crows had said to one another, and the King noted it all carefully.

Then when the seventh day came the Queen entered

the King's presence, and said: "The time has arrived. That puzzle which I set—has my lord solved it?" And the King replied: "Yes; I have unravelled your tangled words: I killed the draken. Then was your mind darkened, and you caused men to strip off his scales, and to make them soft and pliable, and you gave them a thousand pieces of money. Then you had the scales joined together and formed into a mattress for your couch, and nightly you lie on it, and you gave the tailors a hundred coins for it. And the bone of the Naga you fashioned into a pin for your hair, and ever you wear it. Madam, is it not so?" And she replied: "Lord, it is so. Now kill you me."

Then spoke the King: "Woman, you are foolish, but I—I am not bemused. I will not kill you, for I fear impending pains of hell. But now I cast you off. Henceforth for ever we must remain separate. Do you go your way and I will go mine."

And the Queen rose up, and went to her chamber; and all day she was distraught, and ate nothing, and thought of her leman, and longed to follow him into the darkness. Then when night came, and all were asleep in the palace, Nang Pu Hkam called the man who watched at her chamber door, and bade him go and call the guardian of the palace gate. And when he came she said: "Wouldst thou be King? If so, well. Take thy sword, and go to thy house, and slay thy wife and child." And the watchman turned, and took his sword, and went to his house; and there he saw his wife and child sleeping peacefully in one another's arms, and he was abashed, and drew not his sword; and he turned, and left the house, and came to the Queen, and said: "Lady, I saw them sleeping in their innocence, and I dare not do this thing." Then said the Queen: "So you shall not be King." And the watchman went to his post, and fell asleep. The Queen again called her serving man, and bade him go and call the wife of the guardian of the gate. And when she came Nang Pu Hkam asked her if she dared go and kill her husband and her child, and said that if she did she would make her Queen of the country. Then the wife of the doorkeeper said: "Lady, I dare." And she went and took a

da, and cut her infant to pieces and hacked the life out of her husband. Then she came back to the Queen, and addressed her, and said: "Lady, what you bade me do I have done. My husband and child are no more."

Then said the Queen: "It is well. Now take my clothes and my ornaments, and wear them, and be Queen of the land." So the doorkeeper's wife took the clothes and the jewels off the Queen, every one of them she took, and she dressed herself in them. When she had finished the Queen said: "Now take your *da*, and cut me, and kill me, and cause me to die." And the doorkeeper's wife took her sword, and killed the Queen; and when she had done it she lay down upon the Queen's couch; and it was long past midnight.

At early dawn the ministers and officers of State met together, and reflected that it was on the day before that the Queen had set her mystic problem for solution, and they resolved to go and see whether the King had solved the riddle or not. So they set out, and came to the gate of the palace, and found it closed, though the sun had already risen. They tried to waken the guardian of the gate, thinking that he must still be asleep; but they could not make him hear, and at last they had to break in the door. And there they saw the doorkeeper and his child lying dead on the ground. They hurried on to the palace, and there they found the wife of the doorkeeper dressed in the robes of the Queen, and lying on her bed, and on the floor the Queen lay stretched out dead. So they went and told the King.

The King said: "Take the body of the Queen, and cut open her womb." So they called men to cut open her body, and in the womb they found two little nagas. And when they cut them in half they became four, and when they halved these there were eight, and they went on increasing tremendously. Then one who was learned in mysteries told them to take wood of the *mai-hpa*, which is a shrub, the flowers of which are offered to the nats, and to make tongs of them. So they made tongs, and kindled a fire, and held the little nagas in the flame till they shrivelled up, and died. And this is the reason that the country is now called *Tagaung* (one head, one animal) *tanyap* (one pair of

tongs), because they could not kill the dragonkins until they had roasted them each on his own tongs. And the country is called Tagaung-tanyap even to the present day.

Then the King gave orders, and said: "Dig a grave very deep, and take the wife of the warden of the gate, and bury her in it upside down. And the corpse of the Queen, take it, and bury it at a place where two roads meet; for if this be not done she will become a spirit, and will harry the villages and the towns and all the country." Then the gravediggers took the doorkeeper's wife, and put her head foremost into the grave, with her feet up to the skies and her head in the bowels of the earth, and they heaped the mould high upon her. And the Queen they buried at the cross-roads. And from her grave there sprang a red cotton-tree, which the Burmans call *lethkôk*, and the Tai *mainyu*, but some call it the Maisarang fish, and some call it the *Mawk-mein-ki*—the flower that stands up and expands.

The songs show the literature of the people at their best, but they are the most difficult to render. There is a truly national carelessness and light-heartedness in the way in which the metres are handled, and the rhymes are so easy in Burmese, or Shan, as to render the task of translation most heart-breaking. There are, indeed, laws which regulate the number of feet to the verse, but they are treated with calm disregard, not easily distinguished from a failure to recognise them at all. Much more precision is, indeed, expected in the old tunes than in those of modern date, but even with the old metres the song-writers allow themselves very considerable freedom. The old *linga*, or song schemes, are all very jigging in character. Thus the *pyo* has but four feet; the *kabya*, four; the *yatu*, six and four; the *luta*, four; the *yagan*, six and four; the *egyin*, four, five, and six; the *hmawlun*, four and six; the *paikzôn*, four; the *legyo*, four; the *sagyin*, four, five, and six, and so on. In the *thanzan*, or new tunes, however, the compass of the lines often approaches the portentous length of some of Walt Whitman's *Leaves of Grass*. Modern tunes of this kind are the *Kayā-than*, which is quasi-English, modelled

on bugle calls, the *nabē-than, nanthein Yodaya* (Siamese), *dobat-than,* and *pyigyi-than* (Chinese). The dolorous *ngo-gyin* and *lôn-gyins,* so common in every play, the mourning of despondent lovers or of forwandered princesses, cannot be designated otherwise than as rhythmical prose, with occasional fits of metre, when that comes obviously.

The question of rhyme is even more puzzling. In the plays and such-like productions rhyme runs absolute riot, so that it is quite common for every word in a line to rhyme with the corresponding word in the next verse of the couplet. These are so abundant as sometimes to be the chief characteristic of the theme, but it is impossible to produce them, except as a freak, or in some other mono-syllabic language. In English it is an impossibility.

With this proviso, the following may be given as samples of the songs :—

My Lady Flirt

Rangoon maiden,
Hair flower-laden,
Silken budlet,
Skirt like sunset;
Coat all milk-white,
Blinds in sunlight
Blush-pink kerchief,
Trailing kerchief;
Wisps of sunshine flashed from gems.
Dewa daughter, fair, fair;
Rosebud fairy, ware, ware;
Born men's hearts to snare, snare.

Bosom fragrant;
Eyes so vagrant,
Like the lightning,
Dark'ning, bright'ning;
Flash like starlight
Swart as midnight;
Gleesome, gamesome,
Frisky, tricksy;
Eyes like falchion, stab the heart.

Dewa daughter, fair, fair;
Rosebud fairy, ware, ware;
Born men's hearts to snare, snare.

Nor dark, nor fair,
Slim, debonair;
Hips wide that sway;
Arch shoulder-play;
Sly twist of arm,
Works men much harm;
Winsome all ways,
Sets hearts ablaze—
Kitten's ways that snatch the heart.
Dewa daughter, fair, fair;
Rosebud fairy, ware, ware;
Born men's hearts to snare, snare.

Cheroots she rolls,
Of hearts takes tolls;
Cheroots she smokes,
Makes men her jokes;
Cheroots and hearts
Burn by her arts;
Laughing, chaffing,
Burning, spurning
Naught but ashes rest behind.
Dewa daughter, fair, fair;
Rosebud fairy, ware, ware;
Born men's hearts to snare, snare.

There follows a *dobat-than*:—

NEGLECTED

Weeping I lie,
Sleeping I sigh,
Fain would have thee nigh.
Ah! Maung Shwe
Why away
Dost thou stray
From Ma Me,
Heartless and wanton, Maung Shwe?

Shiv'ring with dread,
Cold on my bed,
Sad I lay my head;
O'erborne,
With love torn,
Naked, worn,
All forlorn,
Neighbours and friends point with scorn.

Breath of my life,
Why shun thy wife;
Fain would she end strife.
Heart and brain
Cold with pain,
All insane
I remain,
Maung Shwe, love, come again.

Ah! stray no more,
Salt tears implore,
Stray not from thy door.
On my breast,
Sore distressed,
Take thy rest,
Sweetest, best.
Then will thy Ma Me be blessed.

Weeping I lie,
Sleeping I sigh,
Fain would have thee nigh.
Ah! Maung Shwe,
Why away
Dost thou stray
From Ma Me,
Heartless and wanton, Maung Shwe?

The Tai have much the same kind of airs and compositions. The British Tai are, however, very far behind both the Lao and the Siamese in musical sense, though practically all their literature is metrical. The number of feet in a line is much the same as in Burmese. Lines of

five syllables are, perhaps, most common, but those of four are also frequent. Later lines are long or short according to the skill or desire of the writer. The last word of the first line rhymes with the third of the second in five-syllabled lines, called *Kwam ha Kaw*, and with the second of the second in *Kwam hsi Kaw*, lines of four syllables. Tones also complicate the metre, and if the words of the metrical part of the first line begin with low tones then those of the corresponding part of the second line must have high tones. This is a detail which it is, of course, quite impossible to reproduce in English. Very often the writer seems to launch out into couplets of any length that suit his fancy when he is at a loss for a rhyme. Some of the antiphonal songs very common in Lao are very pretty, and are aided by play with candles, as in the *Poi Saw*, or with neckerchiefs and such like.

Lovelorn

Gold yolk of my soul,
Glistering gold;
Flower, sweet budding flower,
Bloom that would brighten darksomest shades,
Flower that would glorify death;
Sweet blossom, art breath of my life.
Ah, mightest thou rest on my breast,
Rest on my breast, gold yolk of my soul.

Eye of thee gleams,
Like brightest streams,
Crystalline streams,
Brighter than sun-soaked waterfall;
Limpid as pools and deep as a well.
I can but gaze with my eyes,
Gaze that but hints at my sighs.
Love-word not one may I utter,
Only gaze with languishing eyes, oh, my soul.

Nipples like love-buds,
Buds of young *Kaing* grass,
Ripples of love.

Neck that is fragrant with tenderest herbs,
Bosom too fragrant and soft as the down,
Breasts swelling high, all bliss in their curves;
Softer than velvet, sweet altars of love,
Altars of love, but that may not be.

Eyes have I sure;
Lips that would speak;
Ears that would hear.
Eyes, lips, ears, that would serve thee.
Destiny parts us; love may not be.
Bound art thou elsewhere, bound for this life.
Another existence mayhap may be kind;
Another existence, with you then as mine.

Lovest me, dearest?
Fairest and dearest.
Ah! there's no pledge.
Like me thou mayest, but ah! there's no pledge.
Given thou art by fate and thy parents;
Given to one who sees not thy charms;
Charms that entrance me, charms that enhance thee;
Dearest of loves, gold yolk of my soul.

Thou farest to town,
Wild, dissolute town,
With profligate men.
Ah! there they will plight thee, sweet hamlet's flower.
Some rollicking bully, who roams all the night,
Will wed thee and wander, unheeding thy plight,
All day he will slumber and reck not of thee.
Ah sweetest, my sweetest, gold yolk of my soul.

It seems probable that there will be great changes in Burmese literature before long. Already there are a number of vernacular newspapers, and a novel on Western lines has quite recently been published, with suggestions of Alexandre Dumas about it, and written in straightforward prose. That would have been impossible twenty

years ago. This book, "Maung Yin Maung and Ma Mè Ma," is not only printed at a local press, and bound in boards, but is actually illustrated with photographs, and has had such a measure of success that it will probably be followed by others.

Burmese is not a language that can be "picked up." It is possible to get quite a creditable knowledge of Hindustani and Malay in a surprisingly short time without any special study, and everybody learns a reasonable amount of Japanese. But it is quite different with Burmese. There are people in the country who have lived there for twenty years and have never got beyond three or four sentences, which they learnt, usually with an eccentric pronunciation, in their first three days.

Nevertheless, the knowledge of a few sentences is desirable, and acquaintance with some words almost necessary in out-of-the-way places. Moreover, it pleases the people. They take it as an evidence of good humour and affability, and it differentiates non-Buddhists from the other animals more than a very great deal of amiable, fatuous grinning—just as a dog that barks with discretion seems more friendly than one that merely wags his tail. The visitor also, unless he is very singular, will feel a glow of satisfaction, and almost think himself a member of the Aborigines Protection Society, when he gets an answer to a remark. He will not understand it, but it will be no worse than an interchange of opinions about the weather. When he comes home again a judicious sentence or two will almost convince people that he did not buy his silver and wood carving in Regent Street.

The consonants and vowels have the pronunciation assigned to them by the Royal Geographical Society.

"The Burmese Manual," by J. E. Bridges, British Burma Press, Rangoon, will be the best book for those who want to study the language.

PART VII

HINTS TO VISITORS OR NEW RESIDENTS

Those who merely wish to see the country should time their visit between the middle of November and the middle of March. Except for a few rainy days, usual about Christmas and the New Year, the weather may then be implicitly trusted.

The usual short tour of those who have little time at their disposal is from Rangoon to Mandalay by rail, returning by the steamers of the Irrawaddy Flotilla Company, preferably by a cargo boat, which makes halts at more places, and stops at them for a longer time, than the express steamers. But this may be a way of seeing the country; it is certainly not a way of seeing the Burmese. Rangoon is hardly Burmese at all. The natives of the country are living yearly farther and farther away. Even Puzundaung and Kyimyindaing can hardly be called Burmese nowadays, and Mandalay is not much better. It is only on the river steamers that anything of the ways of the people will be seen; and the people are much more worth seeing than the country, though that is a constant delight to those who have come from the wide, burnt-up, heart-breaking expanses of India.

It is not worth while going to Burma for less than this tour. Those who merely visit Rangoon see no more than they would if they went to Cairo or Constantinople and imagine that they have seen something of the East.

The tour through the province may be lengthened by taking the train from Mandalay to Myitkyina. In the cold weather it is possible to return from Myitkyina by the river. The passage to Bhamo used to be made by the Irrawaddy Flotilla steamers, between the fall of the river and the rise, varying according to the season,

but usually between the end of October and some time in May. The violence of the water in the Third, or Upper, Defile during the floods puts a stop to steamer traffic. Of late years, however, the company has taken off its service of boats, and passes have to be obtained on the vessels of the Indian Marine, which go backward and forward at frequent but irregular intervals. These may be obtained from the deputy commissioner, and they are worth applying for. The scenery in the Upper Defile gives an admirable idea of the Salween River in miniature.

Failing this, the return journey should be made to Katha, whence daily ferry boats, or semi-weekly, larger steamers, take the tourist to Bhamo. At Bhamo something will be seen of the Yünnan Chinamen and of the Shans and of the Chingpaw. But still, very little more of the Burman will be seen than at Rangoon or Mandalay; for Bhamo is more Chinese than anything else, and Myitkyina is not much more than a military station, with a sprinkling of more or less picturesque, by-courtesy-wild Chingpaw, with an occasional caravan of muleteers from far-away Yünnan, rushing through to the jade mines. There is a greater certainty of seeing mule caravans at Bhamo, but scarcely on the march, unless the traveller has luck. Pack bullocks from Nam Kham way should also be seen, though the rains is a better time for seeing them.

From Bhamo the return to Mandalay should be made by the river steamer, again preferably by the cargo boat. On the way the Dewa's Cliff in the Second Defile, the pretty wooded scenery of the Lower Defile, Thabeitkyin, the starting-off place for the Ruby Mines, and the Mingun Bell and Pagoda, will be seen. The cargo steamers usually halt everywhere long enough to permit of a walk on shore.

This round will give an idea of the Irrawaddy Valley and a general view of the country, but it will not be much more satisfactory than the tour in Japan which goes no farther than Nagasaki, Kobe, Kyoto, Yokohama, and Tokyo, with trips to the Inland Sea, Lake Biwa Nikko, and Miyanoshita thrown in.

The steamer and rail visitor to Burma may add to this, without discomfort to herself, by a steamer trip up the Chindwin by the Irrawaddy Flotilla boats to Kindat. Small launches can only go on to Homalin during the season of high water, when the climate is not so pleasant. There is some fine scenery on the middle stretch of the river, and the real Upper Burman will probably be seen to better advantage here than on the rush through Sagaing and Shwebo in the railway train.

From Mandalay also something of the Shan States may be seen by going by train to Lashio, the headquarters of the Northern Shan States. It is, perhaps, the least interesting part of the Shan States, but still Maymyo, the summer headquarters of Government; the Gôkteik Bridge, the second highest in the world; Hsipaw, a Shan chief's capital; and some characteristic scenery in the zigzag ascent to the plateau, and along the course of the Nam Yao beyond Hsipaw, will be seen. On bazaar days also a number of much more untutored Shans and Chingpaw are likely to be met with, either at Lashio or at Hsipaw, than in Bhamo or Myitkyina. But at neither place can the visitor expect to find accommodation as a matter of course, or to be fed and attended to with certainty, unless he has resources of his own.

Tours from Rangoon might include a visit to Bassein by the Irrawaddy Flotilla steamers, or to Moulmein by a variety of sea boats. The trip to Bassein will give an idea of the intricate network of creeks which make up the Irrawaddy Delta, and the visit to Moulmein will reveal one of the most prettily situated towns in the East, besides giving an opportunity of seeing the Farm Caves and a little of the Lower Salween.

Monthly steamers take passengers down the Tenasserim coast, through Tavoy, Mergui, and the Thousand Islands, past Victoria Point. This, however, implies a command of abundance of time, and would most easily be done by those going on to the Straits Settlements and farther East. The steamers, however, are very small.

All this can be done by the casual visitor, without any very special arrangements. The rapid tours can be accomplished with no more strain than is implied in taking

tickets and declaiming at the inadequateness of most of the Burma hotels, which are, some of them, nearly as bad as those in India. Those going to Myitkyina or Lashio may possibly find themselves in a very unpleasant predicament if they have not provided themselves with a servant and a cook. Still, many do it, and believe that they conferred great gratification on the persons who provided them with shelter and creature sustenance. But it is not safe to be too sure. The "proverbial hospitality of the East" sometimes fails. The few members of the station may have their houses filled with other people; they may be saving up to get married or to pay their debts; they may even be morose and averse to the genial society of those who tell them of the delightful trip they have had and the delightful vista of sight-seeing they have before them; they may be smarting from having their pay cut by the accountant-general; or they may not be in the station at all, but out touring in their charge. This last is particularly common in the cold-weather season, when visitors come most often. It is wise, therefore, and even considerate, not to trust too completely to be housed and fed by the English residents at either place.

It is quite imperative for those who wish to see something of the country, the real Burma, to provide themselves with a "boy" and a cook. These can be hired in Rangoon without much trouble. They are usually far from satisfactory, but if it is any consolation to the visitor, he may be assured that he is no worse off than the residents in the country. The cook will want some cooking-pots, and it would be well for the traveller to check the number of these by his own appreciation of his capacity for food. If he does not the cook will provide himself with vessels enough to feed an entire jungle station. The cost is not very great, but the bulk is trying to the sweetest temper. Iron pots, or aluminium, should be got in preference to copper if the visitor does not wish to be poisoned or to be tried by frequent demands for japanning. Both "boy" and cook will want advances, to leave wherewithal to support fruitful wives and cherished but aged parents.

They should get no more than half a month's pay, otherwise they may commence the journey in too jocund a state, inconsistent with separation from their household joys. Both will probably be Madrassis. The race does not command unqualified respect, but they are undeniably useful. They can talk practically all the languages of the Indian Empire, in the most atrocious way, no doubt, but still so as to be understood. They are usually Christians, and will, therefore, do anything. If you get a good caste servant he will probably talk no language but his own, and that in a high-flown way beyond the sphere of conversation manuals. He will also do nothing that his caste does not permit, and this leaves him immense leisure to concoct unexpected little bills for unimagined expenditure. Still, it would be well to get a Mugh cook. He is worth the additional pay, but he is not easy to get. It would be well also to get a tiffin basket and a few tinned stores. There are numbers of dâk bungalows all over the country, where cooking-pots, plates, knives, and forks are kept, but now and again it may be convenient to stop in one of the country zayats, or rest-houses, where nothing but shelter is to be had. Of course, bedding must be taken. That is necessary even for the train journeys, and with it should be bought a camp bed and a mosquito curtain. Wines and spirits must also be laid in according to inclination. The store can be replenished at any railway station or headquarters town. The same applies to tobacco and cigars, but if the traveller is fastidious as to brands, and restive under deprivations, he should arrange beforehand. The value payable parcel system will probably be of great assistance and gratification to him, besides lightening his baggage.

Provided in this way, the visitor will be as independent of railways as the ideal general ought to be. The township officer will assist him to get carts for his baggage, and tell him what he has to pay, and he may possibly also procure riding ponies for those who want them. A saddle, and most certainly a side saddle, should, however, assuredly not be forgotten. In the cold weather—and it will be most unpleasant to tour at any other season away from metalled roads—bicycles can be ridden almost anywhere, and will

be found most useful. Out of the towns Burma is hardly suited for motors yet. There are not many made roads, and the "country" roads are usually deplorably sketchy, besides that the country traffic would probably stampede across country, and the ensuing recriminations would take up much time.

The traveller made independent in this way will be able to do much without going really far from the railway or the river. He will be able, for example, to devote some time to seeing Pagān. The ordinary rush through made by people from a cargo steamer is very much like trotting through the Louvre after lunch. The Yenangyaung oil-fields or the jade mines can also be comfortably seen. A chief advantage, however, will be that it makes it possible to attend one of the country pagoda festivals, when the Burman can be seen to the best advantage, dressed in his best, and enjoying himself hugely. Everything most characteristic of the country can thus be seen: worship, processions, bartering, plays—both the marionette and the formal play, dances, and other simple joys. Much more may be seen, perhaps, at the annual festivals of the Shwe Dagôn in Rangoon, or of the Māhamunī in Mandalay, but they are most spoilt by the presence and influence of too many aliens. Besides, the Shwe Dagôn annual festival takes place on the full moon of March, when it is already becoming very hot.

Good local festivals, and easily accessible, are those of the Shwe Hmaw-daw at Pegu, the Shwe Sandaw at Prome, the Kaunghumdaw below Sagaing; while others, more rural, but very largely attended, are those of the Shwe Yin-hmyaw, not very far from Thazi railway station; the Shwe Zettaw, where the footprint of the Buddha is to be seen, in the Minbu district, a little more remote, and requiring a journey by cart or otherwise.

A visit to the Ruby Mines or to the Shan States requires more time, and a certain amount of preparation. To have the baggage taken by cart prolongs the journey too much, and it is necessary to hire mules. This can be done from the postal or other contractors, but care must be taken that the packages are not too heavy or too unwieldy in size. They should not exceed fifty or sixty pounds in

weight, and should not be too bulky to be strapped on an eleven hands animal. Tea, coffee, sugar, butter, and bread or biscuits must be taken, as well as some stores, for though live stock can be taken along, and fowls, eggs, and vegetables can usually be got everywhere, it is not judicious to count too certainly on it. There are travellers' bungalows at each stage, furnished with chairs, tables, bedsteads, and crockery. With carts it is impossible to do double stages, whereas this is quite easy with pack mules, with a march in the morning and another in the afternoon. A fortnight to three weeks would enable the Ruby Mines to be seen with comfort, and it would hardly be worth while to go to the Southern Shan States for less than three weeks or a month. Both these journeys may best be done at the end of the cold weather or in the hot weather. Lamps are provided, but it is well to have a camp lantern or a box of travelling candlesticks.

If the traveller comes direct to Burma, which he can do by either the Bibby line or Patrick Henderson's, he should leave the purchase of tropical clothes as much as possible to be done on his arrival in Rangoon, and take all his home clothes, winter and summer, and especially flannels, with him. The temperatures read rather high on paper, but with the range of the thermometer during the twenty-four hours the warmest clothes are often welcome. Khaki, shooting, and silk clothes are much better got in Rangoon, where the tailors make up a suit in quite an astoundingly short time, though, perhaps, the cut may offend the fastidious. Sun hats are always best bought in the East. So in Burma are waterproof coats, lawn tennis, and india-rubber soled shoes generally. They are specially made for the climate. Heavier footgear is best brought from home; so are riding breeches and gaiters. Shirts with soft fronts of white linen, matte, or lawn are very desirable. All camp furniture can be bought on arrival. It is as well to have a fitted medicine case, specially made up for the East, though they also can be got in Rangoon. For tours away from the railway it is desirable to have plenty of quinine and chlorodyne to give to the servants if necessary. It is well also to have a bottle of brandy and some pints of champagne.

Those who arrive in Burma from Calcutta or the Straits Settlements will come ready provided with necessaries and views of their own, and will be able to extend and practise their views and buy everything, except perhaps tents, if these are wanted for shooting expeditions. These can often be had, but it is better to get a light tent from Jubbulpore. Other camp furniture can be had in Rangoon.

As to climate, Burma has an unmerited bad name, owing to the mortality in the First and Second Wars, which were fought at the wrong time of the year. It is really a by no means unpleasant or dangerous country to live in. In some places the great range of the thermometer during the day is the chief danger. It is very easy to catch chills, especially in the dry districts. In the moist region the temperature is more equable, and the chief thing to note is to wear boots or Wellingtons at night to guard against mosquito bites. The *Anopheles* is by no means rare. It is as well never to sleep without a mosquito curtain, even when there are apparently no mosquitoes about. The curtain keeps out damp and all manner of flying and creeping things that have no business in bed.

It is better not to take small dozes of quinine every day. Many people dispute this, and grow deaf, and lose their complexion and their temper, and get fever—badly—all the same.

It is unwise to take all the drinks that are offered you at clubs and evening resorts generally. Curiosity as to "Colonel's" cocktails should be curbed. The sun should be treated with constant respect and covered head. Tinted glasses are very much to be recommended. Sunstroke can be got through the eyes, and sunstroke, besides being very dangerous at the time, has always lasting effects. When out shooting a spine pad should be worn, and care should be taken that your sun hat is not one that is in the way every time you bring your gun up.

It is not likely that the average person will escape prickly heat. A paste made of Fuller's earth and lime or lemon juice smeared on thickly gives great relief, and is said to be an actual cure, but not with every one.

It is as well to take as little ice as possible. It is

usually full of microbes, the more venomous for their imprisonment. Drinks may be iced, but should have no ice in them. The digestion will also correspondingly benefit. Water should always be filtered, and then boiled, and (preferably) then diluted. Do not drink lemon squashes, even when they are offered you by your dentist. Burma is a fairly good country for fruit, which, as elsewhere, should not be taken at night. The cold-weather visitor will get no durians. It is a matter of very pronounced personal opinion whether he is to be condoled with on this ground. Mangosteens he will also not get, and for this he is to be pitied.

Do not make personal remarks about Burmans who may come to see you. They probably understand English, and in any case they are very sensitive to ridicule. The women are very charming at a distance. They do not bear close inspection. They are quite as naïve as the Japanese, and far more free in their ways, but they greatly resent familiarity. Moreover, Government has thought it necessary to warn all officers against their "intelligence and business capacity."

Sport.—There is a great deal of game in Burma, but it is not nearly so good a sporting country as India. For one thing, it is almost impossible to get *khabar* (information), and there are practically no local *shikarris*, except in a few of the Karen districts. Buddhism forbids the taking of life, and the hunter is foredoomed to hell, there to be gored, chewed, lacerated with white-hot horn, tooth, and claw. Consequently shooting in Burma requires time and a judiciously moving camp, and, therefore, a good outfit and plentiful supplies if fever is to be avoided. The amount of jungle is also a great drawback, and also the thinness of the population, which makes it difficult to get beaters.

Shwebo and Meiktila are probably the best districts for general game. Snipe are to be got everywhere. Duck, geese, and waterfowl generally are plentiful on the lagoons along the Irrawaddy. Brow-antlered deer, sambhur, hog, and barking deer are found in very many places. Bison and wild cattle are more local. Rhino may be had in Tenasserim and at Thayetmyo, as well as in the

Shan States. In the Shan States almost everything can be got by the man who has time and patience: elephants, tigers, leopards, bear of several kinds, a great variety of wild and pole cats; deer of every kind, wild goats, and sheep; peafowl, pheasants in great variety; many kinds of partridge, real and so-called; waterfowl in immense numbers and of many species; snipe and woodcock.

There is also very good mahsir and other fishing.

APPENDIX I

DIVISIONS AND DISTRICTS OF BURMA

Lower Burma

Arakan Division lies along the eastern seaboard of the Bay of Bengal, from the Nâf estuary to Cape Negrais. Length 400 miles. Greatest breadth in the northern part 90 miles, gradually diminishing to the south, where it is not more than 15 miles across. Area 18,540 square miles. The population at the time of the British annexation in 1826 did not exceed 100,000. In 1831 it was 173,000, in 1839, 248,000, and in 1901 it had risen to 762,102. Headquarters Akyab.

Districts.—(1) *Akyab.* Area 5136 square miles. Population in 1901, 481,666. Three fertile rice valleys—those of the Myu, Koladaing, and Lemyu. Valuable forests in the hilly part of the district.

(2) *Arakan Hill Tracts,* under a superintendent, with headquarters at Paletwa. Area 5233 square miles. Population in 1901, 20,682.

(3) *Sandoway.*—Area 3784 square miles. Population in 1901, 90,927. General character hilly. Headquarters Sandoway with a population in 1901 of 12,845.

(4) *Kyaukpyu.*—Area 4387 square miles. Population in 1901, 168,827. General character hilly, with oil wells in various parts. Timber forests over 650 square miles. Headquarters at Kyaukpyu. Population 3145 in 1902.

Tenasserim Division, the easternmost division of Lower Burma, lying for the greater part between the Bay of Bengal and Siam. It has an area of 36,076 square miles, and the population in 1901 was 1,159,558, of whom 38,269, mostly Karens, were Christians. Headquarters Maulmein.

Districts.—(1) *Toungoo,* or Taung-ngu. Area 6172 square miles. Population in 1901, 279,315. Three ranges tra-

verse the district from north to south—the Pegu Yomas, the Hpaunglaung, and the Nattaung ranges. There are extensive rice valleys, but coffee is also freely grown. Headquarters Toungoo.

(2) *Salween.*—Area 2666 square miles. Population in 1901, 37,837. Nearly the whole district is a mass of mountains intersected by deep ravines. The only level land of any extent is along the course of the Yônzalīn River. The district is in charge of a Superintendent of Police, and the revenue is incorporated with that of the Amherst district. The population is mostly Shan and Karen. Headquarters Pāpun.

(3) *Thatôn.*—Area 5079 square miles. Population in 1901, 343,510. The great bulk of the cultivation is rice, but a good deal of tobacco is also grown. Thatôn was formerly a subdivision of the Amherst district, but was formed out of this and the Shwegyin district, which has now ceased to exist. Headquarters Thatôn, with a population in 1901 of 14,342.

(4) *Amherst.*—Area 7062 square miles. Population 300,173 in 1901. It forms a narrow strip of land between the Indian Ocean and the range which separates Burma from Siam. This area is cut up by spurs into a series of fertile valleys, and rice is the chief cultivation. Headquarters Maulmein, which is also the divisional headquarters.

(5) *Tavoy.*—Area 5308 square miles. Population 109,979 in 1901. The flat, rice-growing part of the district is surrounded by three ranges, the mountains forming the boundary, with Siam on the east, the Nwalabo on the north, and the Thinmaw range running down the sea-coast. Headquarters Tavoy, with a population of 22,371 in 1901.

(6) *Mergui.*—The southernmost district of Burma, bordering with the Siamese Malay States. Area 9789 square miles. Population 88,744 in 1901. The general character of the district is hilly, rising to the Siam frontier range, with mangrove swamps along the shores of the Indian Ocean, and many islands off the coast. Nearly the whole district is covered with forest. Tin is worked at Maliwun, in the extreme south, and coal, copper,

iron, and manganese are found in various parts of the district. The pearl fisheries of Mergui have quite recently become prominent, and have raised the population of the headquarters town to 11,987 in 1901. There is also a considerable coasting trade with Rangoon, Bassein, and the Straits Settlements.

Pegu Division.—Area 13,084 square miles. Population, 1,820,638 in 1901. It covers the country east of the Irrawaddy, and includes the major part of the Sittang Delta. The vast bulk of the cultivation is rice, and the soil is almost entirely alluvial.

Districts.—(1) *Rangoon Town.* Detached from the main district, Hanthawaddy, in 1880. Area 19 square miles. Population 234,881 in 1901.

(2) *Hanthawaddy.*—The home district of Rangoon. Area 3023 square miles. Population 484,811 in 1901. A vast plain, and, with Henzade, the most populated area of Burma. It is intersected by numerous tidal creeks. Headquarters Rangoon.

(3) *Pegu.*—Area 4276 square miles. Population 339,572 in 1901. The vast bulk of the cultivation is rice. Headquarters Pegu, which has risen in population from 5891 in 1881 to 14,132 in 1901. Of the population in 1901 the number of Christians was 8978, most of whom were Karens.

(4) *Tharrawaddy.*—Area 2851 square miles. Population 395,570 in 1901. The Pegu Yoma range separates it from Toungoo district on the east. The great bulk of the cultivation is rice, but there are nearly 1000 square miles of forest, mostly teak, with extensive fuel reserves. The Rangoon Prome Railway runs through the centre of the district. Elephant, rhinoceros, bison, and smaller game are found in the hills. Thônzè, with a population in 1901 of 6578, is the chief town.

(5) *Prome.*—Area 2915 square miles. Population 365,804 in 1901. The district lies astride of the Irrawaddy, and extends from the Arakan Yomas on the west to the Pegu Yomas on the east. The portion west of the Irrawaddy is covered with thickly wooded spurs. The north and north-east is also hilly, and covered with forest, but the south and south-west are under rice cultivation,

lying on both sides of the railway to Rangoon. Rice and teak are the chief products, and much silk is manufactured. Prome is the chief town of the district, with a population of 27,375 in 1901. It stands on the left bank of the Irrawaddy.

Irrawaddy Division.—Area 13,438 square miles. Population 1,663,669 in 1901. It extends eastward from the Arakan Yomas, and includes practically all the true delta of the Irrawaddy River. The vast bulk of the cultivation is rice. Headquarters Bassein.

Districts.—(1) *Bassein.* Area 4127 square miles. Population 391,427 in 1901. A range called the Anauk-Pyet Taungmyeng stretches through the district from north to south along the coast. Rice is by far the chief cultivation. The headquarters, Bassein, had in 1901 a population of 31,864. It has several steam rice mills, and both sea-going vessels and the steamers of the Irrawaddy Flotilla Company visit the port.

(2) *Henzada.*—Area 2870 square miles. Population 484,558 in 1901. It is also absolutely flat, except to the east and west, where the Arakan and Pegu Yomas form its boundaries, and is divided into two nearly equal parts by the Irrawaddy. Practically the entire district is available for rice cultivation, thanks to the immense embankments thrown up to prevent inundations. There are timber forests on the fringe of the plain, which contain almost every kind of timber found in Burma. Headquarters Henzada, on the Irrawaddy, with a population of 24,756 in 1901.

(3) *Thôngwa.*—Area 3471 square miles. Population 484,410 in 1901. The whole district is a deltaic plain, divided by the numerous channels of the Irrawaddy into saucer-shaped islands, with deep depressions in the centre. Rice is the chief cultivation, and the fisheries are very important. Headquarters Maubin, with a population in 1901 of 6623. Yandun, with 12,779 is, however, the most populous town. Both are on the Irrawaddy.

(4) *Myaungmya.*—Area 2970 square miles. Population 303,274 in 1901. The district is flat and deltaic, and almost entirely given over to rice cultivation, and the fisheries are also very important. There are many Karens

amongst the population, 13,676 of whom were Christians. Headquarters Pantanaw, with a population in 1901 of 5010.

Upper Burma

Mandalay Division.—Area 29,373 square miles. Population 777,338 in 1901. It includes most of the northern districts, and the greater part is submontane, though there are extensive plains in various parts, and the Ruby Mines district forms a part of the Shan Plateau. Headquarters Mandalay.

Districts.—(1) *Mandalay.* Area 2117 square miles. Population 366,507 in 1901. Less than one-third of the district along the Irrawaddy is plain-land. The north and east, to the extent of about 1500 square miles, consists of hills and tablelands. Maymyo, the hot-weather headquarters of Government, lies at an altitude of between 3000 and 3600 feet. The Mandalay Canal, now restored and enlarged, has greatly increased the area under rice cultivation. The remaining crops are of great variety. There are several hundred square miles of forest reserve, but little teak. Headquarters Mandalay.

(2) *Ruby Mines.*—Area 5476 square miles. Population 87,694 in 1901. The district geographically forms a part of the Shan Plateau, and is to a great extent a mass of hills, with a general north and south direction. There were 13,264 Kachins and 16,418 Palaungs at the time of the last census. Headquarters Mogôk, the centre of the ruby-mining industry, is 61 miles from the Irrawaddy, at a height of 4000 feet.

(3) *Bhamo.*—Area 4146 square miles. Population 79,515 in 1901. The country along the banks of the Irrawaddy is flat, and usually water-logged during the rains. On the east is the wall of the Shan Plateau; the country west of the Irrawaddy, which flows through the heart of the district, is broken by a series of ridges running north and south. The crops are very varied, and the fisheries are of considerable importance. The teak forests are very valuable, and there are reserves representing over 60,000 acres of teak plantation. Shan Burmese form the

plain population; Kachins that of the hills. Headquarters Bhamo, with a population in 1901 of 10,734, many of whom were Chinese.

(4) *Myitkyina.*—Area 10,640 square miles. Population 67,399 in 1901. The district is cut up into strips by comparatively low ranges of hills, with a general north and south direction. The chief plain is that of Myitkyina, covering about 600 square miles. Most of the cultivation is dry, though the land east of the Irrawaddy is low-lying and marshy. The river bisects the district. The Indawgyi Lake, in the south-west of the district, is the largest in Burma. Headquarters Myitkyina, with a population in 1898 of 1623, including the garrison of 400 military police. The number of Kachins in the hills was 12,955 in 1901.

(5) *Katha.*—Area 6994 square miles. Population 176,223 in 1901. The number of the Burmese is about double that of the Shans, and of the Shans double that of the Kadus. The Shans live mostly in the former separate state of Wuntho (Wying Hsö). Three ranges of hills run through the district, separating the three main rivers—the Irrawaddy, Mèza, and Mu. Rice is the chief crop in the plains; tea, cotton, sessamum, and hill rice in the hills. There are three forest reserves, and the minerals are valuable. Headquarters *Katha*, on the Irrawaddy.

Sagaing Division.—Area 30,038 square miles. Population 1,000,483 in 1901. A great portion is plain-land, but there is a ridge along the Irrawaddy, and the country becomes hilly in the west, towards the Chin Hills. Headquarters Sagaing.

Districts.—(1) *Sagaing.* Area 1862 square miles. Population 282,658 in 1901. Except for the ridge along the Irrawaddy the district is flat. Rice is the chief crop. The Mandalay-Myitkyina Railway runs through the district. Headquarters Sagaing, with a population of 9643 in 1901. The view from Ava, across the river, is one of the most picturesque on the Irrawaddy.

(2) *Shwebo.*—Area 5634 square miles. Population 286,891 in 1901. The greater part of the district is a plain, with a range to the east along the banks of the Irrawaddy, and on the west there is a gradual ascent to

the hills, which form the boundary with the Upper Chindwin. Much rice is grown, likely to be greatly increased by the irrigation system in process of completion. Maize, millet, sessamum, cotton, and peas are grown on the sloping grounds. Some thousand square miles of forests are protected east of the Mu River and in the Ye-u subdivision. Coal was formerly worked at Ka-bwet. Headquarters Shwebo, on the railway line. A wing of a British regiment is stationed here.

(3) *Chindwin, Lower.*—Area 3480 square miles. Population 276,383 in 1901. The country along the banks of the Chindwin is flat, and the plain to the east of the river is very extensive and fertile. The western portion is more and more hilly as the Chin Hills are approached. Rice forms the chief crop, but much tîl seed and some indigo are grown. There are very valuable teak forests, and the reserved area is yearly extended. Headquarters Mônywa, with a population in 1901 of 7869.

(4) *Chindwin, Upper.*—Area 19,062 square miles. Population 154,551 in 1901. The district is much more hilly than the Lower Chindwin, and practically the only plain is along the course of the Chindwin River. Rice is the most important crop, but the teak forests are very valuable and extensive. Headquarters Kindat, which is not much more than a village.

Meiktila Division.—Area 10,852 square miles. Population 992,807 in 1901. All but a small portion of the division lies in the Dry Zone, and the bulk of the cultivation is dependent on irrigation. Headquarters Meiktila, on the Thazi-Myingyan branch line.

Districts.—(1) *Meiktila.* Area 2183 square miles. Population 252,305 in 1901. The general character of the district is that of a slightly undulating plain, the gentle slopes of which are composed of black "cotton" soil, and are somewhat arid. The only hills above 300 feet are on the slopes of the Shan Hills, but some townships extend to the plateau. The Meiktila Lake is the chief feature of the district. It covers an area of 3½ square miles, and is of considerable depth. Rice, sessamum, cotton, peas, maize, millet, and gram are the chief crops. There are small forest reserves, chiefly of cutch, in the district.

Headquarters Meiktila, with a population of 7203 in 1901. A wing of a British regiment is stationed here.

(2) *Kyauksè.*—Area 1274 square miles. Population 141,253 in 1901. The district consists of a generally level strip running north and south at the foot of the Shan Hills, and of a hilly region, rising up that range to the east, and very sparsely inhabited. The irrigation system, begun nearly 900 years ago, is the chief feature of the district, and rice is the great crop. Headquarters Kyauksè, on the Rangoon-Mandalay Railway, with a population of 5420 in 1901.

(3) *Yamèthin.*—Area 4258 square miles. Population 243,197 in 1901. The northern portion is a plain, sloping up to the Shan Hills on the one side and to the Pegu Yomas on the other, and mostly under rice cultivation. The southern part, the former district of Pyinmanā, is covered with dense forest to the south, and produces some of the best teak in Burma. Headquarters Yamèthin, with a population of 8680 in 1901, but Pyinmanā, with 14,388, is the larger town. Both are on the Rangoon-Mandalay Railway, and there are large railway works at Yamèthin.

(4) *Myingyan.*—Area 3137 square miles. Population 356,052 in 1901. The greater part of the district is flat, especially to the north and along the banks of the Irrawaddy. Inland the country rises in gently undulating slopes. Pôpa Hill, an extinct volcano, in the south-east corner of the district, is the most distinctive natural feature. The chief crops are millet, sessamum, cotton, maize, and a great variety of peas and beans. The lacquer ware of Nyaungu and other villages near Pagān is noted throughout Burma. Headquarters Myingyan, on the Irrawaddy, with a population of 7203 in 1901.

Minbu Division.—Area 17,172 square miles. Population 1,076,280 in 1901. The division extends on both sides of the Irrawaddy, and the northern portion is in the Dry Zone, while the portion towards the Arakan Hills has a very considerable rainfall. As a whole it may be said to consist of plain-land along the Irrawaddy, with broken hills rising steadily to the Arakan Yomas on the west and scrub-covered, undulating land eastward of the river.

Headquarters Minbu, on the Irrawaddy, at a point where the river is three miles wide.

Districts.—(1) *Minbu.* Area 3299 square miles. Population 233,377 in 1901. There is a belt of flat land along the river, and a distinct range, the Nda-madaung, separates this from the main Yoma. The submontane tract is largely cultivated, but is very feverish, except for those born in it. Rice is grown, but the prevailing crops are perhaps those on unirrigated land. Oil has been found near the mud volcanoes of Minbu, but seems to lie too deep to be worked at a profit. There is a considerable area of reserved forest, and the fisheries are of some importance. Headquarters Minbu, with a population of 5780 in 1901. A bank has formed in front of the town, so that the landing stage is two miles below Minbu in the dry season.

(2) *Magwe.*—Area 2913 square miles. Population 246,708 in 1901. The district may be divided into two parts—the low, flat country in the Taungdwingyi subdivision, and the undulating high ground covering the rest of the district. Rice and dry crops are correspondingly divided and the sessamum is of very high quality. The celebrated Yenangyaung oil wells are in this district. Headquarters Magwe, nearly opposite Minbu, on the Irrawaddy, with a population of 6232 in 1901.

(3) *Pakôkku.*—Area 6210 square miles. Population 356,489 in 1901. The part of the district along the Irrawaddy and Chindwin Rivers is flat and alluvial. Beyond this the country rises gradually to the low Shinmadaung and Tangyi ranges, where it is very arid. To the westward there is a rapid drop to the well-watered valley of the Yaw River, and then a rise over broken, dry country towards the Chin Hills. Rice and the various dry crops are therefore cultivated to about the same extent. The Yenangyat oil fields are in the south of the district, and iron used to be worked in a small way. There are over 1000 square miles of reserved forests. A good deal of teak and yaw cutch, which is much esteemed, are worked out. The district is probably the hottest in Burma; 110° in the shade is a common temperature in May and June. Headquarters Pakôkku, on the Irrawaddy. It is the great boat-building

centre of Upper Burma. In 1901 the population was 19,456. Steamers for the Chindwin start from here.

(4) *Thayetmyo.*—Area 4750 square miles. Population 239,706 in 1901, of whom 19,695 were Chins. The district was formerly in Lower Burma, but was transferred to the upper province for administrative purposes in 1896. The Arakan Yoma is on the west and the Pegu Yoma on the east, and the country where it does not rise into mountains is usually broken by low ranges of hills, many barren and destitute of all vegetation. The greater area, however, is wooded, and the Yomas, east and west, are covered with forests, now mostly reserved. Petroleum is found and there are numerous salt and hot springs. A few miles south of Thayetmyo are extensive lime quarries. Tigers, wild elephants, rhinoceros, leopards, bears, wild hog, and deer are found, and silver pheasants in the hills. Headquarters Thayetmyo, with a population in 1901 of 15,824. Allanmyo, on the other side of the Irrawaddy had 10,207. A wing of a British regiment is stationed at Thayetmyo.

APPENDIX II

THE SHAN STATES

The Southern Shan States

Myelat and Yawnghwe, or Western Sub-division.—(1) *Yawnghwe* (Burmese Nyaungywe). The population is that recorded in the 1901 census. Area 2400 square miles. Population 93,339. Gross revenue Rs.163,446. Tribute payable to Government Rs.75,000. Chief, Saw Maung, aged fifty-nine in 1908, Shan, Buddhist. No heir has yet been designated. The chief has the title of Sawbwa, and has the C.I.E., K.S.M., and Delhi Durbar decorations, and a salute of nine guns. The chief feature of the state is the Yawnghwe Lake, shut in by hills rising to 5000 feet on east and west; drained by the Nam Hpilu, which runs southward down to Karen-ni, and there disappears underground. There is a fertile strath to the north. The population is very mixed, with Shans, Burmese, natives of India, Taungthu, Taungyo, and Intha round the lake. When railway communication is established it will probably become very wealthy. At present it stands second in gross revenue. The chief is very capable and enlightened. Taung-gyi, the headquarters of the Superintendent and Political Offices, is in this state, 14 miles from the capital. Argentiferous galena is now again worked in the sub-state of Kyauktat. Rice is the main crop, but wheat grows well, and much sugar-cane is cultivated round the lake, with many acres of pineapples, betel vine, and coco-nut palms.

(2) *Hsamönghkam* (Burmese Thamakan).—Area 297 square miles. Population 12,561. Gross revenue Rs.15,808. Tribute payable to Government Rs.5000. Chief, Maung Po, aged fifty-three in 1908, has the title of Myosa and the A.T.M. and Delhi Durbar decorations. He is a Danu and a Buddhist. No heir has yet been recognised by Government.

The state lies nearly in the middle of the Myelat, and great part of it consists of rolling, grassy downs, but on the west it extends to the foot of the hills, and is heavily wooded, with much pine forest and some teak. The headquarters of the Sub-divisional Offices, in charge of the Myelat, is in Thamakan. The population is mainly Danu, but there are many Taungthu and Taungyo, and some Shans.

(3) *Kyawkku* (Burmese Kyauk-ku).—Area 94 square miles. Population 4771. Gross revenue Rs.3590. Tribute payable to Government Rs.1000. Chief, a Ngwegunhmu, Maung Thaing, aged fifty-eight in 1908, is a Danu and a Buddhist. He has sons, but no heir has yet been recognised by Government. The state is situated on the western rim of the plateau, and is much broken up by low hills before falling away to the plains. The population is mainly Danu, with many Taungthu and Taungyo.

(4) *Kyông* (Burmese Kyôn).—Area 24 square miles. Population 2340. Gross revenue Rs.2236. Tribute payable to Government Rs.750. Chief, Maung Po, a Ngwegunhmu, aged sixty-six in 1908, a Danu and a Buddhist. He has grown-up sons, but no heir has been recognised by Government. The state consists of rolling, grassy downs, and is noted for the manufacture of earthern cooking pots. The population is for the great part Danu, with some Dayè.

(5) *Loi Ai* (Burmese Lwè-è).—Area 200 square miles. Population 5442. Gross revenue Rs.5238. Tribute payable to Government Rs.2000. Chief, Maung Pokin, a Ngwegunhmu, aged thirty-one in 1908, a Taungthu and a Buddhist. He has only recently succeeded his father. The state is on the western edge of the plateau, and has a fair amount of irrigated rice-land, and the hill slopes are covered with timber, mostly pine. The population is largely Taungthu. Bullock caravan bells are manufactured here.

(6) *Loi Lông* (Burmese Lwèlôn).—Area 1600 square miles. Population 30,731. Gross revenue Rs.16,444. Tribute payable to Government Rs.6000. Chief, Hkun Hkam Chôk, a Myosa, aged thirty-three in 1908, has the K.S.M. decoration, and is a Karen, and a nominal Buddhist. There is a certain amount of cleared ground and wet cultivation, but the greater part of the state is very hilly and wooded, and extends to the foot of the Shan frontier range. The great bulk of the

population is Karen, of the Bghai division, but there are many Taungthu. The forests are of some value. The state is only joined to the Myelat for convenience of administration.

(7) *Loi Maw* (Burmese Lwèmaw).—Area 49 square miles. Population 4576. Gross revenue Rs.3934. Tribute payable to Government Rs.1500. Chief, Hkun Kyaw, a Ngwegunhmu, aged forty-six in 1908, a Taungthu and a Buddhist. He succeeded his father a few years ago. The state consists of cultivated valleys and grassy hills of considerable height and abruptness. The Taungthu are in a majority.

(8) *Maw* (Burmese Baw).—Area 550 square miles. Population 7743. Gross revenue Rs.10,825. Tribute payable to Government Rs.4000. Chief, Maung Nyo Hlaing, a Myosa, aged fifty in 1908, a Danu and a Buddhist. He has the A.T.M. decoration. The state is divided into two distinct parts—one practically in the plains of Burma, and the other on the northern edge of the Myelat Plateau, with two distinct populations—one largely Burmese in Myogyi, and the other Danu, 4000 feet higher up. There is a good deal of forest produce, and lime kilns are regularly worked in the plains. More than three quarters of the state is now a forest reserve.

(9) *Mawnang* (Burmese Bawnin).—Area 40 square miles. Population 3755. Gross revenue Rs.3564. Tribute payable to Government Rs.1250. The Chief, Hkun Hti, is a Myosa, aged twenty-one, a Shan and a Buddhist. He wears the A.T.M. decoration. The nucleus of the state is a circular expanse, which is an old lake bottom. The rest consists of low hills, wooded to the east, grassy to the west and south. The population is mixed Shan and Danu, with some Taungthus.

(10) *Mawsön* (Burmese Bawzaing).—Area 40 square miles. Population 3557. Gross revenue Rs.2674. Tribute payable to Government Rs.1250. Chief, Maung Kya Ywet, aged fifty-six in 1908, a Ngwegunhmu, with the A.T.M. decoration, a Danu and a Buddhist. The state consists mostly of steep grassy hills and valleys. The population is Danu, Taungthu, and Taungyo. Silver-lead mines are worked in a primitive way by the Ngwegunhmu and a Chinese lessee.

(11) *Namhkai* (Burmese Nankè).—Area 75 square miles. Population 6780. Gross revenue Rs.5281. Tribute payable to Government Rs.2250. Chief, Hkun Kye, a Ngwegunhmu,

aged fifty in 1908, a Taungthu and a Buddhist. The area of the state is much broken with grassy ridges. Taungthus predominate in the population. Most of the dry cultivation crops are grown.

(12) *Nam Tôk* (Burmese Nantôk).—Area 20 square miles. Population 778. Gross revenue Rs.976. Tribute payable to Government Rs.350. Chief, Hkun Maung, a Ngwegunhmu, aged forty-one in 1908, a Shan and a Buddhist. The state is in the valley of the Hpilu River, and consists mostly of irrigable land. The population is largely Shan. It is the smallest of the states.

(13) *Pangmi* (Burmese Pinhmi).—Area 29 square miles. Population 3456. Gross revenue Rs.3604. Tribute payable to Government Rs.1500. Chief, Maung Nyun, a Ngwegunhmu, aged thirty-six in 1908, a Danu and a Buddhist. The state is in the hilliest part of the Central Myelat. The population is Danu, Taungthu, and Taungyo. There is a fair amount of irrigated land in the valleys.

(14) *Pangtara* (Burmese Pindaya).—Area 200 square miles. Population 15,014. Gross revenue Rs.17,721. Tribute payable to Government Rs.6500. Chief, Maung Sun Nyo, a (minor) Ngwegunhmu, aged seventeen in 1908, a Danu and a Buddhist. He is at the School for the Sons of Shan Chiefs in Taung-gyi, and the state is administered by Maung Ôn, aged eighty-four, who has the T.D.M. decoration. The town lies along a small lake at the foot of the Mènètaung, a range rising to close on 7000 feet. The greater part of the state is dry, undulating ground, with thin jungle. The population is Danu, Taungthu, and Taungyo. The annual festival, in March or April, attracts great crowds from all parts of the states and from Burma. A vernacular school is being established here. Great quantities of pineapples are grown.

(15) *Pwela* (Burmese Pwehla).—Area 102 square miles. Population 7866. Gross revenue Rs.9454. Tribute payable to Government Rs.3250. Chief, Saw Nyun, a Myosa of British creation, aged forty-nine in 1908, a Shan and a Buddhist. He has the A.T.M. decoration. The state consists chiefly of rolling, grassy downs, but the eastern portion is quite hilly. The population is Danu, Taungthu, and Taungyo. As elsewhere in the Myelat, large quantities of potatoes are grown in the state.

(16) *Yengan* (Burmese Ywangan).—Area 400 square miles. Population 9998. Gross revenue Rs.9606. Tribute payable to Government Rs.3500. Chief, Maung Thu Daw, a Ngwegunhmu, aged twenty-nine in 1908, a Danu and a Buddhist. With Maw this is the most northerly state of the Myelat, and the greater portion is very hilly, while the slopes towards the plains of Burma are covered with dense forest, with some teak. The former trade route to the Shan States, by the Nat-teik Pass, ascends here, but is so rocky that it is now little used.

Central Sub-division.—(17) *Lawksawk* (Burmese Yatsauk).—Area 4048 square miles. Population 24,839. Gross revenue Rs.25,562. Tribute payable to Government Rs.10,500. Chief, Hkun Seik, a Sawbwa, aged forty-four in 1908, a Shan and a Buddhist. No heir has yet been recognised by Government. The greater part of the south of the state consists of thin, scrub-covered, rolling ground, but in the north there are valuable teak forests. In the west of the state there are extensive orange groves. The state is much more Shan than Yawnghwe.

(18) *Hopông* (Burmese Hopôn).—Area 231 square miles. Population 11,140. Gross revenue Rs.12,828. Tribute payable to Government Rs.5000. Chief, Hkun Law, a (minor) Myosa, aged twelve in 1908, a Taungthu and a Buddhist. His mother, Nang Kēng Kham, aged thirty, administers the state, with the assistance of her brother and other officials. There is a considerable area of wet rice cultivation near the capital, but the east and west of the state are hilly. The population is mixed Shan and Taungthu.

(19) *Namhkôk* (Burmese Nankôk).—Area 106 square miles. Population 6687. Gross revenue Rs.8465. Tribute payable to Government Rs.3000. Chief, Hkun Myat, a (minor) Myosa, aged eighteen in 1908, a Shan and a Buddhist. The state is administered by his uncle, Hkun Nong, aged thirty-four. The Myosa is a pupil at the School for the Sons of Shan Chiefs. Namhkôk includes, roughly, equal strips of wet paddy bottom, rolling downs, and jagged limestone hills. The bulk of the population is Shan.

(20) *Nawngwawn* (Burmese Naungmôn).—Area 42 square miles. Population 4805. Gross revenue Rs.6427. Tribute payable to Government Rs.2000. Chief, Hkun Htun, a

Myosa, aged twenty-five in 1908, a Shan and a Buddhist. About half the state lies in the valley of the Nam Tamhpak, and grows rice. The remainder slopes up to the rocky hills to the east. The bulk of the population is Shan.

(21) *Wanyin* (Burmese Banyin).—Area 219 square miles. Population 11,297. Gross revenue Rs.16,041. Tribute payable to Government Rs.6500. There is no chief at present appointed to the state. It is administered by a minister, Hkun On, aged forty in 1908. He is a Shan and a Buddhist. Wanyin is also in the valley of the Nam Tamhpak, where there is considerable wet rice cultivation, and to the east the country rises to the range over the Pwon River. The population is mainly Shan.

(22) *Hsahtung* (Burmese Thatôn).—Area 471 square miles. Population 10,584. Gross revenue Rs.11,570. Tribute payable to Government Rs.5500. The Chief, Hkun Law, was murdered in 1905, and his brother has been confirmed as Myosa. He is a Taungthu and a Buddhist. There is a good deal of irrigated and irrigable land along the Nam Tamhpak, in the former states of Tamhpak and Manglön. The rest is rolling downs extending to the range to the west of the Pwon River, which is densely forested, and has teak forests along the river. The bulk of the population is Taungthu, but there are also many Shan villages.

(23) *Samka* (Burmese Saga).—Area 357 square miles. Population 17,643. Gross revenue Rs.16,525. Tribute payable to Government Rs.6500. Chief, Hkun Sein Bu, a Sawbwa, aged fifty-one in 1908, a Shan and a Buddhist. He has the T.D.M. decoration. The best part of the state is in the valley of the Nam Hpilu, where much rice is grown, and it extends up the hills to either side. The bulk of the population is Shan.

(24) *Sakoi* (Burmese Sagwè).—Area 102 square miles. Population 1387. Gross revenue Rs.1518. Tribute payable to Government Rs.750. Chief, Hkun Htun, a Myosa, aged fifty-nine in 1908, a Shan and a Buddhist. The state lies for the greater part in the Nam Hpilu Valley, and rises gradually to the east and west. The population is chiefy Shan, but there are also Karen-ni villages.

(25) *Möng Pai* (Burmese Mobyè).—Area 660 square miles. Population 19,358. Gross revenue Rs.5369. Tribute payable

to Government Rs.3000. Chief, Hkun Ping-nya, a Sawbwa, aged twenty-seven, a Shan and a Buddhist. The state is for the great part a mass of hills, but there is a fair amount of rice-land along the Nam Hpilu. The population is very mixed, and includes Shans, Karens of many clans, and Padaungs, as well as Taungthu. The capital, Kaung-i, lies in the hills some miles from the Hpilu River, but Hpaiôn on that stream is the chief place in the state.

North-eastern and South-eastern Sub-divisions.—(26) *Liahka* (Burmese Lègya) [North-eastern Sub-division].—Area 1433 square miles. Population 25,811. Gross revenue Rs.22,701. Tribute payable to Government Rs.8500. Chief, Hkun Lai, a Sawbwa, aged forty-nine in 1908, a Shan and a Buddhist. He has the K.S.M. decoration. No heir has yet been recognised by Government. The general character of the state is that of an undulating plateau, wtih a broad plain near the capital and along the Nam Tēng, with a general altitude of 3000 feet. About seven-ninths of the land under cultivation consists of wet paddy cultivation. Iron is found in the state, and various implements are manufactured and exported. Lacquer ware is also made in considerable quantities. The population is chiefly Shan, but there are a considerable number of Yang, of all three clans.

(27) *Möngkiing* (Burmese Maingkaing) [North-eastern sub-division].—Area 1643 square miles. Population 30,482. Gross revenue Rs.31,455. Tribute payable to Government Rs.12,500. Chief, Hkun Mông, a Myosa, aged thirty-four in 1908, a Shan and a Buddhist. He is decorated with the K.S.M. There is a wide expanse of wet rice cultivation round the capital, but the rest of the state is hilly, and in the north-west there is some teak forest, while the range to the west of the town is covered with dense vegetation. The bulk of the population is Shan, but there are Palaungs and Yangs in various parts. The pottery made in the state has some reputation, and is widely exported.

(28) *Möngnai* (Burmese Monè) [South-eastern Sub-division].—Area 2717 square miles. Population 44,552. Gross revenue Rs.45,744. Tribute payable to Government Rs.16,500. Chief, The Honourable Hkun Kye, a Sawbwa, aged sixty in 1908, a Shan and a Buddhist. He is a C.I.E. and K.S.M., wears the Delhi Durbar medal, has a salute of

nine guns, and has been a member of the Burma Legislative Council. His nephew, Hkun Kyaw Sam, is the heir recognised by Government. The main state and the sub-state of Kèng Tawng consist of two plains with a ridge between them. There is much flat paddy bottom, but a considerable portion consists of gently undulating plain-land at heights of over 3000 feet. The tobacco of Nawng Wawp has a considerable reputation, and Shan paper is exported in some quantity. The population is Shan, with many villages of the three Yang tribes. There are teak forests in Möngnai, but they have been greatly overworked. An American Baptist Mission is established in the capital, and has a school and dispensary, which do good work.

(29) *Mawkmai* (Burmese Maukmè) [South-eastern Subdivision]. — Area 2787 square miles. Population 29,454. Gross revenue Rs.38,519. Tribute payable to Government Rs.14,000. Chief, Hkun Leng, a minor Sawbwa, aged eighteen in 1908, a Shan and a Buddhist. He is a pupil at the School for the Sons of Shan Chiefs in Taung-gyi. The central portion of the state consists of a wide plain, well-watered, and under rice cultivation. There are smaller plains in various parts of the state, and the rest is chiefly hills in ranges running north and south. There is a good deal of teak in the state, but parts have been much overworked. Very good native cured tobacco is produced in the Langkö district. Two-thirds of the population are Shan, and the bulk of the remainder Taungthu. There are also Burmese, Yang Sek, and Karen-ni.

(30) *Möng Pawn* (Burmese Maingpun) [South-eastern Subdivision]. — Area 371 square miles. Population 13,148. Gross revenue Rs.13,364. Tribute payable to Government Rs.4500. Chief, Hkun Hti, a Sawbwa, aged sixty in 1908, a Shan and a Buddhist. He is a K.S.M., and wears the Delhi Durbar medal. The state is a long strip down the course of the Nam Pawn, with occasional lakes of paddy cultivation. The remainder is mountainous. The population is chiefly Shan, but there are many Yang and Palaung villages. The Government cart road to the Salween passes through the capital.

(31) *Möng Sit* (Burmese Maingseik) [North-eastern Subdivision]. — Area 303 square miles. Population 9913. Gross revenue Rs.12,046. Tribute payable to Government

Rs.4000. Chief, Hkun Dwin, a Myosa, A.K.S.M., aged forty-six in 1908, a Shan and a Buddhist. His son, Hkun Hkawng, is recognised as heir by Government. The state consists of a fine paddy plain, surrounded by wooded ranges. The majority of the people is Shan, but the state is the headquarters of the Yang Sek, and there are Taungthu and Lihsaw villages. The state produces and manufactures silk, but not to the same extent as formerly.

(32) *Möng Pan* (Burmese Maingpan) [South-eastern Sub-division].—Area 2300 square miles. Population 16,629. Gross revenue Rs.10744. Tribute payable to Government Rs.5000. Chief, Hkun Num, a Sawbwa, aged thirty-eight in 1908, a Shan and a Buddhist. The heir recognised by Government is Hkun Ong, his half-brother. The main state lies west of the Salween, but there are four sub-feudatory states beyond that river, bordering on Siam. In all there are areas of irrigated rice-land, but these are surrounded by low wooded hills, rising to ranges of 5000 and over on every side. The state has valuable teak forests on both sides of the Salween of very considerable area. The general altitude of the valleys is about 2000 feet.

(33) *Kēnghkam* (Burmese Kaingkan) [South-eastern Sub-division].—Area 167 square miles. Population 5458. Gross revenue Rs.3692. Tribute payable to Government Rs.1500. Chief, Hkun Haw Hkam, a (minor) Myosa, aged sixteen in 1908, now at the Taunggyi School for the Sons of Shan Chiefs, a Shan and a Buddhist. His mother, Sao Nang Tep Htila, aged thirty-six, who wears the Delhi Durbar medal, administers the state. This consists of several irrigated paddy plains, surrounded by wooded hills rising in places to mountain ranges. There is a small amount of teak forest along the Nam Pang, on which river the capital stands, at an altitude of about 1200 feet.

(34) *Möng Nawng* (Burmese Maingnaung) [North-eastern Sub-division].—Area 1575 square miles. Population 39,102. Gross revenue Rs.23,963. Tribute payable to Government Rs.10,000. Chief, Hkun Nông, a Myosa, aged thirty-one, a Shan and a Buddhist. The state has a good deal of irrigated land, but the bulk is undulating downs, seamed by ranges and sprinkled with abrupt limestone cliffs. The capital is noted for exceedingly fine woven work in strips of bamboo.

(35) *Kehsi Mansam* (Burmese Kyithi Bansan) [North-eastern Sub-division].—Area 632 square miles. Population 22,662. Gross revenue Rs.15,384. Tribute payable to Government Rs.5000. Chief, Hkun Hseng, a Myosa, aged sixty-three in 1908, a Shan and a Buddhist. He is a T.D.M. The state consists in great part of rolling down country, with wooded ranges to the west. The bulk of the population is Shan, but there are very many Yang Lam, and dry cultivation predominates.

(36) *Kēng Lön* (Burmese Kainglin) [North-eastern Sub-division].—Area 43 square miles. Population 4259. Gross revenue Rs.3682. Tribute payable to Government Rs.1500. Chief, Hkun Mawng, a Myosa, aged sixty-three in 1908, a Shan and a Buddhist. The state consists chiefly of undulating ground, covered with scrub jungle, with isolated expanses of irrigated land, and a few north and south ranges. The population is Shan and Yang Lam.

(37) *Möng Hsu* (Burmese Maingshsu) [North-eastern Sub-division].—Area 164 square miles. Population 17,480. Gross revenue Rs.10,133. Tribute payable to Government Rs.4500. Chief, Hkun Kyaw, a Myosa, aged sixty-two in 1908, a Shan and a Buddhist. The state consists of rolling country, mostly covered with secondary jungle. Limestone cliffs are dotted about, and usually crowned with pagodas. The population is Shan, with some Yang Lam villages.

Kēntūng Sub-divisions.—(38) *Kēngtūng* (Burmese Kyaingtôn) [North-eastern Sub-division].—This is the largest of the tributary states, and constitutes a division in itself. It has an area of 12,000 square miles, and has Siam, French Indo-China, and the Chinese Empire on its frontier. Population estimated at 190,698. Gross revenue Rs.114,687. Tribute payable to Government Rs.30,000. Chief, Sao Hkun Kiao Intaleng, a Sawbwa, aged thirty-three in 1908, of the Hkün Shan race, and a Buddhist. He is a K.S.M., wears the Delhi Durbar medal, and has a salute of nine guns. The state extends from the Salween to the Mèkhong River, and also has territory west of the Salween. It is a series of ranges running north and south, of an average height of 5000 feet, with peaks rising to 7000. The scattered valleys are mere islands in the sea of hills, but there are considerable numbers of them. There are valuable teak forests in the Mèkhong

drainage. Gold is washed in most of the streams of the state. Much cotton is exported to China, and a considerable quantity of opium to Siam. Camphor and rubber are also produced. A wing of a military police battalion is stationed at Loi Mwe, 12 miles south of the capital, at a height of over 6000 feet, where also the Assistant Political Officer has his headquarters. The population consists of Hkün and Lü Shans, Akha, Lahu, Wa, and many other hill tribes, besides Shan Chinese and some Lao.

Karen-ni

The five states of Karen-ni are outside of British India, and in subordinate alliance with the British Government. The area of the country is 4830 square miles, and the population 42,250. The territory is administered as part of the Southern Shan States, and is in charge of an Assistant Political Officer, with headquarters at Loikaw. In addition to his political duties in Karen-ni this officer also supervises the tracts inhabited by the Brè, Padaungs, and Yinbaws in the Shan State of Möng Pai.

(39) *Kantarawadi*, or Eastern Karen-ni. — Area approximately 3500 square miles. Population 26,333. Revenue about Rs.25,000, exclusive of the forest revenues, which may average a lakh annually. The state pays Rs.5000 tribute to Government, owing to the attack made by Sawlapaw, the then chief, in 1888, on British forces. Chief, Hkun Nan, a Sawbwa, aged about twenty-seven, half Yang-talai, half Red Karen, and an Animist by religion. The state, except for the north-western portion along the Nam Hpilu, is a mass of hills. The forests are being ruinously overworked, notwithstanding the advice of the Forest Department. The population is mainly Red Karen, but there are many Burmans and Shans, the former engaged in the timber trade, the latter in agriculture.

(40) *Bawlakè*. — Area approximately 300 square miles. Population estimated at 5701. Gross revenue about Rs.3000, besides about Rs.15,000 forest revenue. The state pays a *nuzza*, or nominal tribute, of Rs.100. The Chief Paban is a Yang-talai and spirit-worshipper, a K.S.M., and is between fifty and sixty years of age. His nephew, who is also his step-

son, largely manages the state. Bawlakè is a mass of forest-covered hills, with very little cultivation. The population consists of the various Karen clans, chiefly Red Karen.

(41) *Kyèbogyi.*—Area about 950 square miles. Population estimated at 9867. Gross revenue Rs.1000, with perhaps Rs.7000 forest revenue. The Chief, Hkun Saw, has the title of Myosa, is fifty-one years of age, and is a Red Karen and spirit-worshipper. The state pays a yearly *nuzza* of Rs.100. The present Myosa was appointed in 1908. The chieftainship in Karen-ni is elective and not hereditary. The state consists chiefly of hilly country. The population is mainly Red Karen, but in the west there are many Brè, who are very imperfectly subject to the Chief.

(42) *Nawngpalai.*—Area 30 square miles. Estimated population 1265. Revenue about Rs.400, which the Chief augments by trade. A yearly *nuzza* of Rs.50 is paid. The Chief has the title of Myosa, and is between forty and fifty. He is a Red Karen and a spirit worshipper. In this state, as in all the Western Karen-ni States, there are both Roman Catholic and American Baptist Missions, which have made very many converts, and have schools and dispensaries. There is a considerable area of wet paddy bottom, and to the west the country rises into the hills bordering on Burma.

(43) *Nammekôn.*—Area 50 square miles. Estimated population 2629. Revenue about Rs.400, augmented by trade. A yearly *nuzza* of Rs.100 is paid to Government. The Chief has the title of Myosa, and was elected from the post of minister to be head of the state. His predecessor was sentenced to a term of imprisonment for suborning the murder of a catechist, and died in gaol. Except for the western portion, which is hilly, the state consists of wet paddy bottom, and extends to the Nam Hpilu.

Northern Shan States

(1) *Hsipaw* (Burmese Thibaw).—Area 4524 square miles. Population 104,700. Gross revenue Rs.344,624. Tribute payable to Government Rs.80,000. Chief, Saw Hkè, acting Sawbwa, aged thirty-five in 1908, a Shan and a Buddhist. Heir,

his son Saw Ôn, born in 1893. There is a considerable area of flat rice-land round the capital, and in Hsum Hsai, Möng Lông, and Möng Tung. The northern part of the state is very hilly, rising to 6000 feet, and there are high ranges in Möng Tung. There is also a good deal of forest and some teak, but this has been much overworked. Tea is grown in the northern hills, and *thanat*, the leaf of a tree used for the wrapper of the Burman cheroot, is largely grown. Coal is found in various places in the state, but is not of high quality. Salt wells have long been worked at Mawhkeo (Bawgyo), near the capital. The bulk of the population is Shan, but there are many Palaung villages. The Mandalay-Lashio Railway passes through the capital, which is only 1400 feet above sea-level, and is rather unhealthy for strangers. The Sawbwa has been in England, and speaks English well. There is an American Baptist Mission in Hsipaw town.

(2) *Tawngpeng* (Burmese Taungbaing).—Area about 800 square miles. Population 22,681. Gross revenue Rs.124,000. Tribute payable to Government Rs.20,000. Chief, Hkun Hsang, a Sawbwa, aged thirty-seven in 1908, a Palaung and a Buddhist. Heir, his son, born in 1894. The state is a mass of hills, but with very little flat land. The chief cultivation is tea, and caravans coming for this have to bring rice into the country as a condition of admission. The bulk of the population is Palaung, or Rumai, but there are many Kachin villages, and some Shan.

(3) *Hsenwi, North* (Burmese Theinni).—Area 6330 square miles. Population about 135,000. Gross revenue (average of five years) Rs.67,598 (it was Rs.42,201 in 1900-01, and had increased to Rs.121,249 in 1904-05). Tribute payable to Government Rs.10,000. Chief, Hkun Hsang Tôn Hung, a Sawbwa, aged fifty-five in 1908, a Shan and a Buddhist. He has the K.S.M. decoration. There is a good deal of flat, irrigated land on the south and on the extreme north of the state, and here and there elsewhere, but the great preponderance of the state is hilly and heavily forested. Many of the peaks exceed 6000 feet, and some are over 7000. There is some teak in the valley of the Nam Yao, up which the railway to Lashio runs. Lashio, the headquarters of the Northern Shan States, is in North Hsenwi. The northern part of the state has fallen almost entirely into the hands of the Kachins, with

many Palaung and some Chinese and Shan Chinese villages. The Shans live chiefly in the valleys, and mostly in the south of the state. Kokang, the district east of the Salween, is almost entirely Chinese. Coal exists, but is of no great quality.

(4) *Hsenwi, South* (Burmese Theinni).—Area 2400 square miles. Population 67,836. Gross revenue (average of the last five years) Rs.67,836. Tribute payable to Government Rs.20,000. Chief, Sao Nawmöng, a Sawbwa, aged fifty-two in 1908, a Shan and a Buddhist. The Sawbwa wears the Delhi Durbar medal. Heir, his son, Sao Song, born in 1888. The state is practically bisected by the huge mass of Loi Ling, which rises to nearly 9000 feet above sea-level, and by the spurs which that peak sends north and south. Apart from this it consists of broken hill country of no great height, or open rolling downs, the latter chiefly in the eastern part of the state. Here are also considerable expanses of irrigated paddy-land. Coal exists, but is of no great value, except for making briquettes. It is not worked. Shans form the bulk of the population, but there are some Kachin and Chinese villages, and many Yang Lam in the south.

(5) *Manglön* (Burmese Mainglin).—Area about 3000 square miles. Population about 40,000. Gross revenue about Rs.10,000. Tribute payable to Government Rs.500. Chief, Sao Tön Hsang, a Sawbwa, aged seventy-six in 1908, a Wa and a Buddhist. Heir, his son, born in 1890. The portion of the state west of the Salween has a population which is entirely Shan, except for some La'hu, Chinese, Palaung and Yang Lam villages. The bulk of the state east of the river is Wa, but there are many Shans and La'hu. Both portions of the state are very hilly, and the only flat land is along the banks of streams, and it is here that the Shans are settled.

The Wa States are not administered. The chief are Ngek-Lek, Ngekhting, Kanghsü, Sôn-Mu, and Sao Hin Saohpa, but perhaps the majority are simply village communities.

Shan States administered as Part of Burma Districts

(1) *Möng Mit* (Burmese Momeik).—Area about 3500 square miles. Population 30,000. The total receipts for 1904-05 were Rs.112,492, and the expenditure Rs.106,511.

Chief, Hkun Mōng, a Sawbwa, aged twenty-three in 1908, a Shan and a Buddhist. He was an infant at the time of the annexation, was educated at a Rangoon school, won prizes for shooting as a cadet, and has been for some years employed in the provincial executive service, with magisterial powers. The portion of the state bordering on the Ruby Mines and along the Shweli is very hilly. The western portion is fairly level. There is a good deal of valuable timber in Möng Mīt. Rubies, spinelles, and garnets are found in small quantities at Sagadaung. Coal is also found, but is of inferior quality; so also is iron. A good deal of washing for gold is carried on in the Shweli. About half the population is Kachin, 40 per cent. are Palaungs and Shans, and the remaining 10 per cent. are Burmans. Möng Mīt is still administered as a sub-division of the Ruby Mines district.

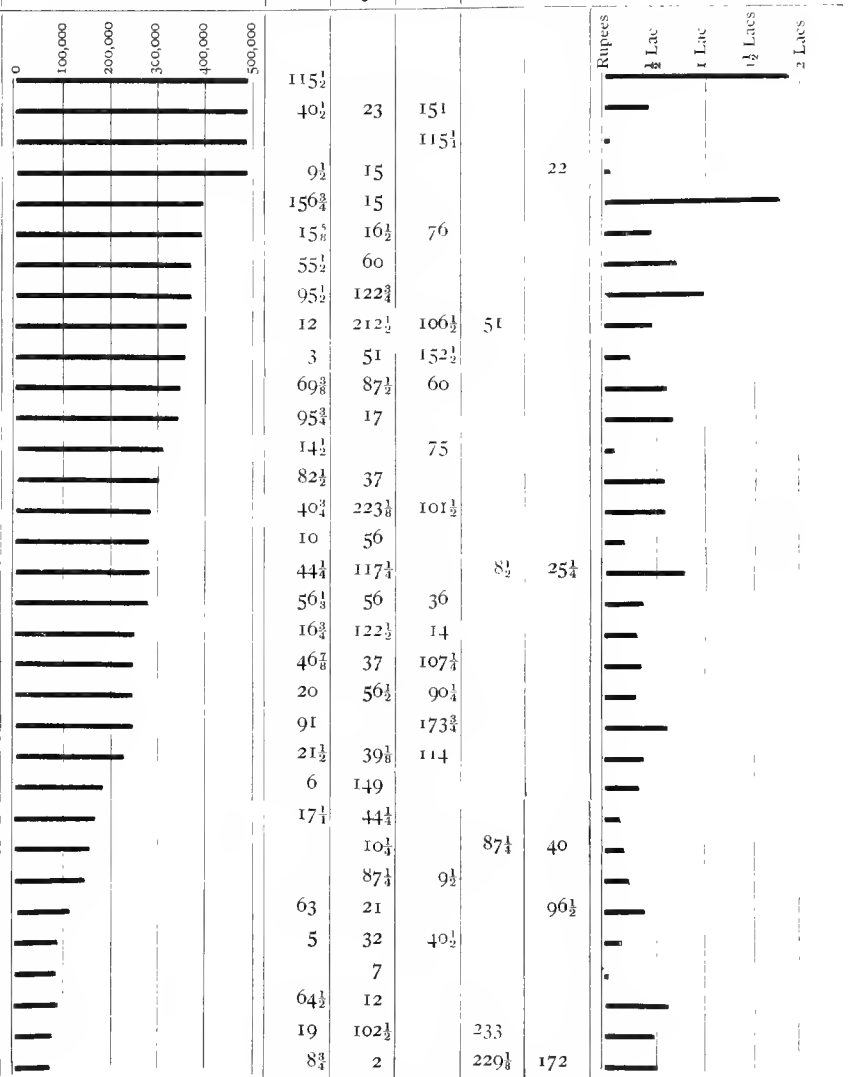
(2) *Hsawnghsup* (Burmese Thaungthut).—Area about 530 square miles. Population 6175. Gross revenue about Rs.8000. Tribute not ascertained. Chief, Saw Hkun Mong, a Sawbwa, a Shan and a Buddhist. The state lies in the north of the Kubo Valley, and consists of a long narrow strip, not more than fifteen miles wide in the broadest part. It is almost entirely covered with dense forest. The timber, besides teak, includes sâl and varnish and wood-oil trees. Some salt is produced. The population consists of Burmanised Shans and a few Chins. Hsawnghsup is administered under the control of the Deputy Commissioner of the Upper Chindwin District.

(3) *Singkaling Hkamti* (Burmese Kantigalé).—Area about 1925 square miles. Population 1331. The tribute is a nominal sum of Rs.50. The Chief possesses the title of Sawbwa, and is a Shan and a Buddhist. The state is divided into two portions, and lies some 60 miles north of the junction of the Uyu and Chindwin Rivers. It is for the greater part covered with jungle. Both jade and amber are found. The population consists mostly of Shan Kadus or Burmanised Shans, with a certain number of Kachin villagers. Like Hsawnghsup, Singkaling Hkamti is under the charge of the Upper Chindwin Deputy Commission.

(4) *Hkamti-lōng* (Burmese Kantigyi, the Bor Khampti of Assam).—The state lies along the upper course of the Mali-ka, the western branch of the Irrawaddy, and is beyond the

administrative line. It has never been visited by any executive officer. The bulk of the state consists of an irrigated paddy plain on both sides of the river. It is surrounded on all sides by Kachins and by Khunungs. The area, population, and revenue are alike uncertain. The Sawbwa, Lao Hkun, pays as homage a small tribute yearly at Myitkyinà.

Name of District.	Population, taken from the Census of 1901.	Total Miles of Metalled Roads.	Total Miles of Unmetalled Roads.	Total Miles of Roads, Cleared only.	Total Miles of Bridle Paths.	Total Miles of Bridle Paths, Cleared only.	Total Amount to be expended on Road Repairs in 1905-6.
Hanthawaddy ...		115½					
Henzada		40½	23	151			
Thongwa				115¼			
Akyab		9½	15			22	
Tharrawaddy ...		156¾	15				
Bassein		15⅝	16½	76			
Mandalay		55½	60				
Prome		95½	122¾				
Pakôkku		12	212½	106½	51		
Myingyan		3	51	152½			
Thatôn		69⅜	87½	60			
Pegu		95¾	17				
Myaungmya		14½		75			
Amherst		82½	37				
Shwebo		40¾	223⅛	101½			
Sagáing		10	56				
Toungoo		44¼	117¼		8½	25¼	
Lower Chindwin ...		56⅓	56	36			
Meiktila		16¾	122½	14			
Magwe		46⅞	37	107¼			
Yemethin		20	56½	90¼			
Thayetmyo		91		173¾			
Minbu		21½	39⅛	114			
Katha		6	149				
Kyaukphyu		17¼	44¼				
Upper Chindwin ...			10¼		87¼	40	
Kyauksè			87¼	9½			
Tavoy		63	21			96½	
Sandoway		5	32	40½			
Mergui			7				
Ruby Mines		64½	12				
Bhamo		19	102½		233		
Myitkyina		8¾	2		229⅛	172	
...		1297	1832	1423	605⅞	355¾	



APPENDIX III

LIST OF THE COMMONER BEASTS, BIRDS, REPTILES, SMALLER FISHES, ETC.[1]

MAMMALS

English	Burmese	Name of family, genus, or species
Antelope, Goat-	Taw-seik	Nemorhaedus sumatrensis
Ant-eater (pangolin)	Thin-hkwe kyap	Manis javanica
Ape (hooluk, etc.)	Myauk hlwè kyaw	Hylobates hoolock
Ass	Myè	Equus asinus
Badger (hog-badger)	Hkwe-tu wet-tu Hkwe ta-wet wet ta-wet	Arctonyx collaris
Bat	Lin-hno *or* lin-swè	Chiroptera
Bear	Wet-wun	Ursus malayanus
Bison (gaur)	Pyaung	Bos gaurus
Buffalo	Chwè	Bos bubalus
Cat	Kyaung	Felis domesticus
Cat (wild)	Taw-kyaung *or* Kyaung set-hkôn	Felis chaus
Chevrotain. See Deer		
Civet cat	Kyaung kado (Kyaung) wun-paik	Paradoxurus hermaphroditus Paradoxurus malaccensis
Cow	Nwa (Ma)	Bos indicus
Cow (wild)	Saing	Bos sondaicus
Deer, barking	Gyi	Cervulus muntjac
,, brow-antler	Thamin	Cervus aristotelis
,, hog	Dayè	Cervus porcinus
,, rusa *or* sambhar	Sat	Cervus unicolor *or* hippelaphus
,, mouse-	Yôn	Tragulus kanchil
Dog	Hkwe	Canis familiaris
Dog (wild)	Taw-hkwe	Canis rutilans
Elephant	Sin	Elephas indicus

[1] These lists do not pretend to be exhaustive, nor do the scientific names claim absolute accuracy. It is hoped, however, that they may be of some slight use and guidance both to residents in the country who wish to collect, and to readers in England who wish to know what Burma contains.

MAMMALS—*continued*

English	Burmese	Name of family, genus, or species
Flying fox	Lin swè *or* Shu-pyan	Pteropus medius
Goat	Seik	Capra hircus
Goat-antelope. See Antelope		
Hare	Yôn	Lepus peguensis
Hog	Wet	Sus cristatus
Horse	Myin	Equus
Ichneumon *or* Mongoose	Mwe-ba	Urva cancrivora
Jackal	Hkwe-a	Canis aureus
Lemur (flying)	Myauk hlaung-pyan	Galeopithecus volans
Leopard	Kya-thit	Felis pardus
Marten (ferret-badger)	Kyaung u-kyin	Helictis personata
Monkey	Myauk (Ta-nga)	Macacus sp.
Mouse	Chwet gale	Muridae
Mouse, field	Lè-chwet	Muridae
Otter	Hpyan (Gaung)	Lutra ellioti
Ox. See Cow		
Pangolin. See Ant-eater		
Paradoxure. See Civet Cat		
Porcupine	Hpyu	Hystricidae
Porpoise	Linpaung; pron. labaing	Phocaena phocoenoides
Rat	Chwet	Muridae
,, bamboo	Pwe	Rhizomys sumatrensis
Rhinoceros—		
Single-horned	Kyan-sin	Rhinoceros sondaicus
Double-horned	Kyan-shaw	Rhinoceros sumatrensis
Rorqual	Nga-sin	Balaenidae
Sheep	Tho	Ovidae
Sloth (lemur)	Myauk maung-ma	Nycticebus tardigradus
Squirrel	Shin	Sciuridae
Tapir	Tayashu	Tapirus malayanus
Tiger	Kya	Felis tigris
Whale	Nga hwela Nga wun	Balaenidae

BIRDS[1]

Adjutant	Dôn-sap Pôn myi-gwet	Ciconiidae
Babblers	Wa-yaung hnget	Garrulax sp.
Barbets	Hnget padein (the Goldsmith Bird)	Megalaema sp.

[1] The Burmese are not careful observers, and class groups of similar-looking birds together. Thus *sa* does duty for all birds like sparrows, finches, or buntings; all vultures are *lada*; all eagles *wunlo*; all sea-birds *pinlè baw-hnget*, and so on.

BIRDS—*continued*

English	Burmese	Name of family, genus, or species
Bee-eaters	Pya-tu hnget	Meropidae
Blue Jay. See Roller		
Bulbuls	Pôt Paing tasè (green)	Pycnonotidae
Coots	Kalukwet	Rallidae
Cormorant	Aw-yaw *or* Tin-gyi hnget	Phalacrocorax carbo
Cranes	Gyo-gya	Gruidae
Crows	Kyigan	Corvidae
Crow-pheasant, *or* Common Coucal	Bôk	Centropus sinensis
Cuckoos	U-aw	Cuculidæ
Curlew	Meimma letthè (*Lit.* Woman's Finger-nail)	Numenius arquata
Darter	Tin-gyi	Plotus melanogaster
Doves	Gyo	Turtur sp.
Ducks	Wumbè	Anatidae A. poecilorhyncha (Spotted-bill)
Drongo (shrike)	Hnget-daw (The King-crow is called *chwè-myi-swè*, the Buffalo's Tail-puller)	Dicruridae
Eagles	Wun-lo	Aquilinae
,, (fishing)	Wun-let	Halietus sp.
Egrets	Byaing, or u-byaing	Ardeidae
Falcons	Thein-hnget Lin-yôn	Falconidae
Finches	Sa	Munia, etc., sp.
Francolins and Partridges	Hka	Perdicinae
,, (Eastern)		Francolinus chinensis
Goose	Ngan	Anatidae
Gulls and Terns	Myit-htwe *or* Pinlè kyettuywe. See Parrots	Laridae
Harriers and Hawks	Thein-gyo Thein-kya Thein-kyetma	Accipitrinae Circinae
Heron	Linwut Hnget-nwa	Ardeidae
Honey-suckers and Sunbirds	Pan-bwin-sôk Pan-yin-sôk	Nectarinidae
Hoopoe	Taung-bi sôk	Upupa epops
Hornbills (large)	Yaungyin	Dichoceros sp.

BIRDS—*continued*

English	Burmese	Name of family, genus, or species
Hornbills (small)	Auk-chin	Anthracoceros sp.
Ibises	Karusôk	Ardeidae
Jungle-fowl	Taw kyet	Gallus ferrugineus
King-crow	Chwè myi-swè	Dicrurus macrocercus
Kingfishers	Sin pein-nyin	Halcyon sp.
	Dein-nyin	Alcedo sp.
Kite (Brahminy	Sôn-hkaung-byu	Haliastur indus
	Sôn-bôk	Milvus sp.
Mango-bird	Hnget-wa	Oriolus melanocephalus
Martin	Pyan hlwa	Hirundo sp.
Minivet	Hnget mintha	Pericrocotus fraterculus
Mynah (large) *or* Indian Grackle	Thaliga	Eulabes intermedia *or* cristatus
Mynah (small) *or* Black	Zayet	Graculipica burmanica *or* Acridotheres tristis
Night-jar	Mye-wut	Caprimulgus sp.
Orioles	Hnget-wa	Oriolus sp.
Ospreys	Wun-let	Halietus sp.
Owls	Di-dôk	Strigidae
,, small-horned	Zi-gwet *or* Hkin-bôk *or* Ti-kūt	Scops sp.
Paddy-bird (egret)	Byaing	Ardeidæ
Parrot	Kyet-tu-ywe	Psittacidae
Parrakeet	Kye-tama Kye-paung-ka Kye-kula	Palaeornis indoburmanicus
Peafowl (Burmese *or* Javan)	Daung *or* Udaung	Pavo muticus
Pelican	Wun-bo	Pelicanus javanicus
Pheasant (Burmese)	Yit	Euplocomus lineatus
,, peacock	Daung-kula	Polyplectron chinquis
,, Argus	Min-daung	Argusianus argus
,, silver	Daung-kula	Polyplectron bicalcaratum
Pigeon	Hko	Columbidae
,, green	Ngu	Treron sp.
,, imperial	Bommadi	Carpophaga aenea
Plover, spur-winged *or* Lapwing	Tititu Hnget-ta-laing	Hoplopterus ventralis
Quail	Ngôn	Coturnix sp.
Rail	Ye kyet-ma	Rallidae
Raven	Kyi-a	Corvus corax
Ring-dove	Cho lin-pya	Turtur humilis
Roller	Hnget-hka Mo-kaung hnget	Coracias affinis
Scissors-bill *or* Indian Skimmer	Pinlè-baw hnget	Rhyncops albicollis

BIRDS—*continued*

English	Burmese	Name of family, genus, or species
Shrike	Hnget bilu	Lanius collurioides
Snipe	Ye-ngôn, Myewut, *or* Zinyaw, names also applied to sandpipers	Scolopax coelestis
Sparrow	Sa	Passer sp.
Starling	Zayet che-sa *or* Chwè zayet	Sturnus sp.
Stone-chat	Thabeit-lwè	Saxicola sp.
Swallow	Mo-swe hnget	Hirundo sp.
,, (edible nest)	Ziwaso	
Swift	Pyan hlwa, also applied to all swallows	
Tailor-bird	Nanpyi-sôk	Orthotomus sp.
Teal	Sit-salī	Nettion crecca
Thrush	Myelu hnget	Turdidae
Titmouse	Sa	Parus sp.
Trogon	Htoktaru	Harpactes erythrocephalus
Turkey	Kyet-sin (the elephant-bird)	Meleagris sp.
Vultures	Linta ; pron. ladā	Pseudogyps bengalensis and Vultur sp.
Wagtails	Hnget yahat *or* Myi-ngauk *or* Myi-nyaung	Motacillidae
Water-hen	Kalugwet	Gallinula sp.
Weaver-bird	Sa paung-taung Sa bu-taung Sa gaung kwet	Ploceus baya
Woodpecker	Thit-tauk Hkauk-sha	Picidae

REPTILES, SNAKES, ETC.

Blind-worm,	Mwe sin-pyet	Typhlops braminus
Carpet snake	Eing-chut mwe Kyet-utu mwe	Lycodon aulicus
Cobra	Mwe-hauk ; often pronounced Mahauk (in Upper Burma)	Naia tripudians
Crocodile	Mi-gyaung	Crocodilus porosus *or* C. palustris
Fire serpent	Mwetha-mya	Elaps sp.
Frog	Hpa	Ranidae
Gecko (common) *or* House Lizard	Eing hmyaung	Hemidactylus cocteaui

REPTILES, SNAKES, ETC.—*continued*

English	Burmese	Name of family, genus, or species
Gecko (flat-toed or large lizard, the tucktoo)	Tauktè	Gecko verticillatus
Green viper	Mwe sein	Dryophis sp.
Guanas *or* Iguanas	Pôt *or* Potthin thin kyaw	Calotes sp.
Guanas (the vulgar name for monitors)	Hput, Hput-kya Hput mi-gyaung Thin-kyaw	Varanus sp.
Hamadryad, belted	Ngan than-kwin	Naia bungarus
,, dusky	Ngan pôk	N. ophiophagus (?)
Iguana. See Guana		
Leech, land	Chut *or* Chut taung-pyauk	Hirudo sp.
,, water	Hmyaw	
Lizard. See Gecko		
Monitor. See Guana		
Python	Sabagyi	Python reticulatus
Skink	Thin kyaw Pôt thin kyaw	Scincus sp. Tiliqua sp.
Slow-worm. See Blind-worm		
Snake, rat	Ngan saung Lin mwe	Zamenis mucosus
,, ribbon	Mwe sein	Dryinus sp.
,, tree	Yetkan-gyo	Dipsas sp.
,, water	Ye mwe	Homalopsis sp.
Terrapin	Leip kye	Emys sp.
Toad	Hpa pyôt	Bufo sp.
Tortoise	Leip, Taw, *or* Taung leip Leip-pôk	Testudo sp.
Turtle	Leip kye Leip pyin-wun	Chelonidae
Viper, Russell's	Mwe-bwe; often pronounced Mabwe	Vipera russelli
Worm, earth-worm	Mye kyaw *or* Ti	Lumbricidae
Xenopeltis (a snake)	Ye-mwe	Xenopeltis unicolor

FISHES

Anchovy	Nga tan-ywet	Engraulis sp.
Barbels	Nga yat-in Nga yat-wet	Barbus sp.
Bombay duck *or* Bummelo	Nga bya	Salmonidae

FISHES—*continued*

English	Burmese	Name of family, genus, or species
Carps, including the Mahsir	Nga ôn-dôn Nga net-bya	Cyprinidae
Cat fishes	Nga tan, Nga ôt-pa Nga nutpan, Nga hku	Siluridae
Conger eel	Nga thembaw pauk	Muraenidae
Eel	Nga linban	Muraenidae
Flat fishes (turbots, soles, etc.)	Nga hkwe-sha	Pleuronectidae
Flying-fish	Nga pyan	Exocoetus sp.
Gudgeon tribe	Nga kyin	Cyprinidae
Herring tribe (hilsa, etc.	Nga thalauk Nga hpè	Clupeidae
Mahsīr	Nga ôn-dôn	Barbus sp.
Mudskippers *or* Frog fish	Nga sin	Periophthalmus sp.
Perch, climbing	Nga pye-na	Spirobranchidae
Sardine	Nga pein-nè	Engraulis sp.
Sawfish	Nga tawè	Pristis semisagittatus
Sea-porcupines	Nga pu-tin	Tetrodon sp.
Shark	Nga man-byu Nga man-haing	Carcharidae
,, (hammer-headed)	Nga manthanôt Nga mangywè	Zygaena malleus
"Snake-heads"	Nga yan Nga yan-daing	Ophiocephalus sp.
Sprat	Nga pya	Clupea sp.
Topsy-turvy fish (a kind of cat-fish, said to "swim on its back")	Nga nauk-thwa	Pimelodus sp.
Whiting	Nga puk-thin	Sciaenoides sp.

INSECTS, MOLLUSCS, CRUSTACEANS, ETC.

Ant	Pa-ywet-seik	Formicidae
,, white	Chya	Termetidae
Apple-shell	Lè hkayu	Ampullaria globosa
Atlas moth	Leip-bya gyi	Attacus atlas
Barnacle	Hkayin	Balanus sp.
Bee	Pya	Apis sp.
,, dammer	Kwè	Trigona laevicep
,, carpenter	Padôn	Xylocopa sp.
Beetle, scarab	Chwè kye-bo	Scarabaeus sp.
,, horned	Kyan kye-bo	Longicornes
,, Chameleon *or* green and gold beetle	Po mè taungla Po min taungla	Buprestis sp.
Blue-bottle fly	Yin-mabèyaung	Musca sp.

INSECTS, MOLLUSCS, CRUSTACEANS, ETC.—*continued*

English	Burmese	Name of family, genus, or species
Bubble-shell	Hkayu than-galē	Bulla sp.
Bug	Kyan-po	Cimex lectularis
Butterfly	Leip-bya	
,, cabbage	Leip-bya wa	Pontia sp.
,, white	Leip-bya byu	Pieris sp.
Caterpillar (hairy)	Hku	
,, (silkworm)	Po gaung	
,, (mosquito larvae)	Po sôn lauk-lan	
Centipede	Kin *or* Kin che-myā (Those that roll themselves up are called Kin na-than, "the ear-ring *kin*." The others are "the many-footed")	Scolopendridæ
Centipede, luminous	Kin-sôn	
Chiton-shell	Ta-ngo *or* Tha-ngo	Chiton aculeatus
Chrysalis	Po tôn-lôn	
Clam-shell	Shap *or* Wet-na	Cytherea sp.
Cicada	Hnan-gaung Hnan-ma	Cicadidæ
Cockle-shell	Gyin *or* Shap	Cardium sp.
Cockroach	Po-hat	Blattidae
Conch-shell (used by Brahmins)	Hkayu-thin	Triton sp.
Cowry	Kywe	Cypraea sp.
Crab	Ganan	Thelphus sp. Ocypoda sp.
Crab, hermit	Pan-sut	Pagurus sp.
Cray-fish	Pasun	Astacus sp.
Cuttle-fish	Ye-kyet	Octopus sp.
Dragon-fly	Pazin	Libellulidae
Eye-fly	Po sap	
Fire-fly	Po sein-byu	Elateridæ
Flea	Hkwe-lé	Pulex sp.
Gad-fly	Hmet	Tabanidae
Glow-worm	Po sein-byu	Lampyris sp.
Gnat	Hpyôk	Simuliidæ
Grasshopper	Hnan-baung	Gryllidae
Hornet	Padu	Vespa sp.
House-fly	Yin *or* Yin-bya	Muscidae
Lepidoptera	Leip-bya	
Locust	Sin po	Locustidæ
Mantis, praying	Hnanbaung	Mantis sp.
Mason wasp	Padu	Vespa sp.
Melania-shell	Hkayu ozi Hkayu zizin	Melania sp.

INSECTS, MOLLUSCS, CRUSTACEANS, ETC.—*continued*

English	Burmese	Name of family, genus, or species
Midge	Yin	Simuliidæ Tipulidae
Millipede	Kin *or*	
	Kin chē-mya *or*	Chilognatha
	Kin na-than (rolled up)	Chilopoda
Mosquito	Chyin	Culicidae
,, (larvae)	Po sauk-hto *or*	
	Po lauk-lan	
Moth	Hpalan	
Murex-shell	Ngā-gaung	Murex sp.
Muscle-shell	Kyauk pin-wun	Unio sp.
	Yauk-thwa	Mytilus sp.
Nautilus	Hkayu thabi	Nautilus sp.
Oyster	Kama *or* Kana-kama	Ostraea sp.
Pupa	Po tôn-lôn	
Pyrula-shell	Hkayu than-gyi	Pyrula sp.
Razor-shell	Hkayu sin hna-maung	Solen sp.
Sand-flies	Hpyôt *or*	
	Po laung	Simuliidæ
Scollop-shell	Pè gwin gyin	Pecten sp.
Scorpion	Kin myī-kauk	Scorpio sp.
,, shell	Hkayu ganan	Pteroceras lambis
Shrimp	Pazôn ya-swè	Gammarus sp.
Spider	Pin-gu	Arachnida
,, (jumping *or* hunting	Hko	Salticidæ
Teredo borer	Palôp	Teredo navalis
Tick	Hmwa	Acarina
Volute-shell	Hkayu thin	Voluta sp.
Water-skipper	Ye-bo	Bolostoma sp.
Wheel-shell	Hkayu ya pinlè	Rotella sp.

LIST OF COMMON TREES, PLANTS, ETC.

NOTE.—Burmese names of plants are even more vague and elastic than those given to the fauna. Moreover, the names are by no means settled, and are often very local. Unless some part of a tree or plant is of use, or can be eaten, the Burman will as often call it an Alagā, a Kūchh Ne (a useless wastrel or "rotter" sort of a plant), or a Ma-sā-Hnaing, Ma-sā-htat (uneatable vegetable).

Burmese scientific works give an example of the casualness of the national character. They divide all vegetables into ten kinds, corresponding to the parts of the plant that furnish them. These "ten vegetables" are:

A-myit, the root	A-hnit, the heart
A-ywet, the leaf	A-thī, the fruit

LIST OF COMMON TREES, ETC.—*continued*

A-hnyauk, the sprout
A-nyun, the shoot
A-hta, the tuber
A-hkauk, the bark
A-pwin, the blossom
Hmo, mushroom

NOTE.—To the dominant word, *bin* is added to indicate the tree or plant; *thit* to indicate the timber; *pan* the flower; *thī* the fruit; *ywet* the leaf.

English	Burmese	Order, etc.
Abrus	Ywe ngè Hkyin-ywe (The seeds are used as the unit of weight)	Abrus precatorius
Acacia, cutch	Sha	Acacia Catechu
,, soap-nut creeper	Kinbôn	,, rugata
,, timber (used for cart wheels)	Kokko	,, sp.
Acanthus	Hkayā	Acanthus ilicifolius
Adenanthera	Ywe gyi (Seeds used as weights; one = two of the Abrus)	Adenanthera pavonina
Almond	Hpan hka	Terminalia sp.
Aloe	Môt	Aloe sp.
Amaranthus (Nipal Spinach)	Hinka-nwè	Amaranthus oleraceus
Amherstia	Thawka	Amherstia nobilis
Anise	Samôn sabā	Pimpinella involucrata
Apple	Thitthaw (Really a species of wild pear)	Pomeae(?)
	Dawk yat	Pyrus sp.
Areca palm (betel nut)	Kwun	Areca Catechu
Arnotto	Thīdin (Seeds used as a dye)	Bixa orellana
Arrowroot	Pinbwa	Maranta arundinacea
Arum	Pein mahawya	Alocasia odora
Roots edible	Pein nga-kyap ,, sin-o ,, paung-taung ,, let she	Araceae spp.
Asparagus	Shit ma-tet	Asparagus officinalis
Assafœtida	Shein-hko	Ferula Assafoetida
Bael, *or* Bengal quince	Se kā-gyi	Agathotes Chirayta
Balsam	Panshit Dandalet Pè-dalet	Balsamina sp.
Bamboo	Wa	Bambusa sp.
,, China	Wa-bo	

LIST OF COMMON TREES, ETC.—*continued*

English	Burmese	Order, etc.
Bamboo, giant	Wan-kyap	
,, golden	Shwe hmon wa (and very many others)	
Banana *or* Plantain	Hnget-pyaw	Musa sp.
Banyan	Pa-nyaung *or* Pyi-nyaung	Ficus indica
Barley	Muyaw	Hordeum hexasticchon
Basil	Pin sein hlôn	Ocimum sp.
Bauhinia	Hlega Maha hlega Myauk hlega	Bauhinia sp.
,, Æsculapian rod	Myauk hlega	B. scandens
Bead-tree, Persian lilac, *or* Pride of India	Kama-hkā	Melia Azedarach
Bean	Pè Pè-myit Pè saung-wa	Psophocarpus sp.
Begonia	Kyauk chin-baung	Begoniaceae
Benzoin, gum Benjamin	Kattukamè	Styrax sp.
Betel vine	Kwun (Both the leaf and the nut — properly the areca-nut—are called Kwun)	Piperaceæ
Bhang	Bin	Cannabis sativa
Bindweed	Nwè-ni	Convolvulaceae
Blackwood	Yindaik	Dalbergia sp.
Bombay ebony	Mèsalī	Cassia sumatrana
Blind aloes	Tayaw	Excoecaria sp.
Borage	Pan-bu	Plectranthus aromaticus
Bo-tree. See Fig		
Brake	Kankandan	Pteris sp.
Bread-fruit tree	Myauk-lôp Myauk-lôp-gyi *or* ngè	Artocarpus sp.
Brinjal *or* Egg plant	Hkayan	Solanum sp.
Cabbage	Thembaw mônla	Brassica sp.
Cactus	Kala saung Kala let-wa Sha saung let-wa	Cactaceae
Camphire *or* Henna-tree	Dan	Lawsonia sp
Camphor plant	Hpôm-mathein	Blumea sp.
Cane	Kyein (Numerous species)	Calamus sp.
Caoutchouc creeper	Kyet-paung	Echiteae
Caper	Kadat, Tekkadun	Crataeva sp.

LIST OF COMMON TREES, ETC.—*continued*

English	Burmese	Order, etc.
Capsicum (red pepper)	Ngayôk	Capsicum sp.
Cardamum	Hpala	Alpinia sp.
Cashew-nut	Thiho thalet	Anacardium occidentale
	Shet-talit	
Cassia	Mèzali	Cassia sp.
Castor-oil plant	Kyet-su	Ricinus sp.
Casuarina *or* She-oak	Htin-yu	Casuarina sp.
	Thabye wet-kya	
Cayenne pepper *or* Chillies	Ngayôk	Capsicum sp.
Champac	Sagā	Michelia Champaca
Chestnut	Thit-cha	Castanea sp.
	Thit-è	
Chick-pea *or* Gram	Kulapè	Cicer arietinum
Cinnamon	Thit-kya-bo	Cinnamomum sp.
Citron	Shauk ta-kwa	Citrus sp.
	Shauk pôt	
Clove	Le-nyin-bwin	Caryophyllus
Clover	Môtso hlan-ma	Desmodium sp.
Cockscomb	Kyet-mauk	Celosia sp.
Coco-nut palm	Ôn	Cocos nucifera
Cosmetic-bark tree	Thanathka	Murraya exotica
Cotton plant	Wa	Gossypium sp.
,, tree	Letpan	Bombax malabaricum
	Didu	
	Didôk	
Cow-itch *or* Cow-hage	Hkwe-le	Mucuna prurita
Creeper (in general)	Nwe	
Cress	Sa môn-ni	Lepidium sativum
Crotons	Kannaso	Croton Tiglium
	Thadiwa	,, polyandrus
	Thet-yin-ni	,, sp.
	Thet-yin kadaw	
Cucumber	Thi-hkwa	Cucumis sp.
Cumin	Ziya	Cuminum sp.
Custard-apple	Awza	Anona squamosa
Cutch	Sha	Acacia Catechu
Dalbergia	Thit nan-nwin	D. nigrescens
	Dauk-laung	D. reniformis
Dammar pine	Thit-min	Agathis loranthifolia
Date palm	Sôn pa-lôn	Phoenix dactylifera
Datura *or* Stramonium	Padaing kattā	Datura Tatula
	Padaing-byu	
Dendrobium	Thit-hkwa	Dendrobium sp.
	Ngwe pan	D. formosum
Dipterocarpus	Kanyin-ni	Dipterocarpus sp.
	Kanyin-byu	
Durian	Duyin	Durio zibethinus

LIST OF COMMON TREES, ETC.—*continued*

English	Burmese	Order, etc.
Earth-nut *or* Pea-nut	Mye-bè	Arachis hypogaea
Edible moss sea-weed	Kyauk pwin	Plocaria candida
Egg plant. See Brinjal		
Elm	Thalè	Ulmus sp.
Entada creeper	Gôn-nyin (The large flat seeds with which a sort of "marbles" is played)	Entada scandens
Eugenia	Tha bye (The generic name for many of the myrtle tribe. The leaves are much used for religious offerings, and called the "Flower of Victory" when worn by soldiers)	Eugenia sp. (grandis, venusta, Jambolana, cerasoides etc.)
Euphorbia	Shā-zaung is the generic name	Euphorbia sp.
Fan palm *or* Talipat	Pe	Corypha umbraculifera
Fennel	Samôn-net	Nigella sativa
Fern	(No generic name)	
	Sat choyit (A climbing variety)	Filices spp.
	Ti-yang	Digrammaria esculenta
	Zawgyi ôk-htop	Polypodium quercifolium
	Kakandan	Pteris amplexicaulis
Fig, common	Ti-thi	Ficus Carica
,, aspen-leaved pipul	Nyaung bawdi Myaung bôddhaha	F. religiosa
,, heart-leaved	Nyaung-gyat	F. cordifolia
,, banyan	Nyaung thabye	
Flag	Lin-hē	Acorus calamus
Flax plant	Paiksan *or* Pan	Crotalaria juncea
Four-o'clock flower	Myizin, Myczū	Jalapa kermesina (?)
Fungus	Hmo	Fungales spp.
Gamboge-tree	Thanat-daw	Garcinia elliptica
Gardenia	Yin-hkat	Gardenia coronaria
Garden cress	Samôn-ni	Lepidium sativum
Garland flower	Lan-the	Hedychium coronarium
Garlic	Kyet-thôn-byu	Allium sativum
Ginger	Chin-seing	Zingiber officinale
Goa bean	Pè-myit, Pè-saung-wa	Dolichos sp.
Gooseberry (Otaheite)	Thembaw zi-byu	Cicca disticha

LIST OF COMMON TREES, ETC.—*continued*

English	Burmese	Order, etc.
Gourd, white, *or* Pumpkin	Kyauk payôn	Benincasa cerifera
,, bottle	Bu sin-swè	Lagenaria vulgaris
,, snake	Pèlin-mwe	Trichosanthes Anguina
,, bitter	Tha-but hka	T. cucumerina
Gram	Kula-bè	Phaseolus sp.
Grape vine	Sa-byit	Vitis vinifera
Grass	Myet	Gramineae
,, elephant	Kaing	
Guava	Mālakā	Psidium sp.
Gum-Arabic tree	Nanlôn-myaing	Vachellia Farnesiana
,, kino	Padauk (The Burmese say that when the padauk has flowered three times the rains come)	Pterocarpus sp.
Hemp	Bin	Cannabis sativa
,, nettle	Gun	Urtica nivea
Henna-tree	Dan	Lawsonia alba
Hibiscus *or* Shoe flower	Hkaung-yan Thin-pan Hle-nya shaw Chin-baung	Hibiscus sp.
Horse-radish tree	Dathalôn	Moringa pterygosperma
House leek	Ywet-kya pin-pauk	Bryophyllum calycinum
Indian shot	Boddha tharana	Canna indica
Indian corn	Pyaung-bu	Zea Mays
Indigo	Mènè, Shan-mè	Indigofera tinctoria
Ingyin *or* Sâl	Ingyin (This is the tree under which the Buddha Gautama was born)	Shorea robusta
Ironwood	Pyinkado	Inga xylocarpa
Jack	Pein-nè	Artocarpus integrifolia
Jasmine	Sabè, Mali	Jasminum Sambac
Job's tears	Kalithi Kali paukpauk	Coix lacrima
Jujube-tree	Zi	Zizyphus Jujuba
Khuskhus grass	Pan-yin	Andropogon muricatus
Lagerstroemia	Pyin-ma Hka-maung Thit-byu Hlè-za	Lagerstroemia sp.

LIST OF COMMON TREES, ETC.—*continued*

English	Burmese	Order, etc.
Lancewood-tree	Myethna-pan	Plumeriae
Leek	Taw kyet-thôn	Allium Porrum
Lemon	Shauk-kyin	Citrus sp.
Lemon grass	Sabayin	Schoenanthus sp.
Lign aloes	A-kyaw	Aquilaria Agallocha (?)
Lily, land	Hnin	Liliaceae
,, water	Kya	Nymphaeaceae
Lime, sweet	Shauk-cho	Citrus Limetta
	Shauk leimmaw	
,, sour	Thabaya, Shauk	C. Bergamia
Liquorice, wild	Nwè-gyo	Acacia sp.
Lotus, white	Kya-byu	Nymphaea pubescens
,, red	Kya-ni	,, rubra
,, blue	Kba-nyo	,, stellata
,, sacred bean	Padômma	Nelumbium speciosum
Malay apple	Thabyu thabye	Eugenia malaccensis
Mangrove	Pyu	Rhizophoraceae
	Pinlè thitkauk	
	Pinlè kyettet	
Mango	Thayet	Mangifera sp.
Mangosteen	Mingut	Garcinia mangostana
Marigold	Htataya	Calendula officinalis
Melon, water	Sein tha-kwa	Citrullus sp.
	Hpayè	
,, musk	Thakwa hmwe	Cucumis Melo
Millet	Sap-myi	Panicum sp.
	Pyaung lè kauk	
	Lu	
	Shin-myi	
Mimosa *or* Sensitive plant	Hti kayôn	Mimosa sensitiva
Mint	Budīna	Mentha sylvestris
Moon flower	Nwè kasôn apyu	Calonyction sp.
Moss	Ye-hnyo (A generic term)	Jungermanniaceae Bryaceae
Mulberry	Po-sa	Morus sp.
Mushroom	Hmo (A generic name)	Fungales spp.
Mustard	Môn-nyin	Sinapis sp.
Neem-tree	Thembaw kama-hka	Azadirachta indica
Nettle	Hpet-ya	Urtica heterophylla
,, hemp	Gun	Urtica nivea
Nipah palm	Dani	Nipa fruticans
Nutmeg	Zadībbo	Myristica moschata
Nux vomica	Hkabaung	Strychnos sp.

LIST OF COMMON TREES, ETC.—*continued*

English	Burmese	Order, etc.
Oak	Thabeik	Quercus sp.
Oleaster	Mingu	Elaeagnus conferta
Onion	Kyet-thôn-ni	Allium cepa
Opium poppy	Bein	Papaver somniferum
Orange	Leimmaw	Citrus aurantium
Orchids	Thit-hkwa-pan (General name)	Orchidaceae
	Ngwe pan	Dendrobium formosum
,, "Queens"	Tasin pan	Bulbophyllum sp.
	Mo ma-hkan	Saccolabium retusum
	Sin kala kandi	Geodorum apendiculatum
Padauk. See Gum kino tree		
Palm, betel	Kwun	Areca Catechu
,, Palmyra	Htan	Borassus flabelliformis
,, Talipat	Pe	Corypha umbraculifera
,, book		C. taliera (?)
,, Penang lawyer	Sha-zaung	Licuala longipes
,, date	Sôn palôn	Phoenix dactylifera
,, coco-nut	On	Cocos nucifera
Papaya *or* Pawpaw	Thembaw-thi	Carica papaya
Paper-tree	Ma-hlaing (Used by the Chinese and by the Burmese especially for the folding books called *para-baik*)	Broussonetia papyrifera
,, creeper	Sé-lé	Daphne sp.
Papyrus	Wetla	Papyrus Pangorei
Passion flower	Athawadi	Passiflora sp.
Pea-nut. See Earth-nut		
Penang Lawyer. See Palm		
Pipul. See Fig		
Pepper, black	Ngayôk-gaung	Piper nigrum
,, red	Ngayôk (Many species)	Capsicum grossum
	Kali, Shwe at, Mo hmyaw, etc.	
,, long	Peit-chin	Piper longum
Pine	Htinyu	Pinus sp.
,, dammar	Thitmin	Agathis loranthifolia
Pineapple	Nanat	Ananas sativus

LIST OF COMMON TREES, ETC.—*continued*

English	Burmese	Order, etc.
Plantain. See Banana		
Plumbago	Kinchyôk	Plumbago sp.
Poison-tree	Seip-pin	Antiaris sp.
Polypod	Zaw-gyi ôktôp	Polypodium quercifolium
Pomegranate	Thalè	Punica Granatum
Potato	Myauk-u	Solanum tuberosum
,, sweet	Kazôn	Batatas edulis
Prickly pear	Kalā saung	Opuntia Dillenii
Pumpkin. See Gourd		
Radish	Mōnla	Raphanus sativus
Rambutan	Kyet mauk Kyet-ma-ôk	Nephelium sp.
Rangoon creeper	Dawè hmaing	Quisqualis indica
Rattan	Kyein	Calamus sp.
Redwood	Chye	Syndesmis tavoyana
Red cotton-tree	Let-pan Lè	Bombax sp.
Reed	Hpaung Pyu Kyu Lè	Arundo sp.
Rice, paddy	Sabā	Oryza sativa
,, boiled	Htamin	
,, husked	San	
Rose	Hnin-si	Rosaceae
Roselle	Thembaw chinpaung	Hibiscus sp.
Safflower	Su	Carthamus tinctorius
Sandalwood	Sandaku	Santalum album
Sapanwood	Tein-nyat (Used as a red dye)	Caesalpinia sp.
Sarsaparilla, wild	Ku-ku	Smilax ovalifolia
Sassafras	Hman-thin	Laurus sp.
Screw pine, fragrant	Satta-pu	Pandanus odoratissimus
,, sail leaf	Sat-thwa	
Sea coco-nut	Pinlè ôn	Xylocarpus Granatum
Sedges	Wet myit-u Myit kyet-thôn Taw kyit lè-hlī	Cyperaceae sp.
Sensitive plant	Hti ka-yôn	Mimosa pudica
Sesamum	Hnan Hnan-ma	Sesamum indicum
Shaddock *or* Pumplemuss	Shauk tôn-o	Citrus decumana
Shallot	Kyet-thôn-ni	Allium cepa
Shoe flower	Hkaung-yan	Rosa Sinensis (?)

LIST OF COMMON TREES, ETC.—*continued*

English	Burmese	Order, etc
Shorea *or* Sàl	In-gyin (The Buddha Gautama is said to have died in a grove of In-gyin-trees)	Shorea robusta
Smilax	Kuku	Smilax ovalifolia
Soap-nut	Kimbôn (Used for washing the hair)	Acacia rugata
Spinach Nipal	Hinka-nwè	Amarantus sp.
Spurge	Shasaung-gyi	Euphorbia jacquiniæflora
Squash	Shwe hpayôn	Cucurbita maxima
Squill	Padaing kyet-thôn	Squilla indica
Sugar-cane	Kyan	Saccharum officinarum
Sun-dew	Kye than-ban Mo-dwin the	Drosera Burmanni
Sword bean	Myauk pè	Canavalia obtusifolia
Tamarind	Ma-gyi	Tamarindus indica
Tannin-trees	Pyu	Rhizophora conjugata
	Saung	,, sp.
	Kabaing	Ceriops sp.
Tapioca	Pulau pinan myauk	Ianipha Manihot
Tea	Let-pet	Thea *or* Elaeodendron sp.
Teak	Kyun	Tectona grandis
Thatch grass	Thekkè-nyin	Saccharum cylindricum
	Thekkè-gyi	S. spontaneum
Thorn apple	Padaing-byu Padaing kattā	Datura sp.
Tiger lily	Thit-sa	Pardanthus chinensis
Tobacco	Se	Nicotiana Tabacum
Tomato	Hkayan	Lycopersicum esculentum
Tree fern	Mudaing	Polypodium giganteum
Tuberose	Hnin	Polianthes tuberosa
Turmeric	Sa-nwin	Curcuma longa
Turnip	Mônla u-waing	Brassica Rapa
Varnish-tree *or* Wood-oil tree	Thitse	Melanorrhoea usitata
Vine	Sa-byit	Vitis vinifera
Walnut	Thit-kya	Juglans arguta
Wheat	Gyôn sabā	Triticum vulgare
Willow	Moma-hka	Salix sp.
White cotton-tree	Thembaw lè *or* Shin	Bombax sp.

LIST OF COMMON TREES, ETC.—*continued*

English	Burmese	Order, etc.
Wood apple	Hman	Feronia elephantum
Wood-oil tree	Ka-nyin-ni Ka-nyin-byu in	Dipterocarpus sp.
Yam	Ka-dwe-u Myauk-byu Myauk-ni Myauk-kya, etc.	Dioscorea sp.
,, wild	Kywe	D. daemona
Yellow varnish-tree	Taung talè	Garcinia Cambogia
Zizyphus *or* Jujube-tree	Zi	Zizyphus Jujuba

GEOLOGY AND MINERALS

Agate	Mahuya
,, striped	Mahuya kyaung-win
Alabaster	Kyauk-byu nu
Alum	Kyauk chin
Amber	Payin
Amethyst	Thiho nila, *or* Nila hkayan, Kyauk hkayan pwin
Ammonia	Zawet-tha
Antimony	Télé kyauk
Arsenic	Sein, Sein-byu
Asbestos	Kyauk-gôn
Beryl	Sein
Bismuth	Gwut
Blood-stone	Nagā-thwé
Blue Vitriol *or* Blue-stone	Dôkta
Borax	Let-cha
Brass	Kye-wa
Calomel	Padā Sa-gyo
Carnelian	Mahuya-ni *or* Wa kyet-thwe
Cat's eye	Kyaung
Chalcedony	Mahuya-byu
Chalk	Mye-byu
Cinnabar	Hinthapadā yaing
Clay	Myezi
Coal	Kyauk mi thwe

GEOLOGY AND MINERALS—*continued*

Conglomerate *or* Pudding-stone	Kyauk-hpôn
Copper	Kye-ni
„ green carbonate of	Bāla dôk-ta
Copperas *or* Sulphate of iron	Bāla dôkta
Coral	Thadā
Crystal	Hpan-kyauk Myaing-sein Sein-palôk Kyauk thalin
Diamond	Sein
Dolomite	Andaku
Earth	Mye
Emerald	Mya
Flint	Mikat kyauk
Garnet	Padè kyauk
Gems, the nine (often worn in a ring by Burmese, and believed to protect the wearer from harm)	Diamond, sein; Topaz, oktha hpaya; Emerald, mya; Pyrope, gawmôt; Coral, thada; Cat's eye, kyaung; Sapphire, nila; Pearl, pulè; Ruby, budda-mya
Granite	Kyauk hnan-bat
Graphite	Hkè-net
Haematite	Mye-ni
Iron	Than
„ pyrites	Bahan kyauk Thantaik kyauk
„ ore *or* stone	Than kyauk
Jade	Kyauk-sein
Jasper	Nagā thwè
Jet	Kyauk-net
Laterite	Kyauk-gawan
Lead	Hkè-pôk Hkèma-pôk
Lignite	Kyauk mi-thwe
Limestone	Kyauk-byu nu Tôn-kyauk

GEOLOGY AND MINERALS—*continued*

Loadstone (magnetic oxide of iron)	Than-laik kyauk
Malachite	Bala dôkta
Marble	Kyauk-byu nu
Marl	Mye-byu
Mercury	Pyadā, Padā
Mica	La-chyé
Moonstone	Kyaung
Mud	Shun
Natron (carbonate of soda)	Mye sap-pyā
Nitre	Yan sein
Obsidian	Mahuya-net
Ochre (red)	Mye-nī
Onyx	Mahuya-byu kyaung-win
Opal	Mahuya hpalā Kyaung
Orpiment, red *or* realgar	Myin thīla
„ yellow *or*	Se-dan
„ sulphuret of arsenic	Se-dan shwe-wa
Pearl	Pulè
Petroleum	Ye-nan
Platinum	Shwe-byu Shin-than
Precious stone	Kyauk-myet
Pudding-stone	Kyauk-hpôn
Pyrites	Bahan-kyauk
Pyrope (garnet)	Gawmôt, gawyat
Quartz	Gawtan
Quicksilver	Pyadā
Rock crystal	Hpan-kyauk
Rock salt	Sa, Theindaw-sa
Rubellite (tourmaline)	Sein-ni
Ruby	Kyauk-ni, Budda-mya
Sal-ammoniac	Zawet-tha
„ volatile	Zawet-tha ye-pyan
Salt	Sa
Saltpetre	Yan-sein
Sand	Thè

GEOLOGY AND MINERALS—*continued*

Sandstone	Thè kyauk
„ red	Kwe-ni
Sapphire	Nila
	Nila hnget-hka
Sardonyx	Mahuya-byu kyaung-win
Schorl (black tourmaline)	A pyaik-net
	A-kyut-net
Selenite	Kyauk-tha lin-gawtan
Serpentine	Kyauk-sein
Silver	Ngwe
„ pure	Baw
„ ore	Mawragiwa ngwe-kyauk
Soap	Sap-pya
Soap-stone	Kangu
Soda (carbonate of)	Mye sap-pya
Spinelle	Kyauk-ni
	Pan-yin Kyauk
	Si-byu-gôn
Stalactite *or* Stalagmite	Kyauk-set
Steatite	Kangu
Steel	Than-hkè
	Than mani
Sulphur	Kan
Tin	Kkè-ma
	Kke-ma-byu
Topaz	Oktha-hpaya
Tourmaline	Thiho-sein
	Sein-ni
	Ok-tha-baya
	A-kyut-byu
Tungsten	Hkè mathe
Vermilion	Hinthapadā
Vitriol	Dôk-ta
Water	Ye
„ ice	Ye-gè
„ hoar frost	Si-hnin
Wolfram (tungstate of iron)	Hkè-ma-thé
Zinc	Thwut
Zircon	Thiho sein

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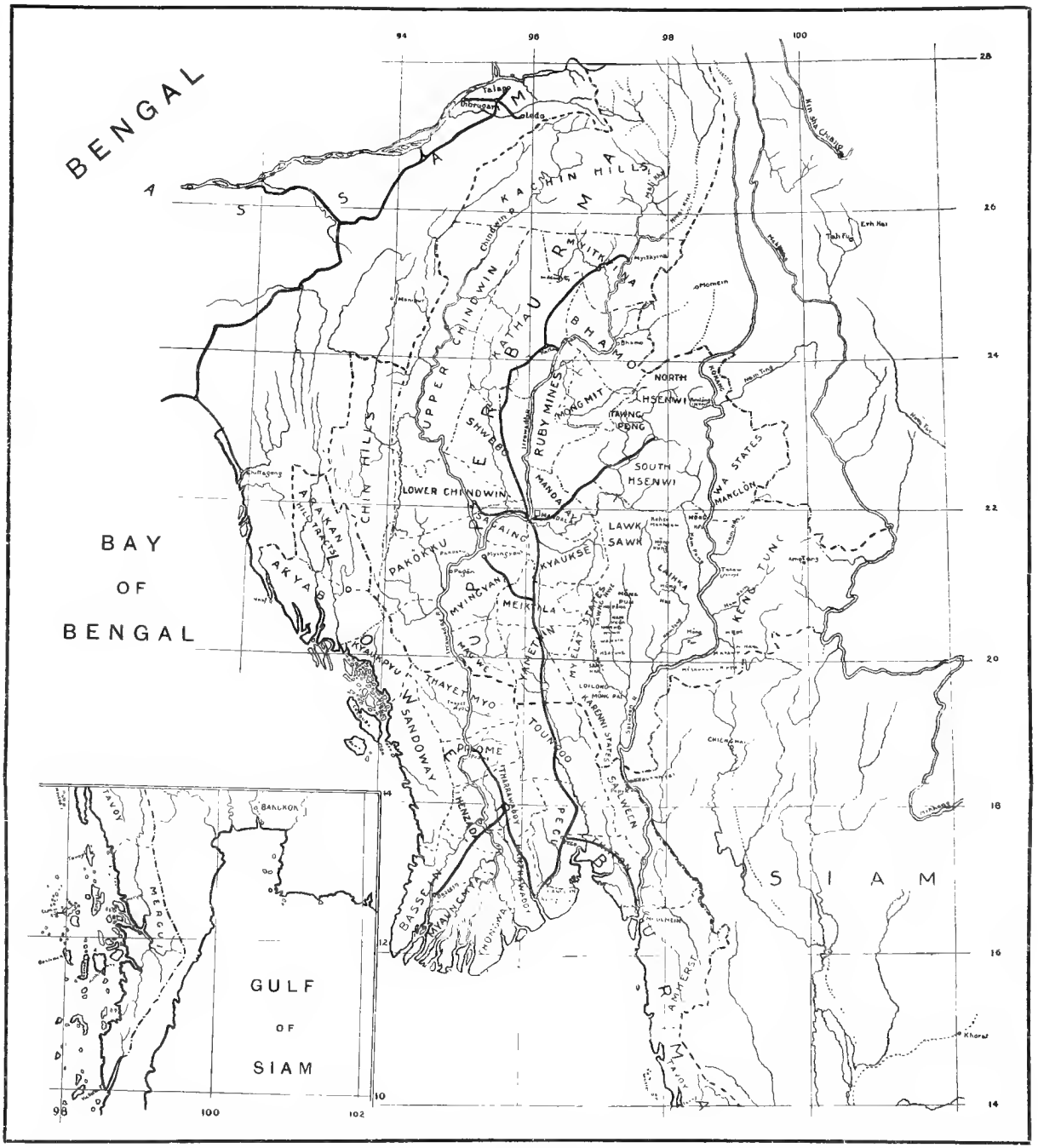

BURMA (UPPER AND LOWER)—FROM A TRACING BY THE GEOGRAPHICAL SOCIETY, FOUNDED ON A MAP PUBLISHED BY THE SURVEY OF INDIA, WITH RECENT ADDITIONS BY SIR GEORGE SCOTT.